

## Part 610 – National Environmental Compliance Handbook

### Subpart A – Introduction

#### 610.0 Purpose

This part sets forth procedures and policy relating to NRCS compliance with the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA).

#### 610.1 References

##### A. Authorities

- (1) 7 CFR Part 650, Implementing Regulations for Compliance With NEPA (NRCS Environmental Compliance Web site, accessed through the NRCS Technical Resources Web site).
- (2) Title 190, General Manual (GM), Part 410, “Compliance with NEPA,” (NRCS eDirectives Web site).
- (3) Title 190, National Cultural Resources Procedures Handbook, Part 601 (NRCS eDirectives Web site).
- (4) Title 390, National Watershed Program Manual, Part 500, implementing 7 CFR Part 622 for Watershed Projects under Public Law 83-566, and Flood Prevention Projects under Public Law 78-534 (NRCS eDirectives Web site).

##### B. Other References

- (1) Bass, R.E., Herson, A.I., Bogdan, K.M. 2001. “The NEPA Book: A step-by-step guide on how to comply with the National Environmental Policy Act.” Solano Press Books, Point Arena, CA. 477 pp.
- (2) National Council on Environmental Quality (CEQ) Guidance Document. “Considering Cumulative Effects Under the National Environmental Policy Act.” 1997. (NRCS Environmental Compliance Web site, accessed through the NRCS Technical Resources Web site)
- (3) National Council on Environmental Quality (CEQ), “Collaboration in NEPA- A Handbook for NEPA Practitioners.” 2007.
- (4) National Council on Environmental Quality (CEQ), “Forty Most Asked Questions,” Memorandum published in the Federal Register, appearing at 46 Fed. Reg. 18026 (1981) (NRCS Environmental Compliance Web site, accessed through the NRCS Technical Resources Web site).
- (5) National Council on Environmental Quality (CEQ), “Regulations for Implementing NEPA,” 40 CFR Parts 1500-1508.
- (6) Schmidt, O.L. 2009. “NEPA Models and Case Lists,” 3rd Edition. Rose City Park Press Publishing, Portland, OR.
- (7) U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1998. Endangered Species Consultation Handbook – Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act.
- (8) U.S. Fish and Wildlife Service and National Marine Fisheries Service. Fisheries Advance Interagency Consultation Training “Study Guide for Arguing Well.”

- (9) U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration. Joint Counterpart Endangered Species Act Section 7 Consultation, 50 CFR Part 402.
- (10) Williams, B.K., R.C. Szaro, and C.D. Shapiro. 2009. “Adaptive Management: The U.S. Department of the Interior Technical Guide.” Adaptive Management Working Group, U.S. Department of the Interior, Washington D.C.

## 610.2 Definitions

A. The following terms are used throughout this part:

- (1) Adaptive Management.—A concept that allows us to learn about the effects of the actions we take and to modify the actions to achieve the desired conditions. This concept recognizes that monitoring provides critical information on the progress and success of conservation practices. Resource managers and conservation planners remain flexible (“adaptive”) to adjust future management recommendations or decisions based on monitoring results.
- (2) Action.—All activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas (Joint Counterpart Endangered Species Act Section 7 Consultation, 50 CFR Section 402.02).
- (3) Action Area.—All areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (Joint Counterpart Endangered Species Act Section 7 Consultation, 50 CFR Section 402.02).
- (4) Administrative Record.—The set of documents—papers, studies, data, references, maps, correspondence, notes, computer runs, etc.—in all formats—paper, hard drive, CD, magnetic tape, etc.—that support the decisionmaking process. This is NRCS’s collection of the evidence that proves that decisionmakers understood the law applying to the decision, considered all the relevant factors, and made a reasoned decision.
- (5) Affected Environment.—A succinct description of the areas to be affected or created by the alternatives under consideration (CEQ Implementing Regulations, 40 CFR Section 1502.15).
- (6) Areawide Conservation Planning.—The three-phase, nine-step iterative process used by NRCS to help clients plan and apply conservation treatments for a watershed or other geographical area (referred to as the planning area) defined by the clients and stakeholders. The areawide conservation plan addresses all resource problems identified (including effects issues), contains alternative solutions that meet the minimum planning criteria for each resource, and addresses applicable laws and regulations.
- (7) Baseline Conditions.—For ESA purposes, the environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. (See “Benchmark Condition” below.)
- (8) Basic Conclusions.—Conclusions of fact, findings of fact, supporting conclusions, and intermediate conclusions.
- (9) Benchmark Condition.—The present condition or situation that is used as a point of reference to measure change in resource conditions resulting from conservation treatment. In addition to the benchmark condition, other points of reference are

sometimes used for discussion and comparison purposes, especially in an areawide conservation planning situation (i.e., forecasting the resource conditions expected at some point in the future by maintaining current levels of resource management and treatment).

- (10) **Biological Assessment.**—A document prepared for the Endangered Species Act Section 7 process to evaluate whether a proposed activity under the authority of a Federal action agency is likely to adversely affect listed species, proposed species, or designated or proposed critical habitat.
- (11) **Biological Opinion.**—A document prepared for the Endangered Species Act Section 7 process that includes all of the following:
  - (i) The opinion of the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) as to whether or not a Federal action is likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of designated critical habitat
  - (ii) A summary of the information on which the opinion is based
  - (iii) A detailed discussion of the effects of the action on listed species or designated critical habitat. (Joint Counterpart Endangered Species Act Section 7 Consultation, 50 CFR Section 402.)
- (12) **Candidate Conservation Agreements With Assurances (CCAA).**—Agreements between private landowners, State agencies, Tribal governments, or other eligible entities and the FWS or the NMFS (for the purposes of ESA, hereafter referred to as the Services), to conserve species before they become listed and, if they should become listed, to protect the party in the agreement from restrictions in excess of those already identified within the CCAA.
- (13) **Candidate Species.**—Plant and animal taxa considered for possible addition to the List of Endangered and Threatened Species. These are taxa for which FWS has on file sufficient information on biological vulnerability and threats to support issuance of a proposal to list, but issuance of a proposed rule is currently precluded by higher priority listing actions.
- (14) **Categorical Exclusion.**—A category of actions that do not individually or cumulatively have a significant effect on the human environment, that have been found to have no such effect and are listed in NRCS’s approved categorical exclusions, and for which an environmental assessment (EA) or an environmental impact statement (EIS) is not required. A site review for any extraordinary circumstances is required. (See also “Extraordinary Circumstances” below.)
- (15) **Conferencing.**—A process of early interagency cooperation involving informal or formal discussions between a Federal agency and the FWS/NMFS pursuant to section 7(a)(4) of the ESA regarding the likely impact of an action on proposed species or proposed critical habitat. Conferences are—
  - (i) Required for proposed Federal actions likely to jeopardize proposed species or destroy or adversely modify proposed critical habitat.
  - (ii) Designed to help Federal agencies identify and resolve potential conflicts between an action and species conservation early in projects’ planning.
  - (iii) Designed to develop recommendations to minimize or avoid adverse effects to proposed species or proposed critical habitat. (Joint Counterpart Endangered Species Act Section 7 Consultation, 50 CFR Section 402.)
- (16) **Conservation Planning.**—The three-phase, nine-step iterative process used by NRCS to help clients plan and apply conservation treatments across a planning area defined by the clients and stakeholders. Plans may be developed for individuals, groups or organizations on a multitude of scales, ranging from individual fields or

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operations to watersheds or other large geographic areas. (See also “Areawide Conservation Planning” below.)

- (17) Conservation Practice.—A specific treatment, such as a structural measure, vegetative measure, or management technique, for which standards and specifications have been developed that is commonly used to meet specific needs in planning and implementing conservation. NRCS conservation practices are listed in Title 450, National Handbook of Conservation Practices.
- (18) Conservation Practices Physical Effects (CPPE) Matrix.—The matrix in the Field Office Technical Guide (FOTG), Section V, that lists general physical effects of conservation practices on soil, water, air, plants, and animals.
- (19) Conservation Practice Standards.—National (and State) standards for practices commonly used by NRCS to treat natural resource problems, found in the FOTG, Section IV. Practice standards provide the minimum criteria that must be met or exceeded when implementing NRCS conservation practices.
- (20) Consultation (Formal).—Under the ESA, a process between the Services and a Federal agency or applicant that determines whether a proposed Federal action is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat, begins with a Federal agency’s written request and submittal of a complete initiation package, and concludes with the issuance of a biological opinion and incidental take statement by either of the Services. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed action “is not likely to adversely affect” listed species or designated critical habitat). (Joint Counterpart Endangered Species Act Section 7 Consultation, 50 CFR Sections 402.)
- (21) Consultation (Informal).—An optional process under the ESA that includes all discussions and correspondence between the Services and a Federal agency or designated non-Federal representative, prior to formal consultation, to determine whether a proposed Federal action may affect listed species or critical habitat. This process allows the Federal agency to utilize the Services’ expertise to evaluate the agency’s assessment of potential effects or to suggest possible modifications to the proposed action which could avoid potentially adverse effects. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Services concur, in writing, that a proposed action is not likely to adversely affect listed species or designated critical habitat). (Joint Counterpart Endangered Species Act Section 7 Consultation, 50 CFR Sections 402.)
- (22) Cooperating Agency.—A formal designation and status under NEPA that may include any Federal, Tribal, State, or local agency other than a lead agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative), that has agreed to be a cooperating agency in the preparation of an EA or EIS. The lead agency may request that other agencies be cooperating agencies, or an agency may request cooperating agency status from the lead agency.
- (23) Council on Environmental Quality (CEQ).—A three-member council appointed by the President that reviews and appraises the various programs and activities in compliance with NEPA. The council and CEQ coordinate Federal environmental efforts and work closely with agencies in the development of environmental policies and initiatives. CEQ was created by NEPA and charged with developing regulations for implementing NEPA that all agencies must follow (found at 40 CFR Parts 1500-1508, CEQ Implementing Regulations).
- (24) Critical Habitat.—For ESA-listed species consists of—

- (i) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the ESA, on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection.
  - (ii) Specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the ESA, upon a determination by the Secretary of Agriculture that such areas are essential for the conservation of the species. (ESA Section 3(5)(A). Designated critical habitats are described in 50 CFR Sections 17 and 226.
- (25) Cumulative Effects.—The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other action (40 CFR Section 1508.7).
- (26) Cumulative Effects Analysis.—A procedure with an objective to account for the full range of consequences from proposed actions. The process will involve assumptions and uncertainties but must be conducted with the best techniques and data available.
- (27) Direct Effects.—Impacts caused by a proposed action and occurring at the same time and place.
- (28) Ecosystem.—A dynamic and interrelating complex of plant and animal communities and associated nonliving (e.g., physical and chemical) environment.
- (29) Effects.—Consequences or impacts of an action, which may be direct, indirect, cumulative, interrelated, or interdependent. Effects include ecological, aesthetic, historic, cultural, economic, social, or health. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effects will be beneficial (CEQ Implementing Regulations, 40 CFR Section 1508.8).
- (30) Endangered.—The classification provided to an animal or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range.
- (31) Endangered Species Act (ESA) of 1973, as Amended.—Federal legislation intended to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, and provide programs for the conservation of those species, thus preventing extinction of native plants and animals. Relevant sections of the act with regard to consultation activities include—
- (i) Section 4.—Outlines procedures and criteria for identifying and listing threatened and endangered species; identifying, designating, and revising critical habitat; developing and revising recovery plans; and monitoring species removed from the list of threatened and endangered species.
  - (ii) Section 7.—Outlines procedures for interagency cooperation to conserve federally listed species and designated critical habitats.
  - (iii) Section 9.—Prohibits the taking of endangered species of fish and wildlife, importing or exporting of endangered species or products made from them, interstate or foreign commerce in listed species or their products, and possession of unlawfully taken endangered species.
  - (iv) Section 10.—Provides exceptions to section 9 prohibitions.
- (32) Environmental Assessment (EA).—A concise public document that briefly provides sufficient evidence and analysis for determining whether to prepare an EIS or finding of no significant impact.
- (33) Environmental Evaluation (EE).—A concurrent part of the planning process in which the potential long-term and short-term impacts of an action on people, their

physical or social surroundings, and nature are evaluated and alternative actions explored. The EE is required for all NRCS planning activities and is documented on Form NRCS-CPA-52, “Environmental Evaluation Worksheet.”

- (34) Environmental Impact Statement (EIS).—A document detailing the environmental impact of a proposed law, construction project, or other major action that may significantly affect the quality of the environment. EISs are required by NEPA and various State environmental laws.
- (35) Environmental Protection Agency (EPA) Review Ratings for EISs (see <http://www.epa.gov/nepa/environmental-impact-statement-rating-system-criteria>)
- (i) LO – Lack of Objection.—The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.
  - (ii) EC – Environmental Concerns.—The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternatives or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.
  - (iii) EO – Environmental Objections.—The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the “no-action” alternative). EPA intends to work with the lead agency to reduce these impacts.
  - (iv) EU – Environmentally Unsatisfactory.—The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, EPA will recommend the proposal be referred to the CEQ.
  - (v) Category 3 – Inadequate.—EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA, section 309 review, or both, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.
- (36) Executive Order.—An order issued by a government's executive on the basis of authority specifically granted to the executive branch (as by the U.S. Constitution or a congressional act).
- (37) Extraordinary Circumstances.—Those factors or circumstances that help a Federal agency identify situations or environmental settings that may require an otherwise categorically excludable action to be further analyzed in an EA or EIS. For NRCS, these factors are similar to those used to evaluate intensity for purposes of determining significance.

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- (i) Impacts that may be both beneficial and adverse and that significantly affect the quality of the human environment.
  - (ii) The degree to which the proposed action affects public health or safety.
  - (iii) Unique characteristics of the area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
  - (iv) The degree to which the effects on the quality of the human environment are likely to be controversial.
  - (v) The degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.
  - (vi) The degree to which the action may establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration.
  - (vii) Individually insignificant but cumulatively significant activities that have not been analyzed on a broader level, such as on a programwide or priority area basis.
  - (viii) Adverse effects on areas listed in or eligible for listing in the National Register of Historic Places, or that may result in loss or destruction of significant scientific, cultural, or historical resources.
  - (ix) Adverse effects on an endangered or threatened species or its designated critical habitat.
  - (x) Circumstances threatening the violation of Federal, State, Tribal, or local law or requirements imposed for the protection of the environment.
- (38) Federal Action (NEPA application).—Actions that are subject to Federal (NRCS) control and responsibility (e.g., those that are financed, funded, assisted, conducted, regulated, or approved by NRCS) (see “Action,” above). These actions do not include situations in which NRCS is only providing technical assistance because NRCS cannot control what the client ultimately does with that assistance and situations where NRCS is making a technical determination (such as Farm Bill HEL or wetland conservation determinations) not associated with the planning process.
- (39) Federal Register.—The daily bulletin of administrative and executive rules, regulations, orders, and notices that is published by the Federal Government.
- (40) Finding.—A decision on a question of fact reached as the result of examination or investigation. Determinations or conclusions reached by making a reasonable inference from the evidence or information available. The basic anatomy of a finding includes supporting evidence, basic conclusions, and an ultimate conclusion, which in turn has a legal effect. A finding may consist of many tiers of intermediate findings, or “basic conclusions,” before ultimate conclusions can be reached. Only a decision-level official may make ultimate conclusions.
- (41) Finding of No Significant Impact (FNSI or FONSI).—This is one of two possible outcomes of an EA, the other being a determination that an EIS must be prepared. A Federal agency will document briefly the reasons why an action, not otherwise excluded, will not have a significant effect on the human environment and for which an EIS or a summary of it therefore will not be prepared.
- (42) Habitat Conservation Plan.—Under section 10(a)(2)(A) of the ESA, a planning document that is a mandatory component of an incidental take permit application.
- (43) Human Environment.—A comprehensive interpretation including the natural and physical environment and the relationship of people with that environment (CEQ Implementing Regulations, 40 CFR Section 1508.14).
- (44) Impacts.—For NEPA purposes, consequences or effects of an action (see “Effects” above.). Another commonly used definition, for example in economic analyses, is

the difference between the anticipated effects of alternative treatment compared to existing or benchmark condition effects. Impacts may be expressed by narrative, quantitative, visual, or other means, and are used as a basis for making informed conservation decisions.

- (45) **Incidental Take.**—A take of listed fish or wildlife species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by a Federal agency or applicant (Joint Counterpart Endangered Species Act Section 7 Consultation, 50 CFR Section 402.02). (See also “Take” below.)
- (46) **Indirect Impacts.**—Impacts caused by an action that are later in time or farther removed in distance, but are still reasonably foreseeable.
- (47) **Interdisciplinary Planning.**—The use of an interdisciplinary environmental evaluation and planning approach in which specialists and groups having different technical expertise act as a team to jointly evaluate existing and future environmental conditions. The interdisciplinary group considers structure and function of natural resource systems, complexity of problems, and the economic, social, and environmental effects of alternative actions.
- (48) **“Jeopardize the Continued Existence of.”**—Under the ESA, to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a federally listed species in the wild by reducing the reproduction, numbers, or distribution of the species.
- (49) **Lead Agency.**—The agency or agencies preparing or having primary responsibility for preparing a NEPA document.
- (50) **Listed Species.**—Any species of fish, wildlife, or plant that has been determined to be endangered or threatened under section 4 of the ESA. (Joint Counterpart Endangered Species Act Section 7 Consultation, 50 CFR Section 402.2).
- (51) **Major Federal Action.**—Actions with effects that may be major and that are potentially subject to Federal control and responsibility. The term “major” reinforces but does not have a meaning independent of the term “significantly” (CEQ Implementing Regulations, 40 CFR Section 1508.27). Actions include the circumstance where the responsible officials fail to act and that failure to act is reviewable by courts or administrative tribunals under the Administrative Procedure Act or other applicable law as agency action. Actions may be new or continuing activities and include projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by Federal agencies (CEQ Implementing Regulations, 40 CFR Sections 1506.8 and 1508.17).
- (52) **“May Affect.”**—Under the ESA, the appropriate conclusion when a proposed action may pose any effects on listed species or designated critical habitat. When the Federal agency proposing the action determines that a “may affect” situation exists, then they must either initiate formal consultation or seek written concurrence from the Services that the action is not likely to adversely affect listed species.
- (53) **Mitigation.**—To moderate or alleviate the degree of effect on resource quality or condition. Mitigation includes—
  - (i) Avoiding the impact altogether by not taking a certain action or parts of an action.
  - (ii) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
  - (iii) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
  - (iv) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
  - (v) Compensating for the impact by replacing or providing substitute resources or environments.



- (54) National Environmental Policy Act (NEPA).—The National Environmental Policy Act of 1970 that requires Federal agencies to consider the effects of proposed Federal actions on the environment. This act established the requirement that Federal agencies prepare a detailed statement of environmental impacts for major Federal actions significantly affecting the human environment and make this information available to the public.
- (55) “No Action” Alternative.—The alternative that describes the course of action that will likely be taken should the Federal action or alternatives not be implemented. In some instances, it may be a projection of the current management direction or level of management intensity. It provides a benchmark, enabling decisionmakers to compare the magnitude of environmental effects of the action alternatives. The no action alternative must be considered in every EA and EIS, as well as all EE documentation.
- (56) Nonproject Activities.—Actions that consist of technical or financial assistance provided to an individual, group, or local unit of government by NRCS primarily through a cooperative agreement with a local conservation district. These actions may include planning, consultations, advice, engineering, and other technical assistance that land users usually cannot accomplish by themselves.
- (57) Notice of Intent (NOI).—A brief statement inviting public reaction to the decision by the responsible Federal official to prepare an EIS for a major Federal action (CEQ Implementing Regulations, 40 CFR 1508.22).
- (58) Planning Criteria.—A quantitative or qualitative statement of a treatment level required to achieve a minimum level of treatment for a given resource concern for a particular land area. It is established in accordance with local, State, Tribal, territorial, and Federal programs and regulations in consideration of ecological, economic, and social effects. These are found in section III of the FOTG.
- (59) Preferred Alternative.—For NEPA documents, the option or course of action that the *agency* considers best to address the stated purpose and conservation need. When completing Form NRCS-CPA-52, the preferred alternative is one the *client* chooses to implement, which may or may not be an alternative that NRCS can help implement.
- (60) Programmatic Consultation.—For ESA purposes, consultation addressing an agency’s multiple actions on a program, regional, or other basis.
- (61) Proposed Critical Habitat.—For ESA purposes, habitat proposed in the Federal Register to be designated as critical habitat and habitat proposed to be added to an existing critical habitat designation under section 4 of ESA for any listed or proposed species.
- (62) Proposed Species.—Any species of fish, wildlife, or plant that is proposed in the Federal Register to be listed under section 4 of the ESA.
- (63) Record of Decision (ROD).—A concise written rationale by the responsible Federal official regarding implementation of a proposed action requiring an EIS.
- (64) Responsible Federal Official (RFO).—The agency official who is authorized to make specific decisions. The NRCS Chief is the RFO for compliance with NEPA regarding proposed legislation, programs, legislative reports, regulations, and program EISs. NRCS State Conservationists (STCs) are the RFOs for compliance with the provisions of NEPA in other NRCS-assisted actions. (NRCS eDirectives, 190-GM, Part 410, Subpart A, Section 410.4.)
- (65) Resource Management System (RMS).—A conservation system that meets or exceeds the planning criteria in the FOTG for resource sustainability for all identified resource concerns for soil, water, air, plants, and animals.

- (66) Reviewable Record.—Records that clearly document the nature and extent of public participation. A separate reviewable record is to be maintained for each project. The record contains items such as a list of people or groups invited to participate and sign-up sheets or other records of attendance, meeting notes, issues discussed, extent of controversy, views expressed, positions taken, and decisions made. These records may also include views expressed in letters, emails, telegrams, etc.
- (67) Safe Harbor Agreement.—A voluntary agreement between one of the Services and a landowner to restore, enhance, or maintain habitats for federally listed species, with assurances that no additional restrictions above those applicable at the time of enrollment in the program will be imposed as a result of the voluntary actions in the original agreement.
- (68) Scoping.—Early, upfront, and open process to determine the extent of the significant issues (such as resource problems, concerns, regulatory requirements, etc.), range of actions, alternatives, and impacts to be addressed in the planning process. The process also helps to determine whether the resources, ecosystems, and communities have already been affected by past or present activities, and whether other agencies or the public have plans that may affect the resources in the future.
- (69) Service.—For ESA purposes, the FWS (in the Department of the Interior) or the NMFS (in the Department of Commerce).
- (70) Short-Term Impacts.—Temporary changes occurring during or immediately following an action and usually persisting for a short while.
- (71) “Significance” (Relative to Impacts as Used in NEPA).—The scope and degree of impact that an action or alternative will have on the quality of the human environment. CEQ regulations define two classes of criteria for significance: context and intensity. Significance of an action must be analyzed in several contexts, such as society as a whole, the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. Intensity refers to the severity of impact. CEQ has provided 10 criteria that should be considered in evaluating intensity (CEQ Implementing Regulations, 40 CFR Section 1508.27). (See “Extraordinary Circumstances,” above for the intensity criteria.)
- (72) Species of Concern.—Any species officially protected by law or regulation by a State or Tribe as endangered, threatened, rare, declining, sensitive, or otherwise at risk. (NRCS eDirectives, 190-GM, Part 410, Subpart B, Section 410.22)
- (73) Special Environmental Concerns.—Concerns (including human considerations) that are protected by law, Executive order, or agency policy and will need to be analyzed according to the laws, regulations, or Executive orders established to protect them. For example, a description of wetland impacts should describe not only the acres involved, but the functions of those wetlands (based on a habitat model), and perhaps their value as wildlife habitat (according to the results of habitat evaluation procedures or habitat appraisal guides), as well. There might also be a need to discuss and support impacts on downstream water quality and any other effects the wetland may have within the ecosystem. The list of NRCS special environmental concerns is included on Form NRCS-CPA-52.
- (74) Take.—For ESA purposes, to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct (ESA Section 3(19)). The term “harm” is further defined by FWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. The term “harass” is defined by FWS as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR

Section 17.3). The definition of “take” in the Bald and Golden Eagle Protection Act also includes “to disturb,” which is further defined as to agitate or bother a bald or golden eagle to a degree that causes or is likely to cause, based on the best scientific information available, injury to an eagle; a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

- (75) Threatened.—The classification provided to an animal or plant likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
- (76) Tiering.—Refers to the coverage of general matters in broader EISs (e.g., national policy statements) with subsequent narrower statements or environmental analysis (e.g., basinwide program statements) incorporating by reference the general discussions and concentrating solely on the issues specific to statement subsequently prepared.
- (77) Ultimate Conclusion.—Conclusion of law, ultimate legal finding, and finding.

B. The definitions and paraphrases in this section reflect those found in the following sources:

- (1) 40 CFR Part 1508, CEQ Implementing Regulations, “Terminology and Index”
- (2) 50 CFR Section 402.02, Joint Counterpart Endangered Species Act Section 7 Consultation, “Definitions”
- (3) 7 CFR Section 650.4, “Definition of Terms” (NRCS Implementing Regulations for NEPA)
- (4) 190-General Manual, Part 410, Subpart A, Section 410.4, “Definition of Terms” (NRCS eDirectives)
- (5) 190-General Manual, Part 410, Subpart C, Section 410.30, “CEQ Terminology and Index” (NRCS eDirectives)
- (6) 390-National Watershed Protection Program Manual and Handbook, Parts 500 to 506 (NRCS eDirectives)
- (7) Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act, U.S. Fish and Wildlife Service and National Marine Fisheries Service (March 1998)
- (8) Merriam-Webster Dictionary of Law

### 610.3 Abbreviations

The following abbreviations are used throughout this part:

- (1) CE—categorical exclusion
- (2) CEQ—Council on Environmental Quality
- (3) CFR—Code of Federal Regulations
- (4) CMU—conservation management unit
- (5) CPPE—conservation practice physical effects
- (6) CRP—Conservation Reserve Program
- (7) CSG—Conservation Systems Guide
- (8) CSP—Conservation Stewardship Program
- (9) CWA—Clean Water Act
- (10) DC—district conservationist
- (11) E&T—endangered and threatened species

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- (12) EA—environmental assessment
- (13) EE—environmental evaluation
- (14) EFH—essential fish habitat
- (16) EPA—Environmental Protection Agency
- (17) EQIP—Environmental Quality Incentives Program
- (18) ESA—Endangered Species Act of 1973, as amended
- (19) FNSI—finding of no significant impact
- (20) FOTG—Field Office Technical Guide
- (21) FPPA—Farmland Protection Policy Act
- (22) FWCA—Fish and Wildlife Coordination Act
- (23) FWS—U.S. Fish and Wildlife Service
- (24) GIS—Geographic Information System
- (25) GM—general manual
- (26) HEL—highly erodible land
- (27) HEP—habitat evaluation procedures
- (28) HFRP—Healthy Forest Reserve Program
- (29) MOU—memorandum of understanding
- (30) MBTA—Migratory Bird Treaty Act
- (31) NECH—National Environmental Compliance Handbook
- (32) NEPA—National Environmental Policy Act
- (33) NHPA—National Historic Preservation Act
- (34) NMFS—National Marine Fisheries Service
- (35) NOAA—National Oceanic and Atmospheric Administration
- (36) NOI—notice of intent
- (37) NPDES—National Pollution Discharge Elimination System
- (38) NPPH—National Planning Procedures Handbook
- (39) NRHP—National Register of Historic Places
- (40) RFO—responsible Federal official
- (41) RMS—Resource Management System
- (42) ROD—record of decision
- (43) RUSLE—Revised Uniform Soil Loss Equation
- (44) SEIS—supplemental EIS
- (45) SEC—special environmental concerns
- (46) TSP—technical service provider

### 610.4 Forms

Form NRCS-CPA-52, “Environmental Evaluation Worksheet” – To access the worksheet and instructions electronically, go to the NRCS home page, select “Technical Resources,” and proceed to the “Environmental Compliance” site.

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### Subpart B – NRCS Environmental Compliance

#### 610.10 Overview of NRCS Environmental Compliance

A. NRCS has established overarching environmental policies, included in the NRCS regulations and policy for implementing the National Environmental Policy Act (NEPA), for how the agency will administer Federal technical and financial assistance. This allows NRCS to assist individuals and non-Federal public entities to take actions that protect, enhance, and restore environmental quality. These policies and associated procedures found in Title 190, General Manual (GM), Part 410, Subpart A, Section 410.1, provide that—

- (1) Environmental consequences are considered in NRCS decisionmaking.
- (2) Actions that have significant effects on the human environment are identified early in the conservation planning process to avoid delays in decisionmaking.
- (3) Environmental information is made available to decisionmakers before decisions are made about actions that significantly affect the human environment.
- (4) NRCS-assisted actions are supported, to the extent possible, by accurate scientific analyses that are technically acceptable to NRCS.

B. NRCS administers Federal assistance within the overall environmental policies outlined in 190-GM, Part 410, Subpart A, Section 410.3. It is important to note that NRCS policy is to consider environmental quality equal to economic, social, and other factors in decisionmaking. These policies were developed to comply with the requirements established by the Council for Environmental Quality (CEQ) through written regulations at 40 CFR Parts 1500-1508, which establish the procedures NRCS and other Federal agencies must follow to meet NEPA requirements. These regulations require Federal agencies to follow a systematic process when a Federal action is proposed. CEQ regulations that implement NEPA also require that Federal agencies promulgate their own regulations that implement NEPA for their actions.

C. NRCS regulations and policy implementing NEPA identify categories of activities that are categorically excluded, normally require an environmental assessment (EA), and normally require an environmental impact statement (EIS). NRCS implementing regulations for NEPA are at 7 CFR Part 650 and NRCS environmental compliance policy in 190-GM, Part 410. These are identified and discussed in later sections of the handbook.

D. See subpart H, section 610.100, of this handbook, for the NRCS NEPA compliance flowchart.

#### 610.11 Applicability of the Environmental Evaluation

A. NRCS is required to conduct an environmental evaluation (EE) for all planning and financial assistance, including, but not limited to—

- (1) Development of individual conservation plans (including animal feeding operations and concentrated animal feeding operations plans).
- (2) Areawide and watershed planning.
- (3) Resource conservation and development (RC&D) activities.
- (4) Financial assistance in the form of grants where there may be ground-disturbing activities (e.g., Conservation Innovation Grants (CIG)).

- (5) Conservation planning activities contracted to entities outside of NRCS (e.g., technical service providers (TSPs)).
- (6) All NRCS conservation programs, including program approvals where there is no financial assistance (e.g., for administrative actions on easements) except when an EA/EIS is being prepared..
- (7) Other State or local programs that require NRCS planning and approval (e.g., State cost-share program requiring NRCS approval of conservation practice completion).
- (8) The establishment of new structures associated with Snow Telemetry (SNOTEL) sites, plant material facilities, etc.
- (9) Propagation and release of plant materials.
- (10) Emergency Watershed Program (EWP) damage survey reports (DSRs) (using the DSR form in the EWP Manual).
- (11) Programs for which NRCS provides planning assistance to outside agencies (e.g., Farm Service Agency (FSA) for the Conservation Reserve Program, Biomass Crop Assistance Program, etc.).

B. The EE is used to determine the need for an EA or an EIS. The results of the EE are documented on Form NRCS-CPA-52, “Environmental Evaluation Worksheet.” Among other things, the NRCS-CPA-52 is used to document the appropriate use of a categorical exclusion and existing environmental analysis.

**Exceptions:** An EE is not required when making Food Security Act highly erodible land (HEL) determinations or wetland determinations, or when the decision has already been made to prepare an EA or EIS.

C. As a result of the EE process, the conclusions (“findings”) that may be reached include any of the following:

- (1) There is no Federal action; therefore neither an EA nor EIS is required (see subpart D, section 610.43).
- (2) The action is a Federal action that is categorically excluded with no extraordinary circumstances present so no further documentation is needed (see subpart D, section 610.46).
- (3) There is an existing NRCS State, regional, or national programmatic NEPA document that has sufficiently analyzed the particular Federal action and there are no predicted significant adverse effects or extraordinary circumstances (see subpart F, section 610.81).
- (4) Another Federal agency’s NEPA document (EA or EIS) has been formally adopted by NRCS that sufficiently analyzes the specific action (see subpart F, section 610.83).
- (5) The proposed action is a Federal action that has not been sufficiently analyzed or may involve predicted significant adverse environmental effects or extraordinary circumstances and may require an EA or EIS.

## **610.12 The NRCS Planning Process, NEPA, and Special Environmental Concerns**

A. NRCS conducts an EE as required by NEPA implementing regulations, 7 CFR Section 650.5, during the conservation planning process, which incorporates environmental considerations throughout planning, installation, and operation for all actions where NRCS may have control (i.e., be the decisionmaker). Conducting the EE should coincide with our conservation planning process and should not be considered a separate activity once actions have been decided and planned. In this way, potential impacts from a proposed alternative

that may require mitigation and that may require consultation, permitting, or both can be identified and addressed in a timely manner.

B. For example, a proposed action may require consultation to address issues surrounding federally listed species or important cultural resources. Early communication with Federal, State, Tribal, and local partners will ensure that regulatory requirements will not delay project implementation and that the NRCS client is aware of any such requirements during the decisionmaking process.

C. By conducting the EE, NRCS is able to identify the appropriate level of environmental documentation required. For example, working through the EE protocol can—

- (1) Lead to a finding that proposed action is not a “Federal action” as defined by NEPA.
- (2) Provide the necessary documentation required for actions that NRCS and USDA have categorically excluded under NEPA.
- (3) Provide documentation and verification of existing NRCS programmatic NEPA documents that have adequately analyzed the proposed actions.
- (4) Inform the decision as to whether or not to prepare either an EA or an EIS

**Note:** All Federal actions are subject to review under NEPA and may also have their own individual compliance responsibilities under other “special environmental concerns.”

**Note:** For NRCS, the first step in determining the level of NEPA review required for a proposed action is through the EE.

D. NEPA establishes the broad environmental policy that all Federal agencies are to follow when Federal actions are being considered. However, it is important to remember that Federal actions subject to review under NEPA may also have their own individual compliance responsibilities under other environmental laws and Executive orders that include the NRCS special environmental concerns.

E. NEPA requires that NRCS take into account the effects of its actions on all aspects of the environment. But merely describing the effects of an action for purposes of complying with NEPA, and sometimes even providing for mitigation, does not satisfy these separate requirements. Other Federal, State, Tribal and local environmental requirements besides NEPA must be considered when planning a Federal action.

F. NRCS Special Environmental Concerns (SECs)

- (1) The term “special environmental concerns” refers to those Federal laws, Executive orders, and agency policies that apply independently to NRCS actions and planning activities. Examples include the Endangered Species Act (ESA); National Historic Preservation Act (NHPA); Clean Water Act (CWA); Clean Air Act (CAA); Executive Order 11990, Protection of Wetlands; and others.
- (2) The NRCS-CPA-52 worksheet includes the list of SECs that NRCS must consider when conducting an EE on a proposed action. The worksheet provides detailed instructions on how to conduct the environmental evaluation and includes guidance to ensure compliance with the various SECs.

G. NRCS Conservation Practice Standards and Public Review

- (1) All conservation practice implementation is governed by established conservation practice standards contained in section IV of the Field Office Technical Guide (FOTG) and Title 450, National Handbook of Conservation Practices. Conservation practices are developed through a multidisciplinary science-based process in order to maximize the success and minimize the risk of failure of the conservation practice. A

- minimum level of acceptable quality for planning, designing, installing, operating, and maintaining each conservation practice is established within the standard.
- (2) The design and implementation of conservation practices must also meet technical and environmental criteria in NRCS manuals, handbooks, and publications, which are also developed through a peer and public review process.
  - (3) The conservation plans developed by NRCS usually include systems of two or more conservation practices and site-specific specifications for implementing those practices to achieve land user objectives while conserving natural resources. These conservation alternatives are designed to meet sustainable levels of established “planning criteria,” found in section III of the FOTG, which provide minimum sustainable levels for soil, water, air, plant, animal, and human resources by which to measure effectiveness of conservation systems.
  - (4) NRCS obtains input about conservation practices from the State Technical Committees established pursuant to 16 U.S.C. Section 3861. In addition, NRCS obtains public input about conservation practices by publishing notice in the Federal Register of any new or revised national conservation practice standard to be incorporated into the FOTG. In addition to State Technical Committee and Federal Register reviews, public participation is further accomplished through coordinating the implementation of NRCS activities with local soil and water conservation districts (SWCDs). SWCD board members are comprised of local landowners, elected by the public, to represent community interests, advocate conservation, assist NRCS in setting local resource priorities, and approving conservation plans. All technical and financial assistance provided by NRCS is voluntary and is provided in partnership with the local SWCD at the request of an individual, unit of government, Indian Tribe, or sponsoring organization.

### **610.13 Environmental Compliance for Farm Bill Grant Programs**

A. NRCS administers several grant programs under authorities provided by the Farm Bill and regulations promulgated by USDA and NRCS. Funded grant program projects involving conservation planning or ground-disturbing activities require an EE be conducted to ensure the project is implemented in compliance with Federal, State, local, and Tribal requirements. The EE must be conducted at the State, area, or field office level so decisions are based on accurate field-based information, and projects are implemented in compliance with State, local, and Tribal requirements. The State Conservationist, or his or her delegate, is the responsible Federal official (RFO) for all grant program projects implemented in the State and is responsible for ensuring environmental compliance requirements are met.

B. In addition, the RFO must ensure the appropriate ESA, NHPA, and other applicable consultations are conducted, environmental requirements are satisfied, and NEPA findings are made. Grant recipients are responsible for providing NRCS with information about the location and types of activities to allow completion of the NRCS-CPA-52. Grant recipients are also responsible for acquiring permits and obtaining permissions from landowners. NRCS must either prepare or ensure preparation of any EA or EIS that may be required as a result of the NEPA finding. As the lead Federal agency, NRCS is responsible for the content of the NEPA document. All environmental compliance requirements must be completed before project implementation can begin.

(C) For multi-State projects, if the RFO in one State determines an EA or EIS is required, they must contact the other States and coordinate the analysis to ensure proper consideration of cumulative effects.



D. An EE or completed NRCS-CPA-52 is not required for grant projects that have no physical, chemical, or biological effect on the environment, such as—

- (1) Outreach activities.
- (2) Information or data gathering or sharing.
- (3) Analysis.
- (4) Technical assistance only.

E. Copies of the completed NRCS-CPA-52 are to be provided to the

- (1) National Program manager for National grants;
- (2) Administrative contact in the agreement;
- (3) Technical contact, if applicable.

#### **610.14 Environmental Compliance for Watershed Operations/Rehabilitation**

A. Title 390, National Watershed Program Manual (NWPM), sets forth NRCS policy for delivering the Watershed Program authorized by Public Law 83-566, the Watershed Protection and Flood Prevention Act, as amended. NRCS assists the sponsoring local organizations (SLOs) in the preparation of a watershed project plan with the cooperation and assistance of State, Tribal, local, and other Federal agencies. The watershed project plan and the NEPA environmental document are integrated into a single document, called the “watershed project plan-EA,” “watershed project plan-EIS,” or “watershed project plan-EE.” The combined document is often referred to as the “watershed plan” or just “plan.”

B. When all the proposed actions of a watershed project are covered by one or more categorical exclusions (CEs), the plan will include documentation of the applicability of the CEs, and the NRCS-CPA-52 is included in the watershed project plan-EE, replacing the more detailed discussion of impacts required for a plan-EA or plan-EIS. NRCS is responsible for the content and quality of the plan-EA, plan-EIS, or plan-EE for the purposes of NEPA compliance.

C. The 390-NWPM outlines the format and content requirements that must be followed for all watershed project plan EAs, EISs, and EEs. The requirements provide a framework that facilitates compliance with NEPA, the Principles and Requirements for Federal Investments in Water Resources, and the corresponding Interagency Guidelines (PR&G); Executive orders; the Code of Federal Regulations; Public Law 83-566; and related NRCS planning policy.

D. This handbook can be a useful tool for further guidance for compliance with NEPA when used in conjunction with 390-NWPM and Title 390, National Watershed Program Handbook (NWPH).

**Note:** When developing a watershed project plan-EA, plan-EIS, or plan-EE, refer to 390-NWPM to ensure that any additional compliance requirements are met.

#### **610.15 Environmental Compliance for NRCS Emergency Watershed Protection (EWP) Program**

A. There are occasions when NRCS provides technical and financial assistance to communities that have been affected by natural disasters, including floods, fires, drought, hurricanes, etc. This kind of assistance is provided through the Emergency Watershed Protection Program administered by NRCS. The EWP Program helps project sponsors and

individuals implement emergency recovery measures to relieve imminent hazards to life and property created by a natural disaster that has caused a sudden impairment of a watershed.

**B. Damage Survey Reports and Environmental Evaluations**

- (1) Emergency watershed protection measures must still adhere to all applicable Federal, State, Tribal, and local laws and regulations, including NEPA and all other NRCS SECs.
- (2) Each State should have a current predisaster emergency recovery plan and associated agreements that outline how NRCS will work cooperatively with other Federal, State, Tribal, and local entities involved in recovery work to increase efficiency and effectiveness in response to natural disasters. These plans include special attention to comply with the various requirements of laws, executive orders, and other requirements outlined in Title 390, National EWP Program Manual (NEWPPM).
- (3) These plans will also include protocols for completion of the required damage survey reports (DSRs) and the EE criteria that is documented on the NRCS-CPA-52 and attached to the DSR. The DSR, including attachments, is the primary document in the planning process to record all assessment, evaluation, and planning decisions for EWP recovery measures. The NRCS-CPA-52 identifies the environmental effects or impacts that will result from the proposed action and alternatives, and provides for the RFO's finding on the level of analysis needed to comply with NEPA. For more information about the DSR protocol and specific format, see 390-NEWPPM.
- (4) For more information about the EWP Program and how to complete DSRs, contact your State specialist or see 390-NEWPPM on the NRCS eDirectives Web site.

**610.16 Environmental Compliance for General Services Administration Delegated Leasing Authority**

A. The General Services Administration (GSA) has statutory authority for acquiring and providing Federal agencies with space. To streamline its leasing operations, GSA may delegate its leasing authority to Federal agencies. Often, when NRCS leases space, it is using GSA's delegated leasing authority. Your realty specialist will know when this is the case. In these situations, NRCS is responsible for meeting environmental compliance requirements following GSA's procedures before the lease is executed. Because NRCS is operating under GSA's authority, NRCS must follow GSA's regulations at 41 CFR Sections 102-71 to 102-85. Under these regulations, among other requirements, NRCS must—

- (1) Comply with the provisions of section 110(a) of the NHPA of 1966, as amended (54 U.S.C. Sections 306101(a) and 306102), regarding the use of historic properties prior to acquiring, constructing, or leasing space.
- (2) Follow the procedures identified in the CEQ's NEPA implementing regulations, 40 CFR 1500 to 1508, and the standards that the Federal agency has promulgated to implement CEQ's regulations.
- (3) Assess required environmental issues throughout planning and development of Federal construction and lease construction projects so that the environmental impacts of a project are considered during the decisionmaking process.

B. GSA issued implementation requirements for delegations of lease acquisition authority in Federal Management Regulation (FMR) Bulletin C-2. These require NRCS to be responsible for compliance with all laws, Executive orders, regulations, and Office of Management and Budget (OMB) circulars governing warranted GSA realty contracting officers when operating under GSA's delegated authority. With regards to environmental compliance, NRCS must—

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- (1) Submit a floodplain check in accordance with Executive Order 11988, “Floodplain Management.”
- (2) Within 30 days after a lease award, submit to GSA documentation of compliance with NEPA, in accordance with 40 CFR 1508.9, and the GSA Public Buildings Service's NEPA Desk Guide.

C. After review of the postaward documents, GSA may request additional information to determine whether the procurement was performed in accordance with all applicable laws, Executive orders, regulations, and OMB circulars that apply to Federal space acquisition activities.

D. State environmental liaisons must use the GSA NEPA Desk Guide to determine the appropriate level of NEPA analysis required for leasing actions instead of completing an environmental evaluation and NRCS-CPA-52. Most leasing actions are categorically excluded from the requirement to prepare an EA or EIS. GSA has identified two types of categorical exclusions (CATEXs). The documentation requirements for each are described below. Additional examples of leasing actions qualifying for the two types of CATEXs are found in the GSA NEPA Desk Guide.

- (1) Automatic CATEX.—When a leasing action by its very nature would not have a significant effect on the quality of the human environment, it qualifies for an automatic CATEX. Documentation of compliance with NEPA for automatic CATEXs is provided on a NEPA memo to the file. GSA provides an AutoCATEX Form, “Automatic Categorical Exclusion,” for this purpose that lists all the actions that qualify for an automatic CATEX. Obtain a copy from your State realty specialist or the GSA regional environmental quality advisor (REQA).

Examples of leasing actions that qualify for an automatic CATEX include the following:

- Acquisition of space within an existing building where there will be no change in the general type of use of the building and only minimal change from the building’s previous occupancy level (any previous occupant need not have been Federal tenants).
  - Relocation of employees into existing Federally controlled space (including leased space) that does not involve a substantial change in the number of employees or motor vehicles.
  - Lease extensions, renewals, or superseding or succeeding leases.
- (2) Checklist CATEX.—A leasing action that does not qualify for an automatic CATEX may be eligible for a checklist CATEX where preparation of an environmental checklist ensures that no extraordinary circumstances exist that would require preparation of an EA or an EIS. A model checklist is provided in GSA NEPA Desk Guide. The appropriate regional checklist should be obtained from GSA’s NEPA REQA. The checklist must include supporting information for any “yes,” “no,” or “needs data” response.

Examples of leasing actions that would qualify for a checklist CATEX include—

- Acquisition of space by lease construction, or expansion or improvement of an existing facility, where all of the following conditions are met:
  - The structure and proposed use are substantially in compliance with local planning and zoning and any applicable State or Federal requirements.
  - The proposed use will not substantially increase the number of motor vehicles at the facility.

- The site and the scale of construction are consistent with those of existing adjacent or nearby buildings.
- There is no evidence of community controversy or other environmental issues.

(3) Environmental Assessments and Environmental Impact Statements

When a proposed leasing action does not qualify for a CATEX, an EA or EIS may be required. Consult with GSA’s REQA if a proposed leasing action does not qualify for a CATEX for further guidance on how to proceed. The REQA will recommend the level of analysis required and obtain concurrence from regional counsel. A major build-to-suit leasing action may trigger the requirement to prepare either an EA or EIS.

E. At all levels of analysis, GSA requires documentation of compliance with Executive Order 11988, Floodplain Management. GSA’s Floodplain Management Desk Guide provides guidance to document compliance. The Floodplain Management Desk Guide includes an eight-step process to be conducted as part of every EA, EIS, or CATEX screening analysis.

F. Links to GSA Resources

- (1) GSA Public Buildings Service's (PBS) NEPA Desk Guide.—This documents helps GSA staff, contractors, and those operating under delegated GSA authority carry out the requirements of NEPA in accordance with the CEQ regulations (40 CFR 1500 to 1508), and GSA Order ADM 1095.1F (Environmental Consideration in Decisionmaking). It is available at <http://www.gsa.gov/portal/content/101194>.
- (2) GSA PBS Floodplain Management Desk Guide.—This document outlines the eight-step process GSA requires to ensure floodplain compliance. It is available at [http://www.gsa.gov/portal/mediaId/223411/fileName/PBS\\_Floodplain\\_Management\\_DeskGuide.action](http://www.gsa.gov/portal/mediaId/223411/fileName/PBS_Floodplain_Management_DeskGuide.action).
- (3) GSA REQA.—The GSA REQAs can answer questions about GSA requirements and provide copies of forms. They are also the individuals to whom completed GSA environmental compliance documents must be provided. A list of the GSA REQAs is available on the NRCS Environmental Compliance Web page under the heading “NRCS NEPA Regulations, Guidance, Documents, and Tools”: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/nra/ec/>.

## 610.17 Ten Questions the Environmental Evaluation Addresses

A comprehensive EE should address the following 10 questions:

- (1) Are all relevant environmental concerns (soil, water, air, plants, and animals (SWAPA), plus energy, human and those otherwise required) identified (7 CFR Sections 650.3(a) (7)-(14) and 650.5(a)(1), and 40 CFR Section 1508.27)?
  - (i) Soil
    - Prime and unique farmland (FPPA, 7 CFR Section 650.3(a)(9))
  - (ii) Water
    - Clean Water Act (CWA, 7 CFR Section 650.3(a)(14))
    - Coastal zone management areas (Coastal Zone Management Act)
    - Floodplain management (Executive Order 11988, 7 CFR Section 650.25)
    - Wetlands (CWA, Executive Order 11990, 7 CFR Section 650.3(a)(12))
    - Wild and scenic rivers (Wild and Scenic Rivers Act)
  - (iii) Air
    - Clean Air Act (CAA)

- (iv) Plants and Animals
    - Riparian areas (190-GM Part 411, Section 411.3D)
    - Endangered and threatened species (ESA, 7 CFR Section 650.3(a)(12))
    - Invasive species (Executive Order 13112)
    - Natural areas (7 CFR Section 650.23)
    - Coral reefs (Executive Order 13089)
    - Essential fish habitat (Magnuson-Stevens Act)
    - Migratory birds and bald and golden eagles (Migratory Bird Treaty Act, Executive Order 13186, Bald and Gold Eagle Protection Act)
  - (v) Human
    - Cultural resources (NHPA, 7 CFR Section 650.3(a)(7))
    - Environmental justice (Executive Order 12898)
    - Scenic beauty (7 CFR Section 650.24)
    - Economic (7 CFR Section 650.5(a)(4))
- (2) Are baseline data (i.e., benchmark conditions) documented? (7 CFR Section 650.5(a)(1))
  - (3) Does the analysis provide data to applicants for use in establishing objectives? (7 CFR Section 650.5(a)(2))
  - (4) Does the analysis assist in the development of alternative courses of action (including the no-action alternative)? (7 CFR Section 650.5(a)(3))
  - (5) Is the need for other related analyses (including economic, engineering, etc.) identified? (7 CFR Section 650.5(a)(4))
  - (6) Are the potential effects of alternatives inventoried and estimated? (7 CFR Section 650.4(c), 7 CFR Section 650.5(a)(1))
  - (7) Is the action supported to the extent possible by accurate scientific analyses that are technically acceptable to NRCS? (7 CFR Section 650.1(a)(c)(2))
  - (8) Are environmental concerns integrated throughout planning, installation, and operation? (7 CFR Section 650.5(a))
  - (9) Do plans satisfy identified needs and minimize adverse effects (i.e., include mitigation) of planned actions? (7 CFR Section 650.3(b)(4))
  - (10) Has the need for an EA or EIS been determined (includes screening to determine extraordinary circumstances for CEs, significance, or “not a Federal action”)? (7 CFR Section 650.4(c); 7 CFR Section 650 Amendment, 7/13/09, section II of the Preamble)

## 610.18 Completing the Environmental Evaluation

### A. Introduction

- (1) The EE is “a concurrent part of the planning process in which the potential long-term and short-term impacts of an action on people, their physical surroundings, and nature are evaluated and alternative actions explored” (Title 180, National Planning Procedures Handbook (NPPH), Part 600). The NRCS-CPA-52 worksheet provides for the documentation of that part of the planning process, and was designed to assist the conservation planner with compliance requirements for applicable Federal laws, regulations, Executive orders, and policy. The EE also provides a framework for documenting compliance with applicable State, Tribal, and local requirements.

**Note:** NRCS is required to conduct an EE on all planning and financial assistance to determine if there is a need for an EA, an EIS, or whether a categorical exclusion

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may be invoked. A copy of the NRCS-CPA-52 must be included in the client's administrative file.

- (2) The EE process results in a "finding" or conclusion that, either further NEPA analysis is required (i.e., EA or EIS) or that no EA or EIS is required because of one of the following:
  - (i) There is no Federal action being proposed.
  - (ii) The action is categorically excluded.
  - (iii) There is an existing NRCS or NRCS-adopted NEPA document that has sufficiently analyzed the effects of this action.
- (3) The EE applies to all assistance provided by NRCS (190-GM, Part 410, Subpart A, Section 410.5). The NRCS-CPA-52 worksheet is used by NRCS to document the results of the evaluation and to show compliance with NRCS regulations implementing NEPA at 7 CFR Part 650.
- (4) A copy of the NRCS-CPA-52 must be included in the administrative file. Sufficient documentation supporting NRCS's findings, such as any applicable SEC guide sheets, should be included with the NRCS-CPA-52 to relay specific compliance information.
- (5) Additional sheets or assistance notes should be attached if more documentation space is needed beyond the NRCS-CPA-52, including any State-specific worksheets.
- (6) See subpart H, section 610.100, of this handbook, for the NRCS NEPA compliance flowchart.

### B. Location of the NRCS-CPA-52 worksheet

- (1) An interactive version of the NRCS-CPA-52 with instructions and accompanying SEC evaluating procedure guide sheets are available on the NRCS Environmental Compliance Web site under "Technical Resources." Completed sample worksheets are also available on this site. The national NRCS-CPA-52 provides a summary of all NRCS environmental compliance requirements.
- (2) States may tailor this worksheet to include additional State, Tribal, and local environmental concerns, but may not exclude items or otherwise alter the national worksheet without the approval of the national environmental coordinator.

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### **Subpart C – Overview of NRCS “Special Environmental Concerns” and NRCS Policy**

#### **610.20 Introduction**

A. There are many requirements for protection of natural and cultural resources that are separate from the National Environmental Policy Act (NEPA). It is important to remember that Federal actions subject to review under NEPA may also have their own individual compliance requirements under the various environmental laws and Executive orders. NRCS must ensure it complies with all applicable national, State, Tribal, and local laws, regulations, and Executive orders, as well as its own policies, when it develops conservation plans, provides technical assistance, and carries out its program authorities.

B. The term “special environmental concerns” refers to those Federal laws, Executive orders, and governmentwide policies that apply independently to actions and activities receiving Federal financial assistance, authorizations, permissions, approvals, or permits. Examples include the Endangered Species Act (ESA); National Historic Preservation Act (NHPA); Clean Water Act (CWA); Clean Air Act (CAA); Executive Order 11990, Protection of Wetlands; and others.

C. NEPA requires that NRCS consider the effects of its actions on all aspects of the environment, but merely describing the effects of an action for purposes of complying with NEPA, and sometimes even providing for mitigation, does not satisfy these separate requirements. Therefore, this section provides an overview of Federal environmental requirements in addition to NEPA with which NRCS must be concerned whenever it provides assistance. Additional State, Tribal, and local requirements may apply in addition to those referenced here. In such cases, State Conservationists or their designee are responsible for ensuring appropriate consideration is given to those requirements, as well.

D. Form NRCS-CPA-52, “Environmental Evaluation Worksheet,” includes the list of “special environmental concerns” that NRCS must consider when conducting an environmental evaluation (EE) on a proposed action.

E. Compliance with some environmental laws may require NRCS to share site-specific information about agricultural operations, farming or conservation practices, or the planning area itself. Such information may be protected from disclosure under the Privacy Act of 1974 (5 U.S.C. Section 552a) and section 1619 of the Food, Conservation, and Energy Act of 2008 (7 U.S.C. Section 8791). Before initiating site-specific consultation, NRCS must obtain the written consent of the landowner and land user (when the land user provides written indication of having complete control over the land, the landowner’s consent is not required). This written consent along with all other pertinent correspondence relevant to the consultation should be maintained in the “administrative file” that is kept with the client’s conservation plan.

F. A sample landowner consent form can be found in subpart H, section 610.142, of this handbook.

#### **610.21 Air Quality and the CAA**

A. Background

- (1) Federal legislative efforts to regulate air pollution began with the passage of the Air Pollution Control Act in 1955. The CAA was originally passed in 1963 with significant amendments in 1970, 1977, and 1990. The 1990 Clean Air Act Amendments (CAAA) introduced sweeping changes to the CAA and are the basis for many of the existing air quality regulations in the United States.
- (2) Since the CAA is the underlying environmental law for air quality in the United States, regulatory agencies, such as the U.S. Environmental Protection Agency (EPA) and State, Tribal, and local regulatory agencies, must promulgate specific regulations to implement the CAA. The Federal regulations promulgated by the EPA can be found in 40 CFR. Each State, Tribal, and local regulatory agency must implement regulations that are as stringent as, or more stringent than, the Federal regulations. Each of these sets of regulations address air quality concerns from many different types of air pollutant emission sources.
- (3) Agricultural operations are not exempt from compliance with the CAA and associated Federal regulations. Tribal, State and local regulations have varying levels of applicability to, and requirements for, agricultural operations.

#### B. State Implementation Plans (SIPs)

- (1) The EPA may delegate authority to implement the CAA requirements to Tribal, State, and local regulatory agencies. In order to accomplish this purpose, Tribal, State, and local regulatory agencies are required to develop SIPs. A SIP is the collection of regulations a Tribal, State, or local regulatory agency will use to address air quality concerns in its area.
- (2) The extent to which a particular SIP may impact agricultural operations in an area is directly related to the local air quality issues. For example, a State with a large population of animal feeding operations may have an SIP regulation that addresses odors from these operations. Alternatively, States with a significant amount of agriculture in an area with poor air quality (such as California's San Joaquin Valley) may develop SIP regulations limiting the emissions from, or mandating regulatory controls for, agricultural sources.
- (3) Among other air quality regulations, SIPs generally include regulations regarding preconstruction permits, operating permits, and emission standards for certain sources and pollutants. SIPs may also contain other regulations that are not specifically required under the CAA (such as odor or greenhouse gas regulations), and these regulations do not necessarily have to be approved by the EPA.
- (4) SIP regulations that are developed with adequate public review and comment and have been approved by the EPA are considered federally enforceable. Noncompliance with federally enforceable limitations can leave an air pollutant emission source vulnerable to legal and enforcement action by the EPA; Tribal, State, and local regulatory agencies; and the general public.

#### C. National Ambient Air Quality Standards

- (1) The CAA requires the EPA to establish National Ambient Air Quality Standards (NAAQS) for specific pollutants. These pollutants are known as criteria pollutants and are discussed further in the following section. The EPA has promulgated the current NAAQS in 40 CFR Part 50.
- (2) The NAAQS are intended to represent the maximum concentration of a particular pollutant in the ambient air (i.e., locations to which the general public has access) that will not adversely impact public health or welfare. NAAQS for a particular pollutant typically include a primary and a secondary standard. Primary NAAQS are set at



levels to protect human health. Secondary NAAQS are set at levels to protect public welfare, including aesthetic, economic, and other nonhealth effects.

- (3) The stringency of air pollution regulations in a particular area is based upon whether that area is in attainment (i.e., is in compliance) or nonattainment (i.e., is not in compliance) with respect to the NAAQS. Nonattainment areas will typically have more stringent control and permitting requirements than attainment areas. Additionally, nonattainment areas with a more severe level of nonattainment will have more stringent control and permitting requirements than nonattainment areas with a less severe level of nonattainment.

#### D. Criteria Pollutants

- (1) The term “criteria pollutant” is used to designate those air pollutants for which health-based criteria were used to establish NAAQS. The EPA has currently promulgated NAAQS for six criteria air pollutants, but the primary criteria pollutants of concern for agriculture are ozone and particulate matter.
- (2) Ozone is not typically emitted directly from air pollutant emission sources. Rather, it is formed in the atmosphere by chemical reactions. As such, emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO<sub>x</sub>) are regulated as precursors to ozone formation instead. Particulate matter may be either emitted directly (dust is a form of particulate matter) or formed in the atmosphere from other pollutants, such as ammonia from animal operations or fertilizer application, as well as NO<sub>x</sub>, VOCs, and sulfur dioxide (SO<sub>2</sub>).

#### E. Overall Implications for NRCS

- (1) Air pollutant emission sources in agriculture have historically been afforded lower priority in the air quality regulatory arena. However, the persistence of air quality problems in many areas of the United States ensures that all sources of air pollutants, regardless of industry, will become increasingly scrutinized by regulatory agencies and the general public.
- (2) NRCS planners should be aware of the requirements that apply or may apply to the various agricultural operations in their particular area. NRCS involvement with projects that do not comply with applicable air quality requirements places the agency at risk of potential liability.

F. The CAA Evaluation Procedure Guide sheet can be found in subpart H, section 610.101, of this handbook.

## 610.22 CWA and Waters of the United States

#### A. Overview and Definitions

- (1) The purpose of this section is to provide an overview of the CWA and to encourage close and early coordination with State and Federal regulatory agencies in your area. The U.S. Army Corps of Engineers (USACE) and the States administer the various sections of the CWA with the oversight of the EPA. Court decisions, differences in State laws and interpretation of regulations, and other factors impact how regulatory agencies implement the permit programs from State to State and district to district. Close coordination throughout the planning process can prevent significant delays in processing the permit application. The CPA Section 404 program is discussed in more detail since this program most often affects NRCS activities.
- (2) The Federal Water Pollution Control Act of 1972, now known as the Clean Water Act, established several programs to regulate and reduce discharges of pollutants into

waters of the United States (including wetlands). Although the list of pollutants is long, those most frequently associated with the term include fill material, sediment, excess nutrients, and harmful bacteria.

- (3) The term “Waters of the United States” means—
- (i) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide.
  - (ii) All interstate waters, including interstate wetlands.
  - (iii) All other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters meeting any of the following criteria:
    - Are or could be used by interstate or foreign travelers for recreational or other purposes
    - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce
    - Are used or could be used for industrial purpose by industries in interstate commerce
  - (iv) All impoundments of waters otherwise defined as waters of the United States under the definition.
  - (v) Tributaries of waters identified in paragraphs (i) through (iv) of this section.
  - (vi) The territorial seas.
  - (vii) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (i) through (vi) of this section.
- (4) Waters of the United States does not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.
- (5) The term “other waters of the United States” is sometimes used simply to describe such jurisdictional waters as streams and other aquatic sites that do not meet the definition of “wetlands” as defined for CWA purposes. (Note that wetlands are defined and identified differently for various Federal and State programs.) USACE has the responsibility to determine if an area is a water of the United States and if an activity is subject to section 404 CWA jurisdiction. For the purposes of the CWA, the final authority regarding CPA jurisdiction remains with EPA. Even if the Food Security Act designates an area as prior converted cropland (PC) it may be subject to CWA jurisdiction where wetland conditions have returned.
- (6) “Special aquatic sites” are a subset of waters of the United States that are large or small areas possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. Special aquatic sites include wetlands (see Subpart H, Section 610.116, “Wetlands Evaluation Procedure Guide Sheet,” in this handbook), sanctuaries and refuges, mud flats, vegetated shallows, coral reefs, and riffle and pool complexes. These sites are generally recognized as significantly influencing or positively contributing to the overall environmental health of the entire ecosystem and receive special attention under EPA’s section 404(b)(1) guidelines. This results in increased protection under the section 404 permit process, including a more stringent alternative analysis and emphasis on avoidance and mitigation.
- (7) Section 404 of the CWA established a permit program to regulate the discharge of dredged and fill material into waters of the United States. Discharge of dredged or

fill material into waters of the United States is prohibited unless the action is exempted or is authorized by a permit issued by USACE or, in a few cases, by the State.

- (8) Under section 401 of the CWA, before a section 404 permit may be issued for an activity, the State (or Tribe) in which the activity will occur must certify that the activity will not violate State water quality standards (Section 401, “State Water Quality Certification”).
- (9) Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) Program, which the States also administer. Section 402 requires a permit for sewer discharges and storm water discharges from developments, construction sites, or other areas of soil disturbance.
- (10) Section 303 requires States, territories, and Tribes to identify “impaired waters” and to establish total maximum daily loads (TMDLs). Impaired waters are waters that do not meet the water quality standards after existing regulatory programs have been applied. The TMDL specifies the maximum amount of a pollutant that the impaired water body can receive and meet water quality standards, and allocates pollutant loadings among point and nonpoint sources.

**B. Regulated Activities in Waters of the United States Under Section 404 of the CWA**

- (1) Activities in waters that are typically regulated under section 404 include fills for development, water resource projects (e.g., dams and levees), infrastructure development, and conversion or manipulation of wetlands. Additional activities in waters of the United States that usually require permit authorization include but are not limited to mechanized land clearing, land leveling, bank stabilization, stream realignment, road and bridge construction, fills for building pads, ditch construction projects, and materials associated with excavation and backfilling operations. Fill material typically consists of earthen materials such as soil, gravel, or rocks, or other construction materials, such as concrete.
- (2) Agricultural activities in waters of the United States exempt from section 404 of the CWA (see section 404(f)) include normal farming, silviculture, and ranching activities such as plowing, seeding, cultivating, minor drainage, and harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices.
  - (i) To be exempt, the activities must be part of an established farming, silviculture, or ranching operation. An operation ceases to be “established” when the area has been converted to another use or has been abandoned so long that modifications to the hydrologic regime are necessary to resume operations.
  - (ii) To be considered exempt, the proposed activity must not be a part of an activity that would convert any area of the waters of the United States into a use to which it was not previously subject, and impair the flow and circulation or reduce the reach of waters of the United States.
  - (iii) Only USACE may determine if an activity is exempt. NRCS clients that may need a 404 permit should be advised to contact USACE.
- (3) Types of Section 404 Permits.—There are two categories of permits for those activities that are not exempted from the 404 permit process: general and individual.
  - (i) General Permits.—General permits typically reduce the time required for applicants to receive authorization for projects. There are two types of general permits: regional and nationwide.
    - Nationwide Permits.—A nationwide permit (NWP) authorizes a category of activities throughout the nation that has been determined to have minor impacts. These permits are valid only if the conditions applicable to the

permits are met. Several of the NWP's require notification to USACE before beginning work, and some require mitigation. In addition, several regional conditions, or section 401 State water quality certification conditions, may apply to the NWP or any part of it within a USACE district.

- Regional General Permits.—Regional general permits (RGPs) are issued by USACE for categories of activities that are similar in nature and cause minimal environmental impact (both individually and cumulatively) within a geographic region. The permits may apply to one USACE district in one or more States or portions of States. NRCS personnel should contact the appropriate USACE office for a complete listing of regional permits and conditions within their area. (As with the NWP's, notification to USACE and mitigation may be required with some RGPs.)
- (ii) Individual Permits.—Individual permits are required for discharges that are not either exempt or covered by an NWP or RGP. Individual permits may contain numerous conditions and mitigation requirements.
- The individual permit process involves a full public interest review. A public notice is distributed to all known interested persons, including State and Federal agencies. After evaluating all comments and information received, USACE completes an environmental assessment (EA) or environmental impact statement (EIS) and a final decision on the application is made.
  - The permit decision is generally based on the outcome of a public interest balancing process where the benefits of the project are balanced against the detriments.
  - A permit will be granted unless the proposal is found to be contrary to the public interest or it is determined that it does not meet the section 404(b) guidelines.
  - Processing may take 120 days or longer.

C. See subpart H, section 610.102, of this handbook for the “Clean Water Act and Waters of the U.S. Evaluation Procedure Guide Sheet.”

### **610.23 Coastal Zone Management Areas (CZMA)**

A. Coastal zone management areas are areas located within or near the officially designated “coastal zone” of a State. Generally, this includes the Atlantic, Gulf of Mexico, and Pacific coastal areas, as well as the Great Lakes. However, the National Oceanic and Atmospheric Administration’s (NOAA’s) Office of Coastal Zone Management approves coastal programs, and not all coastal States have a coastal zone management area.

B. Coastal zone management areas are—

- (1) The coastal waters and adjacent shorelines, including the lands or waters inside and under those zones.
- (2) Areas that strongly influence adjacent coastal zones of the 35 States that have coastal zone management programs.

C. Specific examples of areas included in the coastal zone are “transitional” and intertidal areas, such as salt marshes, freshwater wetlands, and beaches. Coastal zone management areas also include the connecting waters, harbors, and estuarine areas, such as bays, shallows, and marshes, as well as those waters adjacent to the shorelines, including but not limited to sounds, bays, lagoons, bayous, ponds, and the estuaries themselves.

D. The coastal zone management area extends seaward to the outer limit of the United States territorial sea (generally 200 miles). Inland, the coastal area extends only to the extent necessary to control land uses that have a direct and significant impact (effect) on coastal waters.

E. Section 307 of the Coastal Zone Management Act specifies that actions or activities within the coastal zone done by a Federal agency or on behalf of or through a Federal agency must be consistent with the State's coastal zone management plan. That is, Federal activity must not be contrary the goals and objectives that exist in an approved coastal zone management plan. The U.S. Supreme Court has upheld the so-called “consistency provision” of the act. Therefore, NRCS planning must be consistent with the State's coastal plan and be in concert with the goals, tenets, and objectives of that plan.

F. On March 9, 1993, a letter was jointly signed by the Soil Conservation Service, the Agricultural Stabilization and Conservation Service, and the Extension Service setting forth the policies for enforcement and adoption of science- and technology-based land-management measures that eliminate or control nonpoint sources of pollution. Guidance on nonpoint source pollution matters in the coastal zone is contained in EPA’s “Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters” (EPA 840-B-92-002), issued in response to the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990. Among other areas, the guidance covers agricultural sources, forestry sources, urban sources, marinas and recreational boating sources, and channel, dam, streambank, and shoreline sources.

D. See subpart H, section 610.103, of this handbook for the “CZMA Evaluation Procedure Guide Sheet.”

## 610.24 Coral Reefs

A. The term “coral reefs” is defined as the species, habitats, and other natural resources associated with coral reefs in all maritime areas and zones subject to the jurisdiction or control of the United States (e.g., Federal, State, territorial, or commonwealth waters), including reef systems in the South Atlantic, Caribbean, Gulf of Mexico, and Pacific Ocean. Coral reefs are also waters of the United States as defined in the CWA.

B. Coral reefs are among the most diverse and valuable ecosystems on Earth. Reef systems are storehouses of immense biological wealth and provide economic and environmental services to millions of people as shoreline protection, areas of natural beauty, recreation and tourism, and sources of food, pharmaceuticals, jobs, and revenues.

C. Coral reefs are vulnerable to harmful environmental changes, particularly those resulting from human activities. One of the primary threats to U.S. coral reefs is pollution from land-based sources, including runoff of nutrients and sediments from watersheds adjacent to near-shore coral reef ecosystems. Present estimates are that 10 percent of all coral reefs are degraded beyond recovery; 30 percent are in critical condition and may die within 10 to 20 years, and if current conditions continue unabated another 30 percent may perish completely by 2050.

D. Executive Order 13089, Coral Reef Protection, was issued in 1998 in recognition of the importance of conserving coral reef ecosystems. The Executive order created a Coral Reef Task Force whose membership is comprised of 11 Federal agencies, including the Secretary of Agriculture. The Executive order policy states that agencies will utilize their programs and authorities to protect and enhance the conditions of such ecosystems and, to the extent

permitted by law, ensure that any actions authorized, funded, or carried out by the agency will not degrade the conditions of coral reef ecosystems.

E. Subject to the availability of appropriations, NRCS actions that affect U.S. coral reef ecosystems must provide for implementation of measures needed to research, monitor, manage, and restore affected ecosystems, including, but not limited to, measures reducing impacts from pollution, sedimentation, and fishing. These measures must be developed in cooperation with the U.S. Coral Reef Task Force and fishery management councils, and in consultation with affected State, territorial, commonwealth, Tribal, and local government agencies; nongovernmental organizations; the scientific community; and commercial interests.

F. In 2002, the U.S. Coral Reef Task Force adopted the “Puerto Rico Resolution,” which calls for the development of 3-year local action strategies (LASs) by each of the seven member U.S. States, territories, and commonwealths. These LASs are locally driven roadmaps for collaborative and cooperative action among Federal, State, territory, and nongovernmental partners that identify and implement priority actions needed to reduce key threats to valuable coral reef resources. More information about local action strategies in the member States can be found on the U.S. Coral Reef Task Force Web site.

G. The goals and objectives of the LASs are linked to those found in the “U.S. National Action Plan to Conserve Coral Reefs” adopted by the U.S. Coral Reef Task Force in 2000. From the 13 goals identified in the national action plan, the task force prioritized six threat areas as the focus for immediate local action: overfishing, land-based sources of pollution, recreational overuse and misuse, lack of public awareness, climate change and coral bleaching, and disease. Additional focus areas were identified in some jurisdictions.

H. Florida, Hawaii, Guam, the U.S. Virgin Islands, American Samoa, Puerto Rico, and the Commonwealth of the Northern Mariana Islands created specific local action strategies for select locally relevant threats, using the six priority focus areas as a guide. Applying a collaborative decisionmaking process based on local needs, concerns, and capacities, each jurisdiction developed strategies that contain a variety of projects designed for implementation over a 3-year period (fiscal years 2005 to 2007).

I. See subpart H, section 610.104, of this handbook, for the “Coral Reefs Evaluation Procedure Guide Sheet.”

## **610.25 Cultural Resources and Historic Properties**

### **A. Introduction**

- (1) Title 190, National Cultural Resources Procedures Handbook (NCRPH), Part 601, provides a detailed procedural reference and guidance on processes that NRCS, partners, and consultants use to identify, evaluate, and protect cultural resources, including historic properties, in compliance with the NHPA and several related authorities.
- (2) The information below provides a summary of responsibilities related to cultural resources and historic properties. All determinations and supporting documentation should be summarized and documented on the Form NRCS-CPA-52 worksheet in addition to following any State-established protocols.
- (3) The term “cultural resources” as used by NRCS is considered equivalent to “historic properties” as defined by the NHPA (16 U.S.C. Section 470 et seq.) and regulations for compliance with section 106 of the NHPA (36 CFR Part 800). They include any prehistoric or historic district, site, building, structure, or object listed in or eligible

for listing in the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. They also include all records, artifacts, and physical remains associated with the NRHP-eligible historic properties. The term also includes properties of traditional cultural and religious importance to an Indian Tribe or Native Hawaiian organization that meet national register criteria. They may consist of the traces of the past activities and accomplishments of people.

- (4) The Secretary of the Interior, through the National Park Service, maintains the list of NRHP properties; the State historic preservation officer (SHPO) maintains a list of NRHP properties and properties that have already been determined eligible or potentially eligible during Federal agency project planning. These lists are very incomplete, based upon incidental survey and research. Only a small fraction of the Nation's cultural resources (historic properties) have been identified and evaluated.
- (5) NEPA states "...it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may:
  - (i) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
  - (ii) Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
  - (iii) Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
  - (iv) Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice..."
- (6) The implementing regulations for NEPA state the following:
  - (i) Analysis of environmental consequences to the affected environment must include consideration of "urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures." (40 CFR Section 1502.16)
  - (ii) In addition, 40 CFR Section 1502.25(a) states that, to the fullest extent possible, agencies must prepare draft EISs concurrently with and integrated with environmental impact analyses and related surveys and studies required by the NHPA and other environmental review laws and Executive orders.
- (7) When possible, NHPA compliance should be coordinated with NEPA review (see Title 420, General Manual (GM), Part 401, and 190-NCRPH, Part 601, for NRCS policy on historic and archaeological properties). As explained in NRCS's NEPA regulations (7 CFR Section 650.6), NRCS categorical exclusions do not exempt us from basic NHPA analysis to determine if a proposed project or undertaking has the potential to affect historic properties (i.e., cultural resources that meet the criteria for inclusion in the NRHP).
- (8) The NHPA, the Advisory Council on Historic Preservation's (ACHP's) regulations for compliance with section 106 of the NHPA (36 CFR Part 800), and 420-GM, Part 401, require NRCS to consider the effects of our actions and undertakings on NRHP-eligible cultural resources and historic properties in consultation with specific parties. Consultation with the SHPO, Tribal historic preservation officers (THPOs) and federally recognized Tribes, including Native Hawaiians, that want to consult on agency projects, as well as other interested parties (e.g., the conservation district, the applicant, etc.), is required.

## Title 190 – National Environmental Compliance Handbook

- (9) According to 36 CFR Section 800.16, “Consultation means the process of seeking, discussing and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the section 106 process.” Thus, consultation is more than simple notification and takes place throughout the project or program planning process. NRCS has developed some State-level agreements and Tribal consultation protocols that outline the who, when, where, why, and how of consultation.

### B. Governmentwide Policy

Section 2 of the NHPA of 1966, as amended, states it is the policy of the Federal Government, in cooperation with other nations and in partnership with the States, local governments, Indian Tribes, and private organizations to—

- (i) Use measures to foster conditions under which our prehistoric and historic resources can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations.
- (ii) Provide leadership in the preservation of the prehistoric and historic resources of the United States and in the administration of the national preservation program in partnership with States, Indian Tribes, Native Hawaiians, and local governments.
- (iii) Contribute to the preservation of prehistoric and historic resources not owned by the Federal Government.
- (iv) Encourage the public and private preservation.
- (v) Assist State and local governments, Indian Tribes, and Native Hawaiian organizations to expand and accelerate their historic preservation programs and activities.

### C. Agency Policy

- (1) NRCS recognizes its responsibilities as a Federal agency for historic preservation and will ensure that cultural resources are appropriately considered in all NRCS actions and programs.
- (2) NRCS will identify and protect cultural resources early in the planning and environmental evaluation process for all actions, activities, and programs that have the potential to affect cultural resources or historic properties listed in or eligible for listing in the NRHP.
- (3) NRCS will protect cultural resources in their original location to the fullest extent practicable by avoiding impacts to resources.
- (4) NRCS must take into account cultural resources that may be significant under authorities in addition to or apart from NEPA and include these analyses in the basic NEPA analysis and compliance, including but not limited to the NHPA (16 U.S.C. Section 470); American Indian Religious Freedom Act (42 U.S.C. Section 1996); Native American Graves Protection and Repatriation Act (25 U.S.C. Sections 3001-3013); Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (2000); Executive Order 13007, Indian Sacred Sites (1996); and a range of Executive orders, Presidential memoranda, and secretarial memoranda. When such resources (e.g., contemporary cultural properties, traditional cultural values, landscape, or features having religious importance) may be impacted, NRCS will consult with concerned parties to determine what practices or treatments, if any, are acceptable to the concerned parties and will document the outcome of such consultation according to the statutes and authorities under which they are considered.



- (5) If agreement among consulting parties regarding acceptable treatment of identified cultural resources cannot be reached, NRCS will complete documentation of compliance and determine if continued assistance is warranted. If NRCS does determine such assistance is appropriate, it will seek consultation with the ACHP and, upon receipt of their recommendations and completion of additional compliance requirements, make a final decision on how to proceed.
- (6) NRCS will inform participants about the importance of the cultural environment and, as appropriate, provide information on opportunities beyond simple compliance to enhance the understanding of the Nation's heritage.

D. See subpart H, section 610.105, for the “Cultural Resources Evaluation Procedure Guide Sheet.”

## 610.26 Endangered and Threatened Species

A. For more detailed guidance about compliance with the Endangered Species Act of 1973, refer to Subpart G, “Endangered Species Act,” in this handbook.

B. Endangered and threatened species are those plant and animal species that are reduced in numbers, making extinction a high probability. The disappearance of these species would be a biological, cultural, and, in some cases, an economic loss to the Nation. The species' continued existence contributes to scientific knowledge and understanding, adds to recreational and commercial pursuits, and provides interest, purpose, and variety to human existence.

- (1) The term “endangered species” means any species in danger of extinction throughout all or a significant portion of its range.
- (2) The term “threatened species” means any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
- (3) The Secretary of the Interior classifies species as threatened or endangered based on the best available scientific and commercial data.
- (4) Habitats may also be designated and protected as “critical habitats” when they are essential to the conservation of a federally listed species. The Services designate the extent and location of a particular species' critical habitat.

C. Section 7(a) of ESA requires NRCS, in consultation with and with the assistance of the Secretary of the Interior, to—

- (1) Utilize the Departments' and agencies' authorities to advance the purposes of the act by implementing programs for the conservation of endangered and threatened species.
- (2) Ensure that its actions and activities do not jeopardize the continued existence of threatened and endangered species or result in the destruction or adverse modification of the species' critical habitat.

D. The U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) publish comprehensive notices containing the names of species that are proposed for listing as “endangered” or “threatened” under ESA. The NMFS is charged with protecting marine and anadromous species.

E. The principal hazard to endangered and threatened species is the destruction or modification of their habitats by human activities associated with industrialization, urbanization, agriculture, lumbering, recreation, and transportation.

F. NRCS Policy

- (1) According to 190-GM, Part 410, Subpart B, Section 410.22E(1), “NRCS is committed to supporting its clients and partners by providing technical assistance and NRCS actions to conserve and improve natural resources on private lands. Within this framework, and consistent with legal requirements, the implementation of conservation programs through planning and application of conservation practices and measures shall provide for the conservation of—
  - (i) Federally listed species (endangered and threatened).
  - (ii) Species proposed for Federal listing.
  - (iii) Federal candidate species.
  - (iv) Federally designated and proposed critical habitat.
  - (v) State and Tribal species of concern and their habitats.”
- (2) In addition, “NRCS shall use its authorities and programs to provide for the conservation of Federal candidate and State and Tribal species of concern” (190-GM Part 410, Subpart B, Section 410.22E(7)(i)).

G. Federal Candidate Species.—When NRCS concludes that a proposed action “may adversely affect” Federal candidate species, the agency will recommend only alternative conservation treatments that will avoid adverse effects, and to the extent practicable, provide long-term benefit to the species. This applies to NRCS technical assistance, financial assistance, and any other action where NRCS has control or responsibility. If the species becomes federally listed, proposed for listing, or the critical habitat is federally designated or proposed prior to the completion of the action, the project will be halted while the necessary consultation or conferencing requirements are met.

H. Species of concern defined in 190-GM, Part 410, Subpart B, Section 410.22D(30), as those that have been protected by State or Tribal laws or regulations are also addressed in NRCS policy. NRCS must consider impacts to plant, fish, or wildlife species protected by a State or Tribe as endangered, threatened, rare, declining, sensitive, or otherwise at risk.

I. Where State or Tribal species of concern are identified during the planning process, NRCS should provide information to landowners to make them aware of the existence of State or Tribal species of concern on their lands and must recommend appropriate measures to avoid or minimize potential negative impacts to the species. When actions may adversely affect State or Tribal species of concern, the NRCS customer must agree to apply the recommended alternatives that will avoid or minimize the effect to the extent required by State or Tribal law in order to continue to receive assistance. In some cases, NRCS may have an agreement with the State or Tribal resource agency to provide additional assistance to landowners or to consult on State species of concern.

J. Because each State and Tribe has different laws regarding species of concern, State Conservationists should supplement this handbook with information and procedures for addressing State and Tribal species of concern. States must contact State and Tribal governments to identify species of concern and the NRCS actions that may have the greatest potential to affect those species and their habitats through both adverse and beneficial impacts.

K. See subpart H, section 610.106, of this handbook for the “Endangered & Threatened Species Evaluation Procedure Guide Sheet.”

## 610.27 Environmental Justice

- A. The term “environmental justice” means that, to the greatest extent practicable and permitted by law, all populations are provided the opportunity to comment before decisions are rendered on proposed Federal actions. Furthermore, the principles of environmental justice require that populations are allowed to share in the benefits of, are not excluded from, and are not affected in a disproportionately high and adverse manner by, Government programs and activities affecting human health or the environment.
- B. Executive Order 12898, issued February 11, 1994, requires each Federal agency to make environmental justice a part of its mission. Agencies must identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations, low-income populations, and Indian Tribes. Environmental justice must be applied throughout the United States, its territories and possessions, the District of Columbia, and the Commonwealths of Puerto Rico and the Mariana Islands.
- C. Environmental justice issues encompass a broad range of impacts covered by NEPA, including impacts on the natural or physical environment and related social, cultural, and economic impacts. A social impact assessment can be an important way to identify environmental justice issues. The USDA Departmental Regulation (DR) 5600-002, “Environmental Justice,” provides detailed determination procedures for NEPA and non-NEPA activities and suggests social and economic effects to consider.
- D. The primary means to attain compliance with environmental justice considerations is through the inclusion of low-income, minority, and Tribal populations in the planning process and by translating documents into other languages when members of the affected area do not speak English.
- E. The U.S. Government has a unique legal relationship with federally recognized Indian Tribal governments. Indian Tribes are recognized as domestic dependent nations. As sovereign nations, any consultation must be conducted on a government-to-government basis. If an activity will affect an Indian Tribe or its interests, contacting your State American Indian Emphasis Program manager is recommended.
- F. See subpart H, section 610.107, of this handbook for the “Environmental Justice Evaluation Procedure Guide Sheet.”

## 610.28 Essential Fish Habitat

- A. Essential fish habitats (EFHs) are areas identified as being vital for sustaining marine or anadromous fish populations. They include the waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.
- B. The Magnuson-Stevens Act of 1996 calls for heightened consideration of fish habitat in resource management decisions and direct action to stop or reverse the continued loss of fish habitats. The NMFS implements and enforces the management measures through fisheries management plans. As amended in 1986, the Magnuson Act requires regional fisheries management councils to evaluate the effects of habitat loss or degradation on their fishery stocks and take actions to mitigate such damage. In 1996, this responsibility was expanded to ensure additional habitat protection. The act requires cooperation among NMFS, the councils, fishing interests, Federal and State agencies, and others in achieving the EFH goals of habitat protection, conservation, and enhancement.

C. NRCS must consult with NMFS regarding any action or proposed action that may adversely affect an EFH.

- (1) The regulations strongly encourage using existing procedures for environmental reviews in order to streamline this process. NMFS currently participates in interagency environmental coordination or consultation processes under the Fish and Wildlife Coordination Act, NEPA, ESA, the Federal Power Act, and CWA for many of the actions covered under the EFH mandate. Where these existing processes can satisfy the requirements of EFH consultations, such procedures will be used to meet the consultation requirements of the Magnuson-Stevens Act.
- (2) In order to use an existing environmental review or consultation process NRCS must obtain a finding from NMFS that the existing, or modified, process satisfies the EFH consultation requirements of the act. Findings can be developed at the national, regional, or State level.

D. In the absence of an existing process, the regulations establish procedures to accomplish the mandated consultations.

- (1) Any council may comment and make recommendations to NMFS and any Federal agency undertaking actions that may adversely affect the habitat, including EFH, of any fishery resource under its authority. The council must comment if, in its view, the action is likely to substantially impact the habitat, including EFH, of an anadromous fishery resource under its authority.
- (2) After receiving information from a council or Federal or State agency concerning an action or proposed action that would adversely affect any EFH, NMFS must recommend measures to the Federal or State agency to conserve such habitat.
- (3) Within 30 days of receiving an EFH recommendation from NMFS, a Federal agency must respond in writing to NMFS and any commenting councils. The response should detail the measures that will be taken to avoid, mitigate, or offset the adverse effects to EFH and explain the reasons for any actions inconsistent with the NMFS EFH recommendations.

E. Go to subpart H, section 610.108, of this handbook for the “Essential Fish Habitat (Magnuson-Stevens Act) Evaluation Procedure Guide Sheet.”

## **610.29 Floodplain Management**

A. Floodplains are defined as lowlands or relatively flat areas adjoining inland or coastal waters, including at a minimum areas subject to a chance of flooding of 1 percent or greater in any given year.

B. The “base” floodplain is set equal to the “100-year” floodplain (the so-called “1-percent chance floodplain”). The “critical action” floodplain is defined as the 500-year floodplain (the 0.2-percent chance floodplain) where there is the presence of a facility, such as a school, hospital, nursing home, utility, or a facility producing volatile, toxic, or water-reactive materials.

C. Floodplains may be shown on maps produced by the Federal Emergency Management Agency (FEMA) and on NRCS watershed plans and floodplain management studies.

D. NRCS policy on floodplains is found in 190-GM, Part 410, Subpart B, Section 410.25, and reflects Executive Order 11988, “Floodplain Management,” which was signed on May 24, 1977. The Executive order requires that decisions by Federal agencies must recognize that floodplains have unique and significant public values. Federal agencies are instructed to

consider the natural and beneficial values of floodplains and the public benefits to be derived from floodplain restoration or preservation.

E. The objectives of Executive Order 11988 are to avoid, to the extent possible, the long- and short-term adverse impacts associated with occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development where there is a practical alternative.

F. Through proper planning, floodplains can be managed to reduce the threat to human life, health, and property in ways that are environmentally sensitive. Most floodplains contain areas with valuable assets that sustain and enhance human existence. Some of these assets are agricultural and forest, food and fiber, fish and wildlife, temporary floodwater storage, parks and recreation, and environmental values.

G. NRCS provides leadership and takes actions where practicable to conserve, preserve, and restore existing natural and beneficial functions and values in base (100-year) floodplains as part of the technical and financial assistance program that it administers.

H. See subpart H, section 610.109, in this handbook for the “Floodplain Management Evaluation Procedure Guide Sheet.”

### **610.30 Invasive Species**

A. An invasive species is an alien species whose presence does or is likely to cause economic or environmental harm or harm to human health. As defined in Executive Order 13112, “Invasive Species” (February 3, 1999), an alien species includes species that are not native to a particular continent as well as not native to a particular ecosystem. Invasive species may include all terrestrial and aquatic life forms, including plants, animals, fungi, and microbial organisms.

B. The Executive order directs Federal agencies to prevent the introduction of invasive species, provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause.

C. NRCS must not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere (190-GM, Part 414).

D. In addition to Federal and State noxious weeds lists, State, Tribal, and local governments may have developed invasive species lists. In areas where these invasive plants lists are regulatory, use of certain plants may be prohibited.

E. All NRCS actions and activities must be planned and implemented with the cooperation of stakeholders. Stakeholders include but are not limited to State, Tribal, and local government agencies; academic institutions; the scientific community; nongovernmental entities including environmental, agricultural, and conservation organizations; trade groups; commercial interests; and private landowners.

F. See subpart H, section 610.110, of this handbook for the “Invasive Species Evaluation Procedure Guide Sheet.”

### **610.31 Migratory Birds**

A. The Migratory Bird Treaty Act (MBTA) of 1918, as amended, is the domestic law that affirms, or implements, the United States’ commitment to four international conventions

(with Canada, Japan, Mexico, and Russia) for the protection of a shared migratory bird resource.

B. Migratory birds include all wild birds found in the United States except the house sparrow, starling, feral pigeon, and resident game birds, such as pheasant, grouse, quail, and wild turkeys. Resident game birds are managed separately by each State. A list of migratory birds is found in 50 CFR Part 10.

C. The framers of the MBTA intended to put an end to the commercial trade in birds and their feathers that, by the early years of the 20th century, had wreaked havoc on the populations of many native bird species.

D. The MBTA decreed that all migratory birds and their parts (including eggs, nests, and feathers) were fully protected. Thus, the act makes it unlawful, unless permitted by regulation, for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird, including feathers, parts, nests, or eggs. This prohibition applies to Federal agencies as well as private individuals.

E. The MBTA authorizes the Secretary of the Interior to determine when the taking of migratory birds is compatible with the terms of the Migratory Bird Treaty. This is why the FWS prescribes season and bag limit restrictions to State game agencies for migratory game species, such as waterfowl and doves. The MBTA also makes it unlawful to take migratory game birds over a baited area. Activities such as falconry and control of depredating birds are allowed by issuance of migratory bird permits from the FWS.

F. In addition to the MBTA, Executive Order 13186, “Responsibilities of Federal Agencies to Protect Migratory Birds,” requires NRCS to consider the impacts of planned actions on migratory bird populations and habitats for all planning activities.

G. There are other requirements protecting certain migratory birds in addition to the MBTA and the Executive order. The Bald and Golden Eagle Protection Act provides protection to all bald and golden eagles by prohibiting all commercial activities and some noncommercial activities involving bald or golden eagles, including their feathers or parts. The ESA protects endangered migratory bird species, such as the peregrine falcon and the northern spotted owl, and makes it illegal to sell, harm, harass, possess, or remove protected animals from the wild.

H. The Bald and Golden Eagle Protection Act prohibits the take of bald and golden eagles and their nests. The definition of “take” under this law includes disturbance. With the delisting of the bald eagle under the ESA, the FWS has issued national management guidelines to help minimize interference with bald eagles, particularly where actions may constitute disturbance. These guidelines are available on the FWS Web site.

I. As a result of these various laws and Executive orders, conservation alternatives should be designed and implemented in a manner that avoids or minimizes, to the extent practicable, adverse impacts on migratory bird resources.

J. See subpart H, section 610.111, of this handbook for the “Migratory Birds and Bald and Golden Eagle Protection Act Evaluation Procedure Guide Sheet.”

## **610.32 Natural Areas**

A. Natural areas are defined as land or water units where natural conditions have been retained and protected.

B. Natural areas may be designated areas of Federal, non-Federal government, or privately controlled land. Designation may be formal as provided for under Federal regulations for

areas of Federal land to be administered as natural areas or by foundations or conservation organizations specifically created to acquire and maintain natural areas. Designation may be informal in the case of private landowners who designate a specific area as a natural area and manage it accordingly.

C. Natural areas are established and maintained for a variety of purposes including—

- (1) Providing outdoor laboratories.
- (2) Establishing a baseline to monitor changes in surrounding environmental conditions.
- (3) Outdoor recreation.
- (4) Preserving unique values.
- (5) Preserving ecosystems and historic and cultural landscapes and artifacts.

D. Maintenance of natural areas may include management actions or manipulations that mimic natural disturbance regimes or restore features that the areas were established to protect.

E. NRCS State offices must ensure natural area designations are identified and considered during the planning process. Refer to 190-GM, Section 410.23, for the specific policies that must be integrated into NRCS activities.

F. See subpart H, section 610.112, of this handbook for the “Natural Areas Evaluation Procedure Guide Sheet.”

### **610.33 Prime and Unique Farmlands**

A. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary of Agriculture. Prime farmland includes land that possesses the above characteristics but is being used currently to produce livestock and timber. It does not include land already in or committed to urban development or water storage.

B. Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops, as determined by the Secretary of Agriculture. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include citrus, tree nuts, olives, cranberries, fruits, and vegetables.

C. Farmland, other than prime or unique farmland, is land that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops, as determined by the appropriate State or unit of local government agency or agencies, and that the Secretary of Agriculture determines should be considered the same as prime or unique farmland for the purposes of the Farmland Protection Policy Act.

D. The purpose of the Farmland Protection Policy Act and 7 CFR Part 658 is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses and to ensure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland.

E. NRCS must use the criteria provided in regulations found at 7 CFR Section 658.5 to identify and take into account the adverse effects of Federal programs on the protection of

farmland. With the help of NRCS, Federal agencies are to consider alternative actions, as appropriate, that could lessen such adverse effects on farmland conversion to nonagricultural uses. NRCS must also evaluate the effects of NRCS actions upon farmland.

F. See subpart H, section 610.113, of this handbook for the “Prime and Unique Farmlands Evaluation Procedure Guide Sheet.”

### 610.34 Riparian Areas

A. Riparian areas are ecotones that occur along streams, rivers, lakes, ponds, and wetlands. They are distinctively different from the surrounding lands because of unique soil and vegetative characteristics that are strongly influenced by free or unbound water in the soil. Riparian ecosystems occupy the transitional area between the terrestrial and aquatic ecosystems. Typical examples include floodplains, stream banks, and lakeshores. Riparian areas may exist within all land uses, such as cropland, hay land, pastureland, rangeland, and forestland.

B. Although riparian areas constitute only a fraction of the total land area, they are generally more productive in terms of plant and animal species, diversity, and biomass. Riparian areas are vital components of the ecosystems in which they occur and are extremely important for flood attenuation, hydrologic function (water quantity, quality, and timing), and fish and wildlife diversity. It is important to recognize that not all riparian areas have the same potential or react to management in the same way; therefore, they should be managed in accordance with their unique characteristics.

C. An understanding of watershed scale processes is necessary to fully understand how riparian areas function. The attributes of a watershed system, such as soils, geology, hydrology, land use, and topography, directly influence riparian area structure, function, and values.

D. Conservation planning in riparian areas requires special considerations. A resource problem within the riparian area may be the manifestation of upland management decisions. Planners working with riparian areas should consider soils, the present plant community, the site potential, geomorphology of both the stream and the watershed, hydrologic regime, fish and wildlife needs, the management of the upland areas of the watershed, and the producer’s objectives.

E. Federal law does not specifically regulate riparian areas. However, portions of riparian areas, such as wetlands and other waters of the United States, may be subject to Federal regulation under provisions of the Food Security Act, the CWA, NEPA, and State, Tribal, and local legislation.

F. NRCS policy (190-GM, Part 411, Section 411.3D) for riparian areas requires—

- (1) Riparian area management to be integrated into plans and alternatives.
- (2) Plans to maintain or improve water quality and quantity benefits, and fish and wildlife benefits provided.
- (3) Development of alternatives when land user’s objectives are in conflict with conservation of the riparian area resources.

**Note:** For NRCS policy on riparian areas, see 190-GM, Part 411. For supplemental guidance relating to riparian areas, see “Riparian Areas: Environmental Uniqueness, Functions and Values” (NRCS/RCS Issue Brief 11. USDA-NRCS. August 1996).



G. See subpart H, section 610.114, of this handbook for the “Riparian Area Evaluation Procedure Guide Sheet.”

### **610.35 Scenic Beauty (visual resources)**

A. Compliance with NRCS policy at 190-GM, Part 410, Subpart B, Section 410.24, requires consideration of landscape visual resources when planning, with the objective to preserve or contribute to scenic beauty.

B. Visual resources can be described using four visual elements: landform, water, vegetation, and structures. Everything a viewer sees in any landscape is composed of a combination of these four elements, which can be described and measured objectively.

C. Scenic beauty is the viewer’s perceived value of the visual resources in a landscape based on their quality, distinctiveness, and uniqueness. The importance of preserving scenic beauty increases with the number of viewers that see or use visual resources and with those that are distinctive or unique.

D. Visual resources should be evaluated in terms of their quality, landscape use, and visibility. Additional guidance for identifying, rating, and mapping visual resources is provided in Title 210, Technical Release-65, “Procedure to Establish Priorities in Landscape Architecture.”

E. See subpart H, section 610.115, of this handbook for the “Scenic Beauty Evaluation Procedure Guide Sheet.”

### **610.36 Wetlands**

A. Wetlands are defined differently within various Federal and State programs and for identification, delineation, and classification purposes.

- (1) NRCS wetland protection policy (190-GM, Part 410, Subpart B, Section 410.26) defines wetlands as areas, natural or artificial, that have hydric soil, hydrophytic vegetation, and indicators of wetland hydrology. Generally, wetlands include swamps, marshes, bogs, many bottomland hardwood areas, and similar areas.
- (2) Many wetlands serve significant natural biological functions, such as food chain production, general habitat and nesting, spawning, and rearing sites for aquatic and land species. Wetlands may also serve important water quality functions, serve as floodwater storage areas, and protect areas from wave action, erosion, or storm damage.
- (3) Some wetland classification systems, such as “Classification of Wetlands and Deep-water Habitats of the United States” (Cowardin et al., 1979), include rivers, streams, and many open water areas.

B. It is the policy of NRCS to protect and promote wetland functions and values in all NRCS planning and application assistance.

- (1) NRCS recognizes the beneficial and varied functional attributes of the different wetland types, and as such, strives to reconcile the need for wetland protection with that of promoting viable agricultural enterprises. NRCS supports the restoration, enhancement, creation, and preservation of wetlands as important and realistic components of comprehensive conservation plans, not only on a farm-by-farm basis, but also on a watershed or landscape basis. When providing technical assistance,

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NRCS will conduct an environmental evaluation, considering the objectives of the client in the context of environmental, economic, and other pertinent factors.

- (2) NRCS activities must comply with NRCS policy for protection of wetlands at 190-GM, Part 410, Subpart B, Section 410.26.

C. If wetlands will be impacted by a proposed activity, NRCS will identify whether practicable alternatives exist that either enhance wetland functions and values, or avoid or minimize harm to wetlands. If such alternatives exist, the client will be given the opportunity to select one of those alternatives.

- (1) If the client selects a practicable alternative, the NRCS may continue technical assistance for the conversion activity as well as the development of the mitigation plan.
- (2) If a practicable alternative is not selected, NRCS may assist with the development of an acceptable mitigation plan, but no further financial or technical assistance for the wetland conversion activity may be provided.

D. In addition to NRCS requirements, activities that impact wetlands and other waters of the United States often require a section 404 permit from USACE prior to beginning work. Early coordination with the appropriate USACE regulatory office to determine possible permit requirements is highly recommended (see the subpart H, section 610.102, “Clean Water Act/Waters of the United States Evaluation Procedure Guide Sheet”). Many States also have laws restricting activities in wetlands. Prior to or concurrent with NRCS assistance, the client should obtain all necessary permits or approvals related to work in wetlands.

E. Since wetlands are highly variable and can be dry for most of the year, they can be difficult to recognize and require special training to identify. NRCS wetland delineation training courses outline the Food Security Act wetland determination procedures, which are related to, but not identical to, the methods in USACE’s “Wetlands Delineation Manual” (Technical Report Y-87-1, USACE of Engineers, Washington, DC) also referred to as the “USACE ’87 Manual.” Be aware that due to differences in legal definitions, regulations, and procedures, areas that may be regulated under the CWA may not meet the definition of wetlands under the Farm Bill and vice versa. If CWA jurisdictional wetlands or other waters of the United States may be affected by a proposed activity, use the CWA guide sheet and instruct the client to contact USACE.

F. Activities in wetlands that occur in base (100-year or 500-year) floodplains are subject to review under NRCS floodplain management policy at 190-GM, Part 410, Subpart B, Section 410.25, and Executive Order 11988. (See Subpart C, Section 610.109, “Floodplain Management Guide Sheet,” in this handbook.)

G. See subpart H, section 610.116, of this handbook, for the “Wetlands Evaluation Procedure Guide Sheet.”

### 610.37 Wild and Scenic Rivers

A. A wild and scenic river is a free-flowing river or river segment that has outstanding scenic, recreational, geologic, fish-and-wildlife, historic, cultural, or other similar values. National wild and scenic rivers are designated by act of Congress (Public Law 90-542) or by the Secretary of the Interior at the request of a Governor as part of the National Wild and Scenic Rivers System. A listing of designated streams and stream segments can be found on the National Park Service’s Wild and Scenic Rivers Web site.

B. In addition to the river segments designated as wild and scenic, many more segments are believed to possess one or more outstandingly remarkable natural or cultural values judged to be of more than local or regional significance. Under a 1979 Presidential directive and related Council on Environmental Quality procedures, all Federal agencies must seek to avoid or mitigate actions that would adversely affect one or more National River Inventory (NRI) segments. The NRI is a source of information for statewide river assessments and Federal agencies involved with stream-related projects and can be found at the National Park Service's NRI Web site.

C. The designation of a river and river segments under the Wild and Scenic Rivers Act provides legal protections from adverse development and provides a mechanism for management of the river's resources. The principal effect of the act is to preclude or to severely limit the construction of dams and other water resources projects that might affect the free-flowing character of the river or adversely affect the values for which a river was designated. The Presidential directive also provides protection for NRI rivers by requiring Federal agencies consider the values of these segments prior to taking actions that could exclude them from future wild, scenic, or recreational river status.

D. The wild and scenic designation affects the management of Federal lands in the river's corridor. Rights to future development of private lands can be purchased under land acquisition authorities. Boundaries of wild and scenic rivers are limited to no more than 320 acres per river mile, and purchase of fee title within this boundary is limited to no more than 100 acres per mile.

E. Management standards or requirements have been developed for three classes of rivers: wild, scenic, and recreational.

These labels refer to the degree of development along a river, not necessarily to the type of river or how scenic or heavily used it is. The definitions of wild, scenic, and recreational from the law are—

- (i) Wild River Areas.—Rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
- (ii) Scenic River Areas.—Rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- (iii) Recreational River Areas.—Rivers or sections of rivers that are readily accessible by road or railroad that may have some development along their shorelines and that may have undergone some impoundment or diversion in the past.

F. Ongoing regular uses of private lands, particularly those existing at the time of the river's designation, are not directly affected. Most private land uses, such as homes and farms, are compatible with wild, scenic, and recreational river management. The river's management plan identifies the types of land uses and developments that are considered compatible or incompatible with the river's wild and scenic values.

G. Designation has no effect on existing water rights or irrigation systems or other existing developed facilities. New projects and alterations to existing systems, which require Federal permits, may be allowed when they will not have an adverse effect on the values for which the river was designated.

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H. Generally, timber harvests and agricultural operations on privately owned lands are unaffected in wild, scenic, and recreational river designations. However, some activities may require permits or may be covered under special provisions of the management plan.

I. Every river in the national system is required to have a manager responsible for ensuring protection. The Federal river manager may assist and cooperate with States or local organizations, landowners, and individuals to plan, protect, and manage river resources. The assistance may include limited financial assistance. Management of natural and cultural values is emphasized rather than public purchasing and owning of land. A great deal of cooperation may be required, as management may include local zoning, restrictions on land use, donations of development rights to land trusts, and other methods.

J. See subpart H, section 610.117, of this handbook for the “Wild and Scenic Rivers Evaluation Procedure Guide Sheet.”

## Part 610 – National Environmental Compliance Handbook

### Subpart D – The National Environmental Policy Act

#### 610.40 Overview of NEPA Requirements

##### A. Introduction

- (1) The National Environment Policy Act (NEPA) is legislation that was passed by Congress in 1969 and signed into law on January 1, 1970. Under NEPA, all Federal agencies must consider the environmental impact of actions that they propose and disclose those impacts to the public.
- (2) NEPA is a procedural act that establishes a process by which Federal agencies must study the environmental and social effects of their actions through an interdisciplinary framework.
- (3) This subpart describes the purposes of NEPA and provides an overview of its requirements. The purposes of NEPA are to—
  - (i) Declare a national policy that will encourage productive and enjoyable harmony between man and his environment.
  - (ii) Promote efforts that will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man.
  - (iii) Enrich the understanding of the ecological systems and natural resources important to the Nation.
  - (iv) Establish a Council on Environmental Quality (CEQ) responsible for the implementation of NEPA Governmentwide.
- (4) In order to achieve these objectives, NEPA establishes a decisionmaking process, or planning tool, to comply with the law. All Federal agencies in the executive branch are directed to prepare a detailed statement for major Federal actions significantly affecting the quality of the human environment. In preparing this statement, agencies must consider environmental, social, and economic factors and present enough analysis and information to provide a rational basis for agency decisionmaking. The requirements of NEPA are procedural (i.e., the agency must follow certain processes in order to make informed decisions).

##### B. Administrative Procedures Act and Data Quality Act

- (1) NEPA is a procedural act involving information, decisionmaking and public disclosure. As a result, agency NEPA policies, processes, and decisions are subject to judicial review under the Administrative Procedures Act (APA) of 1946 and Data Quality Act (DQA) of 2000. Legal challenges may be brought against NRCS under the APA on the grounds that agency NEPA policies and procedures were not followed or under the DQA where the quality of agency information is in question.
- (2) APA (5 U.S.C. Section 551) governs how agencies propose and establish regulations, the rulemaking process, and sets up a process for the Federal courts to directly review agency decisions if a person has been adversely affected by an agency action. When reviewing an agency decision, the courts use a standard of “arbitrary and capricious.” This means that the court determines whether there is a clear error in judgment or the agency decision is not based upon a consideration of the relevant factors.
- (3) DQA (section 515 of Public Law 106-554) amends the Paperwork Reduction Act to require that Federal agencies use and disseminate accurate information. Federal agencies must issue information quality standards to ensure the quality, utility,

objectivity, and integrity of information disseminated. The DQA also provides mechanisms for affected persons to correct such information.

C. NRCS Implementation of CEQ NEPA Requirements

- (1) The CEQ, which was created by NEPA, developed regulations that establish the procedures NRCS and other Federal agencies must follow to meet NEPA requirements. These regulations require Federal agencies to follow a systematic process when a Federal action is proposed.
- (2) NRCS has created specific regulations and policy implementing NEPA that identify categories of activities that are categorically excluded, normally require an environmental assessment (EA), and normally require an environmental impact statement (EIS) (see 7 CFR Part 650 and Title 190, General Manual (GM), Part 410). These are identified and discussed in later sections of this handbook. In addition, NRCS is required to conduct an environmental evaluation (EE) to determine the need for an EA or an EIS.
- (3) The results of the EE are documented on Form NRCS-CPA-52, “Environmental Evaluation Worksheet.” Among other things, Form NRCS-CPA-52 is used to document the appropriate use of a categorical exclusion and existing environmental analysis. The EE concludes with a finding that indicates how NRCS complies with NEPA. Possible findings are as follows:
  - (i) There is no Federal action, as defined by NEPA (e.g., NRCS has no control or responsibility for the action) that requires preparation of a NEPA document (see subpart D, section 610.43, of this handbook).
  - (ii) The action is a Federal action that is categorically excluded, and there are no extraordinary circumstances or significant impacts, so no further documentation is needed (see subpart D, section 610.46, of this handbook).
  - (iii) There is an existing NRCS State, regional, or national programmatic NEPA document that has sufficiently analyzed the particular Federal action and there are no predicted significant adverse effects or extraordinary circumstances that would prevent “tiering” to the existing document (see subpart F, section 610.81, of this handbook).
  - (iv) Another Federal agency’s NEPA document (EA or EIS) has been formally adopted by NRCS that sufficiently analyzes the specific action (see subpart F, section 610.83, of this handbook).
  - (v) The proposed action is a Federal action that has not been sufficiently analyzed or may involve predicted significant adverse environmental effects or extraordinary circumstances and may require an EA or EIS.

### **610.41 Framework for Compliance**

A. This section describes NRCS’s strategy for complying with NEPA documentation requirements at NRCS National Headquarters (NHQ), and State and field offices.

B. Requirements

(1) NHQ

- (i) In support of Federal actions it proposes, NHQ will prepare programmatic, policy, legislative, and other EAs or EISs as necessary to meet NEPA requirements. These documents should, to the extent feasible, include a broad analysis of the effects of conservation practices and systems of practices used most frequently across the Nation to address the resource concerns affected by the proposed action. This will—

- Reduce the workload for State and local NRCS offices.
  - Provide an analytic base to which State and local offices can tier their analysis of more specific actions.
  - Contribute to consistency in the conclusions reached about the effects of NRCS actions.
  - Enable NRCS to efficiently comply with NEPA.
- (ii) NHQ may also adopt appropriate NEPA documents prepared by other Federal agencies that may assist with NRCS NEPA compliance and establish new categorical exclusions.
- (2) State Offices
- State offices will prepare project, statewide, or other EAs and EISs, as appropriate, to support NRCS program, policy, and project decisions; to inform decisions made by State Conservationists about implementation of NRCS authorities; and to reduce the need for site-specific EAs to support delivery of conservation programs. To enhance efficiency, the State should consider the following measures:
- “Tier” to NEPA documents prepared by NHQ, States, or regions
  - Incorporate by reference other existing analyses of effects that are relevant to the proposed action, including NEPA documents prepared either by other NRCS offices or other Federal agencies
  - Utilize USDA or NRCS categorical exclusions
  - Adopt appropriate NEPA documents prepared by other agencies that may assist with NRCS
  - NEPA compliance in the State
  - Participate as a cooperating agency or invite other agencies to participate with NRCS as cooperating agencies on the preparation of NEPA documents
- (3) Field Offices
- NRCS field offices must conduct an EE to determine the potential effects of alternative solutions to resource problems for all planning activities and document the results of the evaluation on Form NRCS-CPA-52. Important aspects of this protocol involve an evaluation of the significance of impacts, a review of extraordinary circumstances for categorical exclusions, and the appropriate NEPA finding by the responsible Federal official (RFO). Refer to the worksheet for details surrounding the EE and documentation procedures.

## 610.42 Roles and Responsibilities

The NEPA process requires the involvement of other agencies, organizations, and individuals, each of which has a specific role to play and specific responsibilities. This section identifies and explains the roles and responsibilities of the agencies and individuals involved in the NEPA process.

### (1) CEQ

The CEQ was established by title II, section 202 of NEPA. One of the CEQ’s roles is to issue regulations and guidance for implementing the policies and requirements of NEPA. In addition, the CEQ is responsible for issuing an annual environmental quality report and for fostering investigations, studies, surveys, research, and analyses relating to the impact of new technologies on ecological systems and environmental quality. The CEQ also serves as the referral body when there are unresolved conflicts between agencies concerning environmental impacts analyzed in EISs.

(2) Environmental Protection Agency (EPA)

The EPA is directed to review and comment on the environmental impacts of Federal activities and to rate EISs on both environmental impacts and the sufficiency of the analysis. If EPA determines the EIS is “unsatisfactory from the standpoint of public health or welfare or environmental quality,” the matter is referred to the CEQ. Federal agency EISs are filed with EPA. EPA then publishes a notice in the Federal Register each week of the EISs filed during the preceding week. The date of this notice is used to determine the minimum time periods for public review and final decisionmaking.

(3) Other Agencies

Other Federal, State, Tribal, or local agencies may have jurisdiction by law or special expertise in resource concerns affected by NRCS technical and financial assistance activities. These agencies may also be able to contribute significantly to the scoping process. See subpart E of this handbook for further guidance in interagency interactions required by NEPA.

(4) Private Organizations, Individuals, and Groups

Communication among and between NRCS, the private sector, and the general public is critical to determining potential resource concerns, developing alternative courses of action, and evaluating impacts. This is a critical part of the scoping process. See Subpart E, “Preparation of an EA or EIS,” for additional information regarding the scoping process and the development of a public participation strategy.

(5) NRCS

(i) Chief

The Chief of NRCS is the RFO for NEPA compliance regarding proposed legislation, programs, legislative reports, regulations, policy, and program EAs and EISs.

(ii) State Conservationist

The State Conservationist (STC) in each State is the RFO for NEPA compliance and policy in all activities and programs within the State. This includes all NEPA documents developed for State, watershed and areawide projects, resource conservation and development (RC&D) projects using Federal funds, and NRCS conservation programs delivered in the State. The STC may delegate NEPA compliance responsibilities to State, RC&D, or field office personnel as appropriate.

(iii) District Conservationist

The district conservationist is normally the lead person assigned by the STC to coordinate NEPA compliance in projects and other multilandowner planning activities occurring within the local area, as well as financial assistance programs (e.g., Farm Bill conservation programs). The STC may also delegate NEPA compliance responsibility to other designated agency employees.

(6) Contractors and Technical Service Providers (TSPs)

(i) Contractors may provide environmental information and analyses that NRCS must review and approve for NEPA compliance. This includes planning assistance by TSPs for financial assistance programs.



- (ii) Contractors and TSPs will not conduct consultations under the National Historic Preservation Act, Endangered Species Act (ESA), Magnussen-Stevens Act, or any other act that imposes such a responsibility on Federal agencies. NRCS, as the responsible decisionmaker, is required by law to conduct the consultations listed above.
- (iii) If contractors are used to develop NEPA documents, the agency is required to review and approve all documents. Contractors will also need to sign a disclosure statement to prevent potential conflict of interest associated with the preparation of documents required by NEPA or its implementing regulations.
- (iv) See subpart H, section 610.123, in this handbook for a sample “Statement of Financial Interest (SOFI) Disclosure.”

### **610.43 Federal Actions and Major Federal Actions**

#### **A. Federal Actions**

- (1) NEPA compliance is triggered when NRCS proposes a Federal action. A Federal action occurs when NRCS has control or responsibility over the implementation of a proposed activity including technical or financial assistance. Most NRCS Federal actions involve financial assistance through Farm Bill and watershed programs, or approvals, but Federal actions also include activities such as granting compatible uses agreements for easements where NRCS exercises control.
- (2) Federal actions do not usually include situations in which NRCS is only providing technical assistance because NRCS cannot control what the client ultimately does with that assistance. However there may be instances where a project can become “federalized” due to a substantial input of Federal resources in the form of technical assistance or when NRCS has some control or responsibility in the result. When NRCS provides technical designs, standards, or specifications, the RFO should evaluate and determine whether NRCS has control or responsibility over the action, thus making it a Federal action subject to NEPA.
- (3) Important note: NEPA only applies to Federal actions. It is NRCS policy and required by NRCS regulations to conduct an EE as a part of every planning activity, even if it is not considered a Federal action (highly erodible land and wetland determinations are technical determinations and not considered planning activities). The results of this process are documented on the NRCS-CPA-52 worksheet, to—
  - (i) Inform the landowner of the plan's impacts.
  - (ii) Provide a record that the EE was conducted.

#### **B. Major Federal Actions**

NEPA directs Federal agencies to prepare a detailed statement for major Federal actions significantly affecting the quality of the human environment. Major Federal actions are actions that are potentially subject to Federal control and responsibility and are likely to result in significant impacts to the environment. Major Federal actions require the preparation of an EIS (7 CFR Section 650.7).

Figure 610-D1: Comparison of Federal Actions and Major Federal Actions

Federal actions	Actions that are subject to Federal (NRCS) control and responsibility. As defined by CEQ, these are actions entirely or partly financed, funded, assisted, conducted, regulated or approved by the agency.
Major Federal action	Actions that are subject to Federal (NRCS) control and responsibility and are likely to result in significant adverse impacts. Major Federal actions require the preparation of an EIS.

## 610.44 Determining Significance

### A. Introduction

- (1) Significance is an important concept, specifically as it relates to the level of NEPA analysis required. Determining significance is to decide if the impacts of an action or alternative are of consequence.
- (2) A test of significance is used to determine when an action requires detailed study in an EIS and which issues may require indepth study.

B. Application.—It is up to the RFO to determine whether an action, individually or cumulatively, will have significant effects on the quality of the human environment. However, it is important that the RFO have reasons for the decision about the significance of the action. These reasons should be based on the criteria for significance. CEQ regulations define two classes of criteria for significance: context and intensity.

#### (1) Context

The term “context” means the set of circumstances that surround a particular issue or situation (i.e., the setting). The significance of an action must be analyzed in several contexts, such as society as a whole, the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action, and different resource concerns may need to be evaluated in different contexts.

#### (2) Intensity

- (i) The term “intensity” refers to the severity of impact. The following should be considered in evaluating intensity:
  - Impacts that may be both beneficial and adverse, even if on balance the impacts are considered to be beneficial
  - The degree to which the proposed action affects public health or safety
  - Unique characteristics of the geographic area
  - The degree to which the effects of the action are likely to be highly controversial
  - The degree to which to effects of the action are highly uncertain or involve unique risk
  - The degree to which the action may establish a precedent for future actions with significant effects

- Whether the action is related to other actions with individually insignificant but cumulatively significant impacts
  - The degree to which the action may adversely affect districts, sites, highways, structures, etc., of significant scientific, cultural, or historic value
  - The degree to which the action may adversely affect species or habitat covered by the ESA
  - Whether the action violates Federal, State, or local laws or requirements imposed for protection of the environment
- (ii) The presence of one or more of the above criteria does not automatically define an impact as significant. The determination of significance is a decision made by the RFO based on evidence included in the documentation.
- (iii) For additional information on determining significance and making findings, see section 610.48 below, and subpart E, section 610.73, of this handbook.

#### C. Use of “Thresholds” in Evaluating Intensity

- (1) To determine the degree or severity of impacts, threshold levels for specific resource issues should be established and evaluated. This can aid the planner in determining whether an action may have a significant effect on a particular resource. Threshold levels can come from a variety of sources, including NRCS quality criteria, State regulatory standards (i.e., water or air quality standards), and peer-reviewed research. Examples include—
- (i) If sheet and rill erosion is a resource concern, the threshold for intensity may be “T.”
  - (ii) If water temperatures are a resource concern, the threshold for intensity may be exceeding the upper limit temperature for an aquatic species of concern (short- or long-term).
  - (iii) If cultural resources are a concern, the threshold for intensity may be the determination of an adverse impact on a historic property.
  - (iv) If riparian habitat is a concern, the threshold may be the loss of more than 20 percent of the bottomland hardwood stands within the watershed.
- (2) In any of these cases, if the threshold is met or exceeded, the intensity of the impact could lead the RFO to determine that the impact of the proposed action on that specific resource is significant.

### **610.45 Determining Appropriate Documentation**

#### A. Introduction

- (1) CEQ regulations require agencies to identify Federal actions that—
- (i) Are categorically excluded from the requirements to prepare an EA or EIS.
  - (ii) Normally require an EA.
  - (iii) Normally require an EIS.
- (2) NRCS activities that are categorically excluded from NEPA, that normally require an EA, and that normally require an EIS are identified in NRCS regulations implementing NEPA (7 CFR Part 650) and in NRCS policy (190-GM, Part 410, Subpart A, Sections 410.7 and 410.8).

#### B. Requirements

NEPA applies to any action over which NRCS has control and responsibility, including development or changes to Farm Bill programs, plans, policies, or projects. Certain actions are categorically excluded from the requirements to prepare NEPA documents.

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These are discussed in Section 610.46, “Categorical Exclusions,” below. Other actions are identified as normally requiring preparation of an EA or an EIS and are listed below. For actions that are not clearly covered by these three categories, the EE process is used to determine if an EA or EIS is required. The results of the EE are documented on Form NRCS-CPA-52.

### C. Actions Requiring an EA (7 CFR Section 650.8)

- (1) Land and water resource projects that do not require an EIS for which State, Tribal, and local units of government receive NRCS technical and financial assistance
- (2) Other actions that the EE reveals may be a major Federal action significantly affecting the quality of the human environment

**Note:** NRCS may prepare an EA anytime to aid decisionmaking or to determine the need for an EIS.

### D. Actions Requiring an EIS (7 CFR Section 650.7)

- (1) Projects that include stream channel realignment or work to modify channel capacity by deepening or widening where significant aquatic or wildlife habitat exists
- (2) Projects requiring congressional action (including most earmarks)
- (3) Broad Federal assistance programs administered by NRCS when there may be significant cumulative impacts on the human environment
- (4) Other major Federal actions significantly affecting the quality of the human environment. If it is difficult to determine whether there is a significant impact on the human environment, it may be necessary to prepare an EA in order to decide if an EIS is required.

### E. Documentation When “Significance” Has Been Determined

The NRCS Chief or State Conservationist (as applicable) must prepare an EIS when the action will result in significant adverse impacts that cannot be mitigated, even if on balance the action will have a beneficial effect. The NRCS Chief or State Conservationist (as applicable) must exercise discretion in determining the appropriate level of documentation when there are significant positive impacts, recognizing that it may be advisable to prepare an EIS in certain situations, such as when there is controversy regarding environmental effects.

### F. Timing of the NEPA Process Relative to Decisionmaking

- (1) The purpose of NEPA is to inform the RFO and the public of the consequences of actions before they are taken, so applicable NEPA documentation must be completed before a decision is made.
- (2) When an EA prepared by NRCS results in a finding of no significant impact (FNSI), the EA and FNSI will be made available for public review for 30 days in the following instances:
  - (i) The proposed action is, or is closely similar to, one which normally requires the preparation of an EIS (see above).
  - (ii) The nature of the action is one without precedent.
  - (iii) Early public review or involvement was not afforded.
- (3) In cases where a public review period of 30 days is not required, NRCS must involve the public in the preparation of the EA and FNSI, publish a notice of availability (NOA) of these documents locally and make the EA and FNSI available for public review. If the public was involved with development of the EA, implementation can take place immediately following publication of the FNSI.

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- (4) When proposed actions are located in wetlands or floodplains, a period of public review of the FNSI is required (CEQ “Forty Most Asked Questions” #37(b)). The State Conservationist may determine the length of time afforded for public review of the FNSI in these situations. However, to ensure adequate public review, the FNSI should be made available for at least 15 days.
- (5) When an EIS is prepared by NRCS, the record of decision (ROD) must be available for at least 30 days before an action requiring an EIS is implemented (see subpart E, section 610.74, of this handbook for additional information).

### G. Guide to Determining Appropriate NEPA Documentation

Use the following figure to determine whether additional documentation is needed beyond the EE. For Watershed Program projects, refer to Title 390, National Watershed Program Manual, Parts 500 to 506.

Figure 610-D2: Determining NEPA Documentation

<b>If ...</b>	<b>Then ...</b>
The action is not a Federal action (as defined by NEPA).	No documentation beyond the EE is needed.
The action fits one of the NRCS or USDA categorical exclusions.	Review the action for extraordinary circumstances (section P of Form NRCS-CPA-52). If there are no extraordinary circumstances, no additional documentation beyond the EE is needed. If there are extraordinary circumstances and the action has not been sufficiently analyzed in an existing NEPA document, contact the State environmental liaison, indicating an EA or EIS may be needed, for instructions on how to proceed. See section 601.46 below for additional information on invoking CEs.
The action has been sufficiently analyzed in an existing NRCS NEPA document.	No additional analysis beyond the EE is required. Reference the existing analysis on Form NRCS-CPA-52.
The action has been sufficiently analyzed in a NEPA analysis prepared by another agency that has been officially adopted by NRCS at the national or State level.	No additional analysis beyond the EE is required. Reference the analysis on Form NRCS- CPA-52.
It is unknown or unlikely that the action will result in a significant impact on the quality of the human environment.	Contact the State environmental liaison, indicating an EA or EIS may be needed, for instructions on how to proceed.

<b>If ...</b>	<b>Then ...</b>
It is likely the action will result in a significant impact on the quality of the human environment.	Modify the action so the impact will not be significant or contact the State environmental liaison indicating an EIS may be needed and for instructions on how to proceed.
NRCS is a cooperating agency on another Federal agency's NEPA document.	NRCS may formally adopt the NEPA document and issue a FNSI or ROD (see subpart F, section 610.83, of this handbook).
NRCS is not a cooperating agency on another Federal agency's NEPA document.	NRCS must circulate the document for public review and issue a finding or decision (FNSI or ROD) (see subpart F, section 610.83, of this handbook).

### 610.46 Categorical Exclusions

A. Some NRCS activities are categorically excluded from the requirement to prepare an EA or an EIS. They are excluded because NRCS or USDA published the categorical exclusions in the Federal Register based on a determination that the activities do not, either individually or cumulatively, significantly affect the quality of the human environment. Since neither an EA nor an EIS is required for categorically excluded activities unless there are extraordinary circumstances, categorical exclusions reduce paperwork and speed implementation of decisions.

#### B. Requirements

- (1) Both of the following findings are required in order to rely on a categorical exclusion:
  - (i) The proposed action fits within a category of actions that has been categorically excluded in NRCS's or USDA's published NEPA procedures and meets the criteria to use a CE.
  - (ii) There are no extraordinary circumstances (reasonable possibility of significant adverse effects that cannot be mitigated.)
- (2) Invoking Categorical Exclusions
  - (i) Review the action's potential effects and follow the instructions below in Section 610.46C, "Extraordinary Circumstances," to determine whether there are extraordinary circumstances that could result in a significant adverse impact to the quality of the human environment.
  - (ii) Document your findings on Form NRCS-CPA-52.
- (3) Figure 610-D3 provides guidance on documenting the use of CEs.

Figure 610-D3: Documentation for use of Categorical Exclusion

<b>If there are...</b>	<b>Then...</b>
No extraordinary circumstances and no potential significant adverse effects to the quality of the human environment.	Check the box on Form NRCS-CPA- 52 next to the finding that a categorical exclusion applies and there are no extraordinary circumstances that could significantly adversely affect the quality of the human

If there are...	Then...
	environment. Cite which CE is being invoked and document rationale for its use. Continue planning.
Extraordinary circumstances and it is questionable whether there is likely to be a significant adverse effect on the quality of the human environment.	Prepare an EA. If this determination is made by a district conservationist, contact the State environmental liaison for instructions on how to proceed.
Extraordinary circumstances and there is likely to be a significant adverse effect on the quality of the human environment.	Prepare an EIS. If this determination is made by a district conservationist, contact the State environmental liaison for instructions on how to proceed.

**Note:** An EA may be prepared for categorically excluded actions whenever the RFO thinks an EA would be helpful in planning or decisionmaking or it is unclear whether extraordinary (i.e., unusual) circumstances exist that would cause a normally categorically excluded activity to have significant adverse effects.

### C. Extraordinary Circumstances

- (1) The factors that may lead to a determination of extraordinary circumstances are the same factors used to make determinations of significance. The following criteria must be reviewed to determine whether a proposed NRCS action is eligible for a CE.
  - (i) The proposed action must not cause significant adverse effects on public health or safety.
  - (ii) The proposed action must not significantly adversely affect unique characteristics of the geographic area, such as proximity to historic properties or cultural resources, park lands, prime farmlands, floodplains, wetlands, wild and scenic rivers, or ecologically critical areas.
  - (iii) The effects of the proposed action on the quality of the human environment must not be highly controversial.
  - (iv) The proposed action must not have highly uncertain effects, including potential unique or unknown risks on the human environment.
  - (v) The proposed action must not include activities or conservation practices that establish a potential precedent for future actions with significant impacts.
  - (vi) The proposed action must not be known to have or must not reasonably be expected to have potentially significant adverse environmental impacts on the quality of the human environment, either individually or cumulatively over time.
  - (vii) The proposed action must not cause or promote the introduction of invasive species or have a significant adverse effect on any of the special environmental concerns, such as endangered and threatened species, environmental justice communities as defined in Executive Order 12898, wetlands, other waters of the United States, wild and scenic rivers, air quality, migratory birds, bald and golden eagles, etc.
  - (viii) The proposed action must not violate Federal or other applicable law and requirements for the protection of the environment.
- (2) If one or more extraordinary circumstances are found to apply to the proposed action, determine whether the proposal can be modified to mitigate the adverse effects and prevent the extraordinary circumstances. If this can be done and the proponent

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agrees to the change, then the proposed action may be modified and categorically excluded. If the proposed action cannot be modified or the proponent refuses to accept a proposed change, prepare an EA or EIS, as indicated.

- (3) If none of the extraordinary circumstances are determined to apply to the proposed action (or modified action), then it may be categorically excluded if there are no other adverse impacts that have not been mitigated.

### D. USDA Categorical Exclusions (7 CFR Section 1(B)(3))

- (1) Policy development, planning, and implementation that relates to routine activities, such as personnel, organizational changes, or similar administrative functions
- (2) Activities that deal solely with the funding of programs, such as program budget proposals, disbursements, and transfer or reprogramming of funds
- (3) Inventories, research activities, and studies, such as resource inventories and routine data collection when such actions are clearly limited in context and intensity
- (4) Educational and informational programs and activities
- (5) Civil and criminal law enforcement and investigative activities
- (6) Activities that are advisory and consultative to other agencies and public and private entities, such as legal counseling and representation
- (7) Activities related to trade representation and market development activities abroad

### E. NRCS Categorical Exclusions (7 CFR Section 650.6)

- (1) All the CEs identified below require documentation in accordance with 7 CFR Section 650.6 to determine whether extraordinary circumstances exist. This documentation is to be done through use of the EE process and documented on the NRCS-CPA-52 worksheet.
- (2) Criteria and Sideboards That Apply to All CEs
  - (i) The categorical exclusions must meet, as appropriate, the following overarching criteria:
    - Are designed to mitigate soil erosion, sedimentation, and downstream flooding
    - Require disturbed areas to be vegetated with adapted species that are neither invasive nor noxious
    - Are based on current Federal principles of natural stream dynamics and processes, such as those presented in the Federal Interagency Stream Corridor Restoration Working Group document, “Stream Corridor Restoration, Principles, Processes, and Practices”
    - Incorporate the applicable NRCS conservation practice standards as found in the Field Office Technical Guide (FOTG)
    - Do not require substantial dredging, excavation, or placement of fill
    - Do not involve a significant risk of exposure to toxic or hazardous substances
  - (ii) The identification of these actions as categorical exclusions under NEPA does not negate the responsibility of NRCS to comply with the mandatory consultation requirements under the National Historic Preservation Act and implementing regulations, the ESA and implementing regulations, and any other legal requirements.
- (3) Data Gathering and Interpretation Programs
  - (i) Soil Survey (7 CFR Part 611)
  - (ii) Snow Survey and Water Supply Forecasts (7 CFR Part 612)
  - (iii) Plant Materials for Conservation (7 CFR Part 613)
  - (iv) Inventory and Monitoring (Catalog of Federal Domestic Assistance—10.908)



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- (v) River Basin Studies under section 6 of Public Law 83-566, as amended, 7 CFR Part 621
- (4) Restoration and Conservation Actions
  - (i) Planting appropriate herbaceous and woody vegetation, which does not include noxious weeds or invasive plants, on disturbed sites to restore and maintain the sites ecological functions and services
  - (ii) Removing dikes and associated appurtenances (such as culverts, pipes, valves, gates, and fencing) to allow waters to access floodplains to the extent that existed prior to the installation of such dikes and associated appurtenances
  - (iii) Plugging and filling excavated drainage ditches to allow hydrologic conditions to return to predrainage conditions to the extent practicable
  - (iv) Replacing and repairing existing culverts, grade stabilization, and water control structures and other small structures that were damaged by natural disasters where there is no new depth required and only minimal dredging, excavation, or placement of fill is required
  - (v) Restoring the natural topographic features of agricultural fields that were altered by farming and ranching activities for the purpose of restoring ecological processes
  - (vi) Removing or relocating residential, commercial, and other public and private buildings and associated structures constructed in the 100-year floodplain or within the breach inundation area of an existing dam or other flood control structure in order to restore natural hydrologic conditions of inundation or saturation, vegetation, or reduce hazards posed to public safety
  - (vii) Removing storm debris and sediment following a natural disaster where there is a continuing and imminent threat to public health or safety, property, and natural and cultural resources and removal is necessary to restore lands to predisaster conditions to the extent practicable (excavation must not exceed the predisaster condition)
  - (viii) Stabilizing stream banks and associated structures to reduce erosion through bioengineering techniques following a natural disaster to restore predisaster conditions to the extent practicable (e.g., utilization of living and nonliving plant materials in combination with natural and synthetic support materials, such as rocks, rip-rap, and geotextiles for slope stabilization, erosion reduction, and vegetative establishment and establishment of appropriate plant communities (bank shaping and planting, brush mattresses, log, root wad, and boulder stabilization methods))
  - (ix) Repairing or maintaining existing small structures or improvements, including structures and improvements utilized to restore disturbed or altered wetland, riparian, in-stream, or native habitat conditions (e.g., the repair or stabilization of existing stream crossings for livestock or human passage, levees, culverts, berms, dikes, and associated appurtenances)
  - (x) Constructing small structures or improvements for the restoration of wetland, riparian, in stream, or native habitats (e.g., the installation of fences or the construction of small berms, dikes, and associated water control structures)
  - (xi) Restoring an ecosystem, fish and wildlife habitat, biotic community, or population of living resources to a determinable preimpact condition
  - (xii) Repairing or maintenance of existing constructed fish passageways (e.g., fish ladders) or spawning areas impacted by natural disasters or human alteration
  - (xiii) Repairing, maintaining, or installing fish screens to existing structures
  - (xiv) Repairing or maintaining principal spillways and appurtenances associated with existing serviceable dams, originally constructed to NRCS standards, in

- order to meet current safety standards; work will be confined to the existing footprint of the dam, and no major change in reservoir or downstream operations will result
- (xv) Repairing or improving (deepening, widening, or armoring) existing auxiliary or emergency spillways associated with dams, originally constructed to NRCS standards, in order to meet current safety standards; work will be confined to the dam or abutment areas, and no major change in reservoir or downstream operation will result
  - (xvi) Repairing embankment slope failures on structures, originally built to NRCS standards, where the work is confined to the embankment or abutment areas
  - (xvii) Increasing the freeboard (which is the height from the auxiliary (emergency) spillway crest to the top of embankment) of an existing dam or dike, originally built to NRCS standards, by raising the top elevation in order to meet current safety and performance standards
    - The purpose of the safety standard and associated work is to ensure that during extreme rainfall events, flows are confined to the auxiliary/emergency spillway so that the existing structure is not overtopped, which could result in a catastrophic failure.
    - Elevating the top of the dam will not result in an increase to lake or stream levels. Work will be confined to the existing dam and abutment areas, and no major change in reservoir operations will result.
    - Examples of work may include the addition of fill material, such as earth or gravel, or placement of parapet walls.
  - (xviii) Modifying existing residential, commercial, and other public and private buildings to prevent flood damages, such as elevating structures or sealing basements to comply with current State safety standards and Federal performance standards
  - (xix) Undertaking minor agricultural practices to maintain and restore ecological conditions in floodplains after a natural disaster or on lands impacted by human alteration (e.g., mowing, haying, grazing, fencing, off-stream watering facilities, and invasive species control that are undertaken when fish and wildlife are not breeding, nesting, rearing young, or during other sensitive timeframes)
  - (xx) Implementing soil control measures on existing agricultural lands, such as grade stabilization structures (pipe drops), sediment basins, terraces, grassed waterways, filter strips, riparian forest buffer, and critical area planting
  - (xxi) Implementing water conservation activities on existing agricultural lands, such as minor irrigation land leveling, irrigation water conveyance (pipelines), irrigation water control structures, and various management practices
- (5) See subpart H, section 610.118, of this handbook for a guide on how to use NRCS categorical exclusions.

## **610.47 Environmental Assessment**

### **A. Introduction**

- (1) This section provides an outline of the requirements of an EA. Subpart E, “Preparation of an EA or EIS,” provides detailed information regarding the preparation of an EA and EIS.
- (2) An EA is a concise public document for which a Federal agency is responsible that serves to briefly provide sufficient evidence and analysis for determining whether to

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prepare an EIS or an FNSI. The EA aids an agency's compliance with NEPA when no EIS is necessary and facilitates the preparation of an EIS when one is necessary.

### B. Requirements

Each of the following elements must be included in an EA. For information specific to requirements for an EIS, see section 610.50 below.

#### (i) Statement of Need and Purposes of the Proposed Action

Include a discussion of the underlying need for action. Identify the purpose of the action. The underlying need will define and shape the alternatives, so it is important to articulate the needs based on the identified resource concerns and objectives of the landowner or sponsor. Although it may seem obvious, it is important to ensure that the proposed action clearly addresses the underlying need.

#### (ii) Affected/Existing Environment

Although not required by CEQ regulations, it is recommended that an "Affected/Existing Environment" section be included to establish the baseline upon which to compare alternatives.

#### (iii) Alternatives Including the Proposed Action

Describe the proposed action and alternatives, including the no-action alternative. Answer the questions: What would it mean not to meet the need? What are the expected direct, indirect, and cumulative impacts of not taking any action to address the identified need? Briefly describe the alternatives considered, in the same level of detail and in comparative format to allow the reader to note the differences. To avoid the necessity for a mitigated FNSI, include any mitigation measures needed to reduce or eliminate adverse environmental impacts.

#### (iv) Environmental Impacts

Briefly describe the environmental impacts of the proposed action and the alternatives. This is usually best done in a comparative table. List the impacts on the factors that will be used in making the decision between alternatives. List impacts from direct, indirect, and cumulative effects. Include information which will allow the reader to understand both the context and intensity of the impacts in order to determine significance.

#### (v) List of Persons and Agencies Consulted

List the persons and agencies consulted during development of the EA, such as representatives of the U.S. Fish and Wildlife Service or the State historic preservation office.

### C. Length of an EA

CEQ advised that an EA should generally be no longer than 10 to 15 pages, exclusive of appendices. Detailed information from other studies and documents should simply be referenced or summarized briefly.

### D. Outcome of an EA

An EA results in either the preparation of an EIS or an FNSI. If priorities have changed, an agency may decide against implementing the action.

## 610.48 Finding of No Significant Impact

### A. Key Terms

- (1) **Finding.**—A finding is a reasonable inference based on all relevant evidence, reached as the result of examination, investigations, or both. Findings are usually made to resolve questions in order to make final decisions. In the case of NEPA, the finding is a legal mechanism by which facts are resolved and decisions are made.
- (2) **Finding of No Significant Impact (FNSI).**—The FNSI is a public document prepared by the RFO briefly presenting the reasons why an action will not have a significant effect on the human environment and for which an EIS will not be prepared. It must include the environmental assessment or a summary of it. If the assessment is included, the finding need not repeat any of the discussion in the assessment but may incorporate it by reference.
- (3) See subpart H, section 610.130, of this handbook for a sample FNSI.

### B. How to Make a Defensible Finding

- (1) **Evidence**
  - (i) The FNSI must either include the EA or a summary of it. It contains the evidence that supports the basic and ultimate conclusions. Whatever the ultimate conclusion, it will not stand up in legal proceedings if there is no evidence in the EA to support it.
  - (ii) See subpart H, section 610.117, of this handbook for a “legal result pyramid,” illustrating how conclusions build upon the evidence presented.
- (2) **Basic Conclusions**
  - (i) These are the reasons why an action, not otherwise excluded, will not have a significant effect on the quality of the human environment. A determination of significance requires consideration of the context and intensity of the action so these should be discussed in any FNSI (see section 610.44 above for detailed guidance on determining “significance”).
  - (ii) It is important to consider the language used in providing the rationale for nonsignificance in an FNSI. Figure 610-D4 provides a sampling of words that may indicate whether an action is significant or nonsignificant. When possible, the EA should contain quantitative data that supports the use of these terms.

Figure 610-D4: Word Choices for Indicating Significance

<b>Significant</b>	<b>Not Significant</b>
Nontrivial, Great, Meaningful, Grand, Consequential, Important, Momentous, Noteworthy, Valuable	Minor, Slight, Negligible, Small, Inconsequential, Unimportant, Discountable, Insubstantial, Undetectable

### (3) Ultimate Conclusion

- (i) Always include the following language in an FNSI: “I find that neither the proposed action nor any of the alternatives is a major Federal action significantly affecting the quality of the human environment.”
  - This statement is the legal basis for not preparing an EIS. If one or more alternatives may be major Federal actions significantly affecting the quality

of the human environment, modify the language to refer only to the alternative being selected. Be sure to include a rational discussion of why the proposed action will not have a significant impact on the human environment.

- If the RFO can conclude the action will have “no significant impact on the quality of the human environment,” NRCS does not have to prepare an EIS.
  - Notice of the availability of the FNSI is to be published in the Federal Register for actions of national concern. For actions of local concern, publication in a local newspaper serving the area of the proposed action is required (see 190-GM Part 410, Subpart A, Section 410.12D(3)).
- (ii) See subpart H, section 610.131, of this handbook for a sample “Notice of Availability for an Environmental Assessment (EA) and Finding of No Significant Impact (FNSI).”

Figure 610-D5: Rationales for an FNSI

<b>Convincing Reasons for Nonsignificance in an FNSI</b>
No effect at all (zero). No change (human environment remains the same). Effects are not irreversible or irretrievable and do not set in motion further effects.
<b>Rationale to Avoid When Arriving at an FNSI</b>
Circular reasoning: “Impacts are not significant because there are no significant impacts.” The negative pregnant: “Impacts are not significant because we found no significant impacts.” Compliance with the law: “Impacts are not significant because the agency has consulted with FWS as required by ESA and water emissions will be within State water quality standards.” Unknowns: “No one knows the effects on the ozone layer, therefore impacts are not significant.” Failure to account for connected actions: “Impacts of building the proposed road are not significant.”

C. Conducting the Analysis to Support the Finding

- (1) In order to avoid having unsupported conclusions, it is important to conduct and document the appropriate analysis used in determining your finding. Figure 610-D6, below, will assist in the development of the appropriate rationale to support your conclusion.
- (2) The examples provided in this table have been generalized. Articulating and summarizing the elements in the table within the EA facilitates the development of the FNSI. This tool can also be used to determine the need for an EA or EIS when completing the EE.
- (3) Figure 610-D6 is useful for those items where your “reasons” result in minimal or inconsequential impacts. Have all impacts of the proposed action been listed in the table? Now, are you satisfied that you have taken a “hard look” at all of the evidence that backs up your conclusions about the intensity of the impacts (including those with zero-impact or no effect)? If you are relying on “mitigation” as the basis of

your conclusion, are you satisfied that these efforts will keep impacts below the level of “significance?” If your answer is yes, and you feel comfortable that you have reasonably informed yourself, you’ll arrive at a defensible basis for an FNSI.

Figure 610-D6: Three-Column Technique for Development of a Defensible FNSI (revised from “NEPA Models and Case Lists,” 3rd Edition, Owen L. Schmidt, 2009)

<b>What is the Environmental Concern and Context?</b>	<b>Intensity or Severity of Impact (“How Much)</b>	<b>What is the Environmental Concern and Context?</b>
Loss of floodplain (100 acres of total floodplain present)	5 acres will be impacted	(Compensatory mitigation for lost acres on another unit of similar ecological function and value)
Loss of habitat for bog turtle (50 acres of habitat present)	Temporary loss of 5 acres of habitat during construction phase of project	(Long-term benefits from enhanced habitat are substantial, whereas short-term adverse impacts are discountable because any resident turtles will be temporarily relocated)
Increase PM10 emissions in a nonattainment area	220 Acres of HEL may exceed air quality standards for PM10	(Mitigation measures include crop rotations, residue management, etc.)
Etc.	Etc.	

(4) See Subpart H, Section 610.128, “Sample FNSI,” in this handbook.

### 610.49 Notice of Intent (NOI)

A. Requirements.—The NOI is a public notice issued prior to the development of an EIS. The following elements must be included when publishing an NOI to prepare an EIS:

- (1) Proposed Action.—Describe the proposed action and all the known reasonable alternatives.
- (2) Scoping Process.—Describe whether, when, and where any scoping meeting was or will be held. If no meeting is to be held, describe how information will be obtained. Identify which of the following questions the scoping will help to answer:
  - (i) What kinds of issues should be addressed?
  - (ii) What types of actions are considered related?
  - (iii) What alternatives should be considered?
  - (iv) What impacts and associated research should be considered?
- (3) Name and Address of Contact Person.—Identify the program manager or other NRCS employee who can answer questions about the proposed action and the EIS.
- (4) Other Requirements

- (i) The notice must invite the participation of affected Federal, State, and local agencies; any affected Indian Tribe; and other interested persons. In addition to Federal Register publication, the notice must also be mailed to national organizations reasonably expected to be interested in the matter. Mail or email notices to those who have requested them.
  - (ii) Inform the public how it can provide information relevant to the proposed action, alternatives, and effects. Explain where interested persons can get information or status reports on EIS and other elements of the NEPA process.
- (5) See subpart H, section 610.132, of this handbook for a “Sample Notice of Intent (NOI) for an Environmental Impact Statement (EIS).”

## 610.50 Environmental Impact Statement

### A. Key Terms

- (1) EIS.—An EIS is a detailed written statement required by section 102(2)(c) of NEPA whenever an action may have a significant effect on the quality of the human environment.
- (2) Human Environment.—This is a broadly defined NEPA term that comprehensively includes the natural and physical environment and the relationship of people with that environment. When an EIS is prepared and economic or social and natural or physical environmental effects are interrelated, the EIS must discuss all of these effects on the human environment (CEQ Regulations 1508.14). However, significant economic or social effects are not intended by themselves to require preparation of an EIS.

### B. Each of the following elements must be included in an EIS:

#### (1) Cover Page

One-page cover sheet that includes the following information:

- Lead Agency.—Provide the name of the lead agency (e.g., NRCS).
- Cooperating Agencies.—List any cooperating agencies (e.g., U.S. Army Corps of Engineers, Environmental Protection Agency, U.S. Fish and Wildlife Service, National Marine Fisheries Service, The Oneida Tribe, Oregon State Department of Natural Resources).
- Title of Proposed Action.—Provide a meaningful descriptive title of the proposed action (e.g., Implementing Improvements in the Emergency Watershed Program in [name the State or other jurisdiction where the action will be implemented]).
- Name, Address, and Phone Number.—Provide contact information for a person at the agency who can supply further information.
- The phrase “ENVIRONMENTAL IMPACT STATEMENT.” Indicate the type of EIS (i.e., draft, final, draft supplemental, or final supplemental).
- Abstract.—A one-paragraph abstract of the EIS.
- Date by Which Comments Must Be Received.—Provide a date 45 days after publication of the draft unless comment period has been extended and 30 days after the final EIS has been prepared.

#### (2) Summary

The summary must—

- Stress the major conclusions of the EIS.

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- Identify areas of controversy (especially those raised by other agencies and the public).
- Identify the issues to be resolved, including choices among alternatives.
- Not exceed 15 pages.
- Adequately and accurately summarize the EIS so it can stand on its own if circulated without the rest of the EIS.

### (3) Table of Contents

It is important to double check the table of contents after completing draft or final EISs to ensure accuracy.

### (4) Statement of Need and Purpose of the Proposed Action

- (i) This section establishes why NRCS is proposing to take action that may result in potentially significant environmental impacts. It should provide a well-articulated rationale explaining to the public and decisionmakers that the action is necessary and worthwhile and that the project is warranted. It should also demonstrate the problems that could or will result if the project is not implemented.
- (ii) The purpose of the proposed action should be clearly identified. A discussion of the underlying need for action to which NRCS is responding should be provided. Along with specifying the purposes for action, be sure to include the goal or end result to be attained by the proposed action and alternatives. This section sets the stage in justifying why potential impacts may be acceptable based on the project's importance.
- (iii) The underlying need and purposes of the action are not the same: a "need" is defined as "the lack of something required, desired, or useful; a condition." For example, the purpose of an action may be to reduce flooding potentials along a section of stream as it flows through a community. In this case, the underlying need involves the protection of life and property from imminent loss as a result of natural disaster. This is an important distinction since the public may have a variety of perspectives relevant to natural flooding, some of which are favorable when considering the ecological health of the hydrologic system.
- (iv) The purpose of the action and the underlying need will define and shape the alternatives, so it is important to articulate the needs based on the identified resource concerns and the landowner or sponsor objectives. If the statement of purpose and need for a proposed action is narrow, the EIS will most likely include a narrower range of alternatives. If, on the other hand, the statement is stated too broadly, it may become more difficult to justify why some alternatives have been eliminated from consideration.
- (v) Although it may seem obvious, it is important to ensure that the proposed action clearly addresses the underlying need. By the same token, all alternatives being considered should clearly address how the alternatives meet the underlying need and fulfill the purposes of the action. Additional information regarding this section can be found in subpart E, section 610.66, of this handbook.

**Note:** The purpose of the action should describe the specific objectives of the proposed action (e.g., decrease the occurrence of flooding through a community), while the underlying need should consider the broader social or natural resource need to which the agency is responding (e.g., protection of life and property).

### (5) Alternatives

- (i) No-Action Alternative (Alternative 1)



- The discussion of the no-action alternative should answer the question, “What would be the consequences of not meeting the identified need?” This alternative explains the future circumstances without implementation of a project, what current management plans or programs will continue without the proposed action, or what actions a client will implement without Federal involvement.
- The no-action alternative will not satisfy the proposed action’s purpose and underlying need, but it is included in the EIS as a basis for comparison.

(ii) Proposed Action (Alternative 2)

Most of the time, the proposed alternative is also the preferred alternative. Sometimes it is not. If it is, it should also be identified as such. The question to answer here is, “What action is being proposed?” If this action does become NRCS’s preferred alternative, the draft EIS must still objectively evaluate all the alternatives and not be slanted to support the preferred alternative above the others.

(iii) Alternatives 3, 4, 5, etc.

- Include here all other alternatives that would meet the same need and any other appropriate mitigation measures that are not part of the proposed action. Include all reasonable alternatives, including those not within NRCS authority, addressing the purpose and need.
- Identify all alternatives eliminated from detailed study and state why they were eliminated.

(iv) Describing Alternatives

- Describe each relevant alternative in substantial detail. Identify the preferred alternative.
- Include any mitigation measures that are not already included.
- When alternatives are eliminated from detailed study, briefly say what they were and why they were eliminated.
- Include summary information regarding the environmental impacts of the various alternatives. Use a comparison format (e.g., a table) so it is easy for the reader and RFO to see the differences. When describing the effects of the alternatives, base the descriptions on the summary of analysis in the affected environment and environmental consequences sections.

(v) Environmentally Preferable Alternative

- The final EIS should identify the environmentally preferable alternative from the range of alternative considered. If one exists at the draft stage of the EIS, it should be included then. This alternative best promotes NEPA’s goals, causes the least damage to the environment, and best protects natural and cultural resources. If an environmentally preferred alternative cannot be identified by the final EIS, CEQ regulations require it to be identified in the ROD.
- This is normally a subjective process on the part of the decisionmaker. There may be times when one alternative may be preferred for some environmental resources, while another alternative is preferred for others.

(6) Affected Environment

- (i) Succinctly describe the environment of the areas affected or created by the alternatives. The geographic boundary for the analysis is often the proposed action site and the immediate vicinity. But often these boundaries must be expanded to include entire watersheds. When determining geographic

boundaries it is often useful to identify a project's impact zone. These project impact zones may be different depending on the resource concern. A description of the temporal scale of the resources potentially affected is also important to address.

- (ii) The description must be no longer than is necessary to understand the effects of the alternatives. Data and analysis should be consistent with importance of the impact with the less important information summarized, consolidated, or referenced.
- (7) Environmental Consequences
- (i) Sharply define the issues associated with each alternative and provide a clear basis for choice among options, rigorously exploring and objectively evaluating all reasonable alternatives. This section should clearly articulate the criteria used to select the preferred alternative.
  - (ii) This analysis forms the scientific and environmental basis for the comparisons of alternatives in the previous section. It includes all of the following:
    - Environmental impact of the proposed action and alternatives, including, but not limited to—
      - Direct, indirect, and cumulative effects
      - Conflicts with existing land use plans, policies, or controls
      - Unavoidable impact
      - Short-term and long-term impact
    - Any adverse environmental effects that cannot be avoided if the proposal is implemented
    - The relationship between local short-term uses of the human environment and the enhancement of long-term productivity
    - Any irreversible or irretrievable commitments of resources that would be involved in the proposed action if implemented
  - (iii) Include the following in your discussion:
    - Direct effects of the proposed action or alternatives and their significance.
    - Indirect effects and their significance, including cumulative effects.
    - Possible conflicts between the proposed action and objectives of Federal, regional, State, and local or Tribal land use plans, policies, and controls for the area concerned.
    - Environmental effects of proposed action and alternatives (comparisons in the “Alternatives” section are based on these).
    - Energy requirements and conservation potential of various alternatives and mitigation measures.
    - Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures.
    - Urban quality, historic and cultural resources, and the design of the built environment, including reuse and conservation potential of alternatives and mitigation measures.
    - Means to mitigate. If mitigation is not already included in the proposed action or alternatives, include it separately. Answer the question: Are there any ways to mitigate adverse effects?
    - How alternatives will or will not achieve the requirements of sections 101 and 102(1) of NEPA and other environmental laws and policies.
- (8) Monitoring

If monitoring is incorporated into the proposal, alternatives, or mitigation measures, this is a good place to discuss it. Answer the question: What monitoring will be conducted as part of the proposed action or alternative action and how will it be used?

(9) List of Preparers

Provide the names of the people primarily responsible for preparing the EIS and supporting analysis. Include information on who they work for (e.g., the name and address of the agency, university, or other organization) and their qualifications (expertise, experience, professional disciplines relevant to their contribution to the EIS). If consultants were used in the preparation of the EIS, members of the consulting firm should be listed in addition to the Federal agency staff.

(10) List of Agencies, Organizations, and Persons

List all agencies, organizations, and people to whom copies of the statement are sent for review.

(11) Index

Prepare an index that focuses on areas of reasonable interest to the reader. A key word index may be prepared, but is not required.

(12) Appendices

Provide in the appendix any material that substantiates any analysis that is fundamental to the EIS. This might include the more lengthy technical discussions of modeling methodology, baseline studies, or other detailed background information. If it is relevant to the decision that is to be made, it is best to include it here.

(13) Length Considerations

EISs are highly variable in length. Every effort should be made to keep the EIS concise and analytical. Ask yourself—

- Is the EIS longer than the length set during the scoping process?
- Is the EIS length proportional to the potential environmental problems and project size?

**Note:** The EIS is always followed by the preparation of a ROD. No action may be taken for 30 days following the publication of the final EIS and issuance of the ROD.

## 610.51 Record of Decision

A. The ROD is the administrative decision document that always follows the preparation of an EIS. The ROD is a written public record explaining why the lead agency has decided to take a particular action. It is a judicially enforceable document.

B. Include the following elements in any ROD:

(1) Decision

State what the decision was. The decision is the choice between alternatives in the final EIS, plus any mitigation, monitoring, and enforcement measures that were not part of the alternative selected.

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### (2) Alternatives

- (i) Identify all alternatives considered by the agency in reaching its decision. These are all of the alternatives analyzed in detail in the final EIS.
- (ii) Specify the alternative or alternatives that were considered to be environmentally preferable and why the environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.
- (iii) State whether the environmentally preferred alternative was selected; if it was not selected, explain why.

### (3) Mitigation

- (i) The ROD should specify which mitigation measures were selected and adopted as part of the NRCS action. State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted.
- (ii) This section should also discuss whether any practicable means to avoid or minimize environmental harm were identified in the EIS but were not adopted along with a discussion of why each was not adopted.

### (4) Monitoring and Enforcement

State whether a monitoring and enforcement program is applicable for any mitigation; if so, summarize any programs that have been adopted.

### (5) Factors Considered in Making the Decision

- (i) This section should articulate the various criteria for selection between alternatives. It should include a discussion of preferences among alternatives based on relevant factors, including economic and technical considerations and agency statutory missions. Identify and discuss all such factors, including any essential considerations of national policy which were balanced by the agency in making its decision and state how those considerations entered into its decision.
  - (ii) The ROD should include discussion of each of the following, as applicable:
    - The reasons for the choice between alternatives (see paragraph above)
    - The reasons for specifying the environmentally preferred alternative
    - The reasons for not choosing the environmentally preferred alternative (if it is not chosen)
    - The reasons for not adopting practicable mitigation measures identified in the EIS (if not adopted)
- (6) See subpart H, section 610.133, of this handbook for a sample “Record of Decision (ROD) for an Environmental Impact Statement (EIS).”

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### **Subpart E – Preparation of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS)**

#### **610.60 Introduction**

A. If it has been determined after conducting the environmental evaluation (EE) that an EA or EIS needs to be prepared, this section of the handbook will provide NRCS staff with appropriate protocols to conduct the analysis and to prepare the necessary documentation, as required by the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ), and NRCS regulations.

B. Subsequent sections of this handbook instruct NRCS staff on the various stakeholders and interested parties who may be involved in developing the analysis, the timeframe for developing an EA or EIS, the public review timeframes for an EA or EIS, and the resulting decisionmaking documents.

#### **610.61 Lead Agencies and Cooperating Agencies**

A. When initiating the development of an EA or EIS, NRCS should determine whether there are other potential Federal or State partners that may be either technically or financially involved with a project. If another Federal or State agency is planning to contribute to the proposed action through funding, technical assistance, approvals, or otherwise has some Federal decisionmaking role, then NRCS should determine which agency should take the lead for preparation of the EA or EIS and which agencies should be designated as cooperating agencies.

B. CEQ and NRCS regulations include specific provisions for lead and cooperating agencies to ensure that Federal agencies—

- (1) Involve agencies with special expertise or jurisdiction by law in the development of an EA or EIS when assessing impacts.
- (2) Coordinate related permit, funding, and approval processes early in the planning process.

C. Designating Lead Agencies for the Preparation of an EA

CEQ regulations do not explicitly discuss lead and cooperating agencies in the context of EAs because of the expectation that EAs will normally be brief, concise documents that would not warrant use of formal cooperating agency status. However, since EAs have evolved to include a broad scope and complex analyses that often resemble the level of analysis found in an EIS, it is often the case that the designation of lead and cooperating agencies is useful in the context of EAs as well. In such cases, apply the guidelines applicable to EISs.

D. Designating Lead Agencies for Preparation of an EIS

- (1) When NRCS is the agency most responsible for the Federal action based on the factors below, NRCS will be the lead agency and will prepare the EIS or supervise its preparation.

Factors to determine whether NRCS should be the lead agency are—

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- Magnitude of NRCS’s involvement.
  - Whether NRCS has project approval and disapproval authority.
  - NRCS’s expertise concerning the action’s environmental effects.
  - Duration of NRCS’s involvement.
  - Sequence of NRCS’s involvement.
- (2) There is usually only one lead agency in the preparation of an EIS, with other agencies contributing as cooperating agencies; however, another Federal agency may participate as a joint lead agency along with other Federal, State, Tribal, or local agencies.
- (3) When NRCS provides all or most of the Federal financial assistance for a project or to implement a plan, it is considered the lead agency for purposes of carrying out the NEPA process and preparing NEPA documents. NRCS may also be the lead agency when it is responsible for the planning and analysis and there will be a number of small Federal funding sources. In these cases, however, NRCS should serve as the lead agency only with the agreement of other Federal funding agencies.

### E. Responsibilities of the Lead Agency

The lead agency has specific responsibilities, including to—

- (i) Request the participation of each cooperating agency at the earliest possible time.
- (ii) Use the environmental analysis and proposals of cooperating agencies with jurisdiction by law or special expertise to the maximum extent possible.
- (iii) Meet with a cooperating agency at their request.

### F. Cooperating Agencies

- (1) Upon request of the lead agency, any Federal agency having jurisdiction by law should agree to be a cooperating agency. In addition, any Federal agency that has special expertise with respect to any environmental issue that should be addressed in the EA or EIS may be a cooperating agency.
- (2) Federal, State, local, and Tribal agencies having specific expertise or jurisdiction by law over an action being proposed or another alternative, such as a permitting authority, should be invited in writing to be cooperating agencies when preparing an EA or EIS. Agencies may request NRCS designate them as cooperating agencies if NRCS does not do so upon its own initiative, but such designation is not required for NRCS to coordinate efforts. Any agency may request to be designated a cooperating agency.
- (3) Before preparing an EA or EIS, identify permits that are required and invite those agencies, as well as other agencies with jurisdiction by law or special expertise, to become cooperating agencies as early in the NEPA planning process as possible. Use the environmental analysis and proposals of cooperating agencies to the maximum extent possible consistent with NRCS responsibility as lead agency.
- (4) There are distinct benefits for NRCS when entering into cooperating agency status with other agencies and vice versa. Along with providing an opportunity to engage in dialogue with other Federal agencies and coordinate efforts, it provides a means of streamlining the NEPA process. Cooperating agencies contribute to the NEPA analysis and the preparation of NEPA documents. Perhaps more importantly, formal cooperating agency status allows Federal agencies to “adopt” relevant NEPA documents (EAs or EISs) without recirculating the document for public comment if it meets all of the agency’s requirements. This can save the Federal agency considerable time and resources. See subpart F, section 610.83, of this handbook for more information about adopting another agency’s EA or EIS.

- (5) Benefits of cooperating agency status include—
  - (i) Providing a means of streamlining the NEPA process through coordination.
  - (ii) Allowing NRCS to more efficiently adopt other Federal agencies' relevant NEPA documents (EA or EIS) without recirculating the document for public comment if it meets NRCS requirements, saving time and resources.
  - (iii) Possibly streamlining permitting, consultation, and other regulatory processes by involving responsible agencies in the NEPA process.
- (6) See subpart H, section 610.120, of this handbook for a sample "Letter of Invitation for Cooperating Agency."
- (7) See subpart H, section 610.121, of this handbook for "Typical Elements of a Cooperating Agency Memorandum of Understanding (MOU)."
- (8) See subpart H, section 610.122, of this handbook for the "Sample MOU Between Agencies."

#### G. NRCS as Cooperating Agency

- (1) When NRCS is not the lead agency, it may be invited by another Federal agency to be a cooperating agency, or it may request to be a cooperating agency, particularly for issues involving effects to NRCS easements, prime farmland and soils, or in other areas in which NRCS has expertise or jurisdiction by law.

**Note:** NRCS is considered the implementing agency for and has jurisdiction by law for activities affecting agricultural lands under the Farmland Protection Policy Act (7 U.S.C. Section 4201) and the Food Security Act (16 U.S.C. Section 3811).

- (2) In such cases, NRCS should make every effort to participate to the fullest extent possible. Lead agencies may ask NRCS to develop information and prepare environmental analyses, including portions of the EA or EIS, or to make staff support available to enhance the lead agency's interdisciplinary capability. Requests for such NRCS assistance should be made in writing. If the lead agency expects major participation or analyses from NRCS, the lead agency should reimburse NRCS for these major activities.
- (3) NRCS may also desire to cooperate in another agency's NEPA process in order to ensure that NRCS's interests are addressed and to reduce duplication of analyses. In this case, NRCS could rely on the other agency to prepare the NEPA document, incorporating NRCS's needs, and NRCS could adopt the document. Thus, NRCS would not need to prepare a separate NRCS EA or EIS.

#### H. If NRCS is Unable to Participate as a Cooperating Agency

If NRCS is asked in writing to be a cooperating agency and is unable to participate or is unable to participate to the extent requested because of other program commitments, NRCS must respond in writing, stating why NRCS cannot be a cooperating agency. Copies of the response must be sent to CEQ and the NRCS national environmental coordinator at the addresses below:

NRCS National Environmental Coordinator  
Ecological Services Division, Room 6160-S  
1400 Independence Avenue, SW.  
Washington, DC 20250

Council on Environmental Quality  
722 Jackson Place, NW.  
Washington, DC 20503

## 610.62 Integration of and Consultation for Other Environmental Laws (Special Environmental Concerns)

A. CEQ regulations implementing NEPA (40 CFR Section 1502.25) require that agencies, to the fullest extent possible, prepare draft EISs concurrently with all other applicable environmental studies and consultations. This also applies to the preparation of EAs and findings of no significant impact (FNSIs). This kind of integration achieves the goal of avoiding duplication and reducing delay in the evaluation and implementation of proposed actions.

B. See subpart C of this handbook and NRCS policy for information on all “special environmental concerns” that NRCS is required to consider individually. If each requirement were implemented separately, the duplication of effort could potentially result in excessive delays, increased costs, and differing and conflicting conclusions. The integration of environmental laws helps achieve the “one-project, one-document” concept that CEQ encourages.

C. However, in practice, integration may be complex and difficult as can be seen in the example below (figure 610-E3). Therefore, integrated work plans should spell out the various steps of integration, a timeline, and who is responsible for carrying out each step. If managed properly, completing the requirements of all applicable laws, regulations, Executive orders, etc., will serve to enhance the analysis and reduce costly delays.

Figure 610-E1: Example of Integration of Special Environmental Concerns in a Federally Funded Fish Passage Project

Clean Water Act (CWA)—U.S. Army Corps of Engineers – 404 permit
Endangered Species Act (ESA)—Section 7 consultation with U.S. Fish and Wildlife Service (FWS, National Marine Fisheries Service (NMFS), or both
NHPA—Section 106 consultation
Clean Air Act (CAA)—Conformity requirements
State-level mini-NEPA, other State Permits
Other relevant Federal, State, and local laws, regulations, and Executive orders

D. Consultation is the process of seeking, discussing, and taking into account the views of others when required by law or policy. Subpart C of this handbook has specific information and requirements for consultation for each special environmental concern listed on Form NRCS-CPA-52, “Environmental Evaluation Worksheet.” The purpose of consultation is to ensure compliance with other environmental requirements. Consultation ensures that all planning decisions reflect environmental values, avoids delays later in the process, and heads off potential conflicts.

### E. Requirements

- (1) To the fullest extent possible, NRCS must prepare NEPA analyses concurrently with environmental analyses and related surveys and studies required by other laws and policies. The results of these other studies should be integrated into the NEPA document to ensure that the responsible Federal officials (RFOs) take into account the full range of impacts on the quality of the human environment. NRCS should



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also consider early on whether it is necessary or advantageous to invite any other Federal, State, or Tribal agencies to participate as cooperating agencies.

- (2) See Subpart H, Section 610.125, “Ten-Step Approach to Integrating NEPA with Special Environmental Concerns,” in this handbook.

### F. Consultation Guidance

A number of laws, regulations and Executive orders, such as the Endangered Species Act (ESA) and the NHPA, require consultation and coordination with Federal agencies having jurisdiction to implement and enforce these laws.

### G. NHPA

- (1) Title 190, National Cultural Resources Procedures Handbook (NCRPH), Part 601, provides detailed guidance to field planners on consultation requirements and procedures having to do with cultural resources, including section 106 of the NHPA. There are also several laws that specify Tribal consultation responsibilities for Federal agencies. The handbook also includes a copy of the NRCS Nationwide Programmatic Agreement with the Advisory Council for Historic Preservation and the National Conference of State Historic Preservation Officers for the protection of cultural resources. This agreement establishes the protocol by which NRCS carries out its responsibilities under section 106 of the NHPA.
- (2) Title 420, General Manual (GM), Part 401, establishes NRCS policy regarding responsibilities to historic and cultural properties under the NHPA of 1966. This section also outlines NRCS implementing regulations, the NRCS Nationwide Programmatic Agreement, and other related authorities that must be observed when considering consultation and other compliance requirements for cultural resources.
- (3) For a flowchart illustrating the coordination of section 106 of the NHPA with NEPA, see subpart H, section 610.126, of this handbook.

### H. ESA

- (1) Section 7(a)(2) of the ESA requires NRCS to consult with the FWS and NMFS to ensure that any action NRCS authorizes, funds, or carries out is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of habitat determined to be critical by the Secretary of the Interior. Detailed information and guidance regarding consultation for ESA can be found in 190-GM, Part 410, Subpart B, Section 410.22, “Endangered and Threatened Species and Species of Concern,” and in subpart G of this handbook. In some States, NRCS may also have a need to consult with the State resource agency when a State-listed species will be impacted.
- (2) To achieve successful NEPA integration and consultation requirements, NRCS should always—
  - (i) Consult early and often with appropriate State and local agencies, Indian Tribes, and interested private persons and organizations when NRCS financial assistance or control over some or all of the action is reasonably foreseeable. This will reduce potential delays in project implementation.
  - (ii) Identify, as part of the scoping process, other environmental review and consultation requirements so that NRCS and cooperating agencies may prepare other required analyses and studies concurrently with, and integrated with, the NEPA document.
  - (iii) Integrate all applicable environmental laws to the fullest extent possible, as NEPA requires. However, it is important to note that all of these laws apply

independently of NEPA. See specific requirements for all special environmental concerns in subpart C of this handbook.

- (iv) Include a reference in the notice of intent (NOI) and other scoping documents to any consultation that is occurring.
- (v) Develop a comprehensive environmental compliance strategy, plan of work, or both that effectively integrates all steps for each Federal agency's review process and contains a master schedule for an integrated environmental review. This should also identify responsible individuals for each task.
- (vi) During scoping meetings, report on the status and outcome of the consultation, and solicit comments on issues related to the consultation.
- (vii) During internal scoping meetings, obtain input from other individuals, agencies, and organizations about the amount of consultation required and how it will occur relative to the NEPA process.
- (viii) Include the outcome of the consultation process in the EE and NEPA documentation as a part of the conclusion of effects. Include a reference to consultation as a basis for the conclusions.
- (x) Reference in the EE and NEPA documentation any studies conducted and documents prepared during the consultation process. Include these documents in the appendix.

### **610.63 Interdisciplinary Teams and Timelines**

A. The first step in preparing an EA or EIS is to make decisions about lead and cooperating agencies, timeframes to guide the process, and the interdisciplinary process itself. This section discusses setting time limits and identifying interdisciplinary team members. See section 610.61 above for a discussion of lead and cooperating agencies.

B. Setting Time Limits.—The only time limits applicable to the NEPA process are the following:

- (1) For an EA
  - (i) NRCS must make the EA and FNSI available for public review for 30 days when any of the following limited circumstances occur:
    - The proposed action is, or is closely similar to, one that normally requires the preparation of an EIS as defined by NRCS NEPA implementing regulations at 7 CFR Section 650.7
    - The nature of the action is unprecedented
    - The public was not involved in the preparation of the EA or FNSI
  - (ii) When availability for public review for 30 days is not required, NRCS staff will involve the public in the preparation of the EA and FNSI and strive to make the EA and FNSI available for public review in accordance with the scope of the action. When public review or involvement has not been undertaken, the EA and FNSI should be made available for public review for a period of 30 days.
  - (iii) When proposed actions are located in wetlands or floodplains, a period of public review of the FNSI is required (CEQ "Forty Most Asked Questions" #37(b)). The State Conservationist may determine the length of time afforded for public review of the FNSI in these situations. However, to ensure adequate public review, the FNSI should be made available for at least 15 days.
- (2) For an EIS
  - (i) No decision on the proposed action may be made or published until the later of—
    - Thirty days after publication in the Federal Register of a notice of availability (NOA) of a final EIS.

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- Ninety days after publication in the Federal Register of a NOA of a draft EIS.
- (ii) NRCS must allow at least 45 days for comment on a draft EIS.
- (3) While there are no required time limits for the overall NEPA process, Federal agencies are encouraged to set time limits appropriate to individual actions. When NRCS is the lead agency, time limits will be set if an applicant for the proposed action requests them, provided that the limits are consistent with the purposes of NEPA and other essential considerations of national policy. State agencies, local agencies, and members of the public may request a Federal agency to set time limits.
- C. NRCS may consider the following factors in determining time limits for the overall NEPA process:

- (1) Potential for environmental harm
- (2) Size of the proposed action
- (3) State of the art of analytic techniques
- (4) Degree of public need for the proposed action, including the consequences of delay
- (5) Number of persons and agencies affected
- (6) Degree to which relevant information is known and the time required to obtain unknown information
- (7) Degree to which the action is controversial
- (8) Other time limits imposed on the agency by law, regulations, or Executive order
- (9) Timing or seasonal requirements needed to perform specialized field surveys, such as those associated with endangered species or wetlands

D. NRCS may also set overall time limits or limits for each constituent part of the NEPA process, which may include the following:

- (1) Decision on whether to prepare an EIS (if not already decided)
- (2) Determination of the scope of the EIS
- (3) Preparation of the draft EIS
- (4) Review of any comments on the draft EIS from the public and agencies
- (5) Preparation of the final EIS
- (6) Review of any comments on the final EIS
- (7) Decision on the action based in part on the EIS

**Note:** It is important to designate a specific individual, such as a project manager or an NRCS employee in the office with dedicated NEPA responsibilities, to expedite the NEPA process.

E. Identifying the Interdisciplinary Team Members

- (1) CEQ regulations require EISs to be prepared using an interdisciplinary approach. In addition, NRCS requires the use of an interdisciplinary planning approach in which specialists and groups having different technical expertise act as a team to jointly evaluate existing and future environmental quality.
- (2) When preparing an EIS or when interdisciplinary preparation of an EA is warranted, identify and recruit potential team members as soon as NRCS determines a team will be assembled. The disciplines of the team members must be appropriate to the scope and issues identified in the scoping process. Thus, the initial composition of the team may need to be modified after the scoping is completed. The ability of team members to work together and communicate is essential. The interdisciplinary team may consist of individuals within and outside of NRCS, especially in the case of areawide planning.

## 610.64 The Scoping Process

### A. Introduction

- (1) Scoping is an early and open process used to identify the range of actions, issues, alternatives, and impacts to be evaluated. It is important to remember that scoping is an iterative process that occurs throughout the development of the NEPA document. Scoping identifies the laws, rules, and regulations, including State, Tribal, and local agency requirements, that must be addressed during project planning and evaluation. These may be related to the presence of federally listed species, wetlands, historic properties, etc.
- (2) A well-planned scoping process contributes to the NEPA process in the following ways:
  - (i) It focuses the analysis on the real issues of concern needing to be analyzed in depth.
  - (ii) It affords other agencies and interested publics an opportunity to participate in the planning and NEPA process.
  - (iii) It helps ensure that problems are identified early and appropriately studied, and that issues of little importance do not consume time and effort.
  - (iv) It results in a draft plan and environmental analysis that is thorough and balanced, and helps avoid the delays occasioned by inadequate planning and analysis.
  - (v) It is often the first contact between planners and the public. The public learns how the planners see their problems, how they will investigate and evaluate them, and what they propose as solutions.
  - (vi) During scoping, the planners hear the public's interpretation of the situation, their expectations, concerns, and ideas. Scoping often uncovers surprises on both sides.
  - (vii) When it is conscientiously and innovatively conducted, scoping is one of the planner's most powerful tools for efficient and effective planning.

### B. Requirements

During the scoping process, NRCS must identify the laws, rules, and regulations, including State, Tribal, and local agency requirements that need to be addressed during planning and evaluation, such as those protecting endangered species, wetlands, and cultural resources. The scoping process is open to the public; State, Tribal, and local governments; and affected Federal agencies.

### C. Scoping occurs on three levels:

- (1) Intra-Agency.—NRCS requests advice or assistance from other NRCS offices with special expertise.
- (2) Interagency.—NRCS requests advice or assistance from other Federal, State, Tribal, or local government agencies with special expertise and regulatory or permit responsibilities as well as those that may ultimately be involved in the proposed action, including soil and water conservation districts. This may include designating cooperating agencies. (See Section 610.61, "Lead and Cooperating Agencies" above).
- (3) Members of the Public and Nongovernmental Organizations.—In addition to the broader public, this includes nongovernmental members of State Technical Committees and participants in locally led processes.

### D. Individual Planning

On individual land units, scoping generally occurs by determining with the landowner which resource concerns will be addressed in the conservation plan. As part of this process, NRCS sometimes must request assistance from Federal, State, local, and Tribal agencies with jurisdiction by law or special expertise to determine the scope of issues to be addressed and identify the important issues related to a proposal. Most often, this is necessary for resources of special concern for which consultation or permits are required, even when the activity is categorically excluded from the requirements to prepare an EA or EIS or has been analyzed in a broader environmental document. (See Section 610.62, “Integration of and Consultation for Other Environmental Laws (Special Environmental Concerns),” above.)

E. Areawide EAs and EISs Require a Formal Process

For watershed, statewide, programmatic, and other areawide EAs and EISs, NRCS uses a formal scoping process that includes public notice and at least one public meeting (see section 610.68, “Public Participation”). Federal, State, Tribal, and local agencies with special expertise or jurisdiction in affected resources are requested to participate. For an EIS, ensure the NOI includes a description of the proposed scoping process, including whether, when, and where any scoping meetings will be held (see Subpart D, Section 610.49, “Notice of Intent”).

F. Set time and page limits for EISs as part of the scoping process and in consultation with sponsors and others, in accordance with the projected availability of resources. Make the sponsor and other interested persons aware that time and page limits might change because of changes in resources or new issues that are raised during the scoping process.

G. Tips for Successful Scoping

- (1) **Timing.**—Carefully consider when to start the formal public scoping process. Integrate scoping meetings with other early planning meetings, but keep in mind that scoping cannot be effective until NRCS knows enough about the proposed action to identify most of the affected parties and to present a description of the problems and opportunities.
- (2) **Come Prepared.**—An initial list of environmental issues and potential alternatives should be outlined. Emphasize that the preliminary alternatives and issues are just that—they are only used to initiate scoping discussions.
- (3) **Include Appropriate NRCS Staff.**—Appropriate local NRCS and conservation district officials should have a visible and important role in the scoping process, especially in locally led and areawide plans (including watershed or other regional efforts).
- (4) **Include All Relevant Agencies.**—All agencies that will have a review or permit function for the plan should be included in the process, even if they will not be cooperating agencies. Extra attention may be necessary to obtain their participation.
- (5) **Be publicly Inclusive.**—Invite participation of all interested persons, including those who might not be in accord with the action on environmental or other grounds.
- (6) **Build Confidence and Trust.**—Scoping is the time for building confidence and trust on all sides of a proposed activity. This is the time when there is a sense of common enterprise. It is important to foster goodwill by listening to what is said during scoping meetings. It is very possible that measures may be investigated or recommendations may be made that can turn a controversy into an acceptable proposal.
- (7) **Scoping can directly speed up the planning process in several ways:**

- (i) The single most important result of good scoping can be eliminating (or at least reducing) surprises late in the development of the plan. An early scoping process is the ideal time and forum for discovering differences of opinion. Accommodations can often be made without costly disruptions.
- (ii) There is a time-saving advantage to early identification of persons, agencies, and organizations that will be concerned or affected. Interaction is optimized and the opportunities for misinformation are minimized.
- (iii) A well-directed scoping process will identify and eliminate those issues that are (by consensus) not important. It can also eliminate unacceptable alternatives and save considerable time and effort. Document issues and alternatives eliminated from consideration and the rationale for doing so to reduce delays later in the planning process.
- (iv) Scoping allows the lead and cooperating agencies to reach agreement on the level of intensity of studies and identify points and events indicating further scoping is needed, such as discovery of the presence of an endangered species or cultural resource.

### **610.65 Determining the Scope of Analysis**

A. The scope of analysis refers to the extent of the action, the range of alternatives, and the various types of impacts to be considered in an EIS. Closely related to this is the need to define the geographic area and timeframes to be covered by the analysis. Making these determinations focuses the analysis on the relevant issues and makes the analysis more meaningful for decisionmakers.

#### **B. Requirements**

- (1) Extent of Actions to Consider
  - (i) Connected Actions.—Include connected actions in the same EA or EIS. These are actions that are closely related to the proposed action and include actions that—
    - Are automatically triggered by the proposed action.
    - Cannot proceed unless other actions are taken previously or simultaneously.
    - Are part of a larger action and depend on the larger action for their justification.
  - (ii) Similar Actions.—Include similar actions if they will occur in the same geographic area or timeframe and it is reasonable to cover them in the same EA or EIS.
  - (iii) Cumulative Actions.—Include actions that result in a significant impact on the quality of the human environment when taken together, but that do not have such an impact when considered separately.
- (2) Reasonable Range of Alternatives to Consider
  - (i) No-Action Alternative.—Consider here the outcome and impacts that would result if no Federal action is taken.
  - (ii) Other Reasonable Alternatives.—Include any reasonable actions that could fulfill the purpose and need of the proposed action.
  - (iii) Mitigation Measures.—Include all measures that are separate from the features of the proposed action that would reduce or avoid environmental consequences of the proposed action.
  - (iv) See subpart D, section 610.50, of this handbook, and section 610.67 below for a complete discussion of alternatives.
- (3) Types of Impacts (Effects) to Consider

- (i) Direct Impacts.—Identify those impacts that will be caused by the proposed action, occurring at the same time or place.
- (ii) Indirect Impacts.—Identify those reasonably foreseeable impacts caused by the proposed actions, but occurring later in time or farther removed from project site.
- (iii) Cumulative Impacts.—Identify those impacts that result from the incremental impacts caused either directly or indirectly by the proposed action’s combination with past, present, and reasonably foreseeable future actions, regardless of the agency (Federal or non-Federal) or person taking the other actions.

C. Tips for determining the scope of analysis

- (1) Analyze only those actions and impacts that are reasonably foreseeable
  - (i) Don't speculate about what might happen.

**Example:** If NRCS is proposing to build a dam to meet a need for drinking water and recreation, it may be reasonably foreseeable that traffic will increase in the area and additional housing or other structures will be built, particularly if this has occurred in other similar locations. Additional housing may not, however, be considered reasonably foreseeable, particularly if there are zoning restrictions in place to prevent such an occurrence.

- (ii) Actions may be foreseeable even if they are actions proposed by other agencies, nongovernmental organizations, or members of the public.

**Example:** Actions included in approved zoning plans, areawide conservation plans, forest stewardship plans, and other relevant planning documents would likely be reasonably foreseeable and should be included in the NRCS EA or EIS analysis if they affect the same resources or geographic areas or will contribute to cumulative impacts on a particular resource. If the proposal can be aggregated with other proposals similar in nature, timing, or location and assessed in an EA or EIS without causing scheduling problems, do so.

- (2) Address concerns that were raised during the scoping process

If members of the public or other agencies comment that other actions, issues, or impacts are reasonably foreseeable and should be analyzed, then the EA or EIS should address and focus the analysis to evaluate these issues. However, if the impacts or actions are not reasonably foreseeable, do not include them in the scope of the NEPA analysis. Instead, acknowledge in the NEPA document the concerns that were raised, and state why NRCS does not consider those actions, issues, or impacts to be reasonably foreseeable or to affect the resources under consideration.

- (3) Use information obtained during the scoping process to help define the reasonable geographic area and how far out in time to trace the chain of impacts. Ask the following questions:
  - (i) What issues and concerns need to be addressed?
  - (ii) What resources are present and likely to be affected?
  - (iii) What timeframe and issues is reasonable to analyze?
  - (iv) What is the geographic range of the resources potentially affected?

## 610.66 Statement of Need and Purposes of the Proposed Action

### A. Introduction

- (1) The statement of need and purposes of the proposed action is a section of an EA or EIS that clearly articulates why an action is being proposed and describes the underlying need to be met.
- (2) This statement of purpose and need also defines the range of reasonable alternatives to be considered in an environmental document along with the factors relevant to the choice between alternatives. Additional information regarding this section can be found in subpart D, section 610.50, of this handbook.

#### B. Requirements

- (1) A need is a problem or an opportunity. An example of a need may be improvement of the quality of runoff water from a farm into an adjacent stream to avoid negative impacts to the aquatic habitat or other downstream uses. For NRCS conservation programs, the need is usually related to improving the condition of one or more natural resources the program is authorized to address.
- (2) The purpose of an action is the goal to be attained, or an end or aim to be kept in view while meeting an underlying need. These are other objectives being pursued. An example may be to keep the farming operation economically viable or to meet total maximum daily load (TMDL) requirements.
- (3) The NEPA process starts when an action is proposed to meet an underlying need. This action supplies something that is lacking or takes away something that is not wanted. The action fixes a problem or seizes an opportunity. Although the proposed action should meet the underlying need, it may not be the only way or even be the best way to meet the underlying need. But there is a connection between the proposal for action and the underlying need to which NRCS is responding in proposing the action.
- (4) **Action alternatives that meet both the underlying need and the purposes are the most reasonable alternatives and the ones that should be analyzed in greatest detail.**

#### C. Tips to ensure a succinct statement of need and purpose of proposed action

- (1) A statement of need and purpose of the proposed action should be made in the form of a finding.
- (2) The ultimate conclusion is the statement of needs to be addressed (and also the authority to take action).
- (3) The basic conclusions and evidence proving the existence of the need are found in a description of the problems and opportunities.
- (4) Purposes are goals to be attained while taking action to meet an underlying need. Purposes fall into three general categories: environmental, economic, and technical (including legal).
- (5) Purposes are decision factors and are used in the environmental analysis process to evaluate the alternatives and again at the time of decision to choose between alternative courses of action.
- (6) Divide “purpose” and “need” into two separate concepts. Needs, as the first factor, guarantees a hard look at all possible ways to deal with a problem or solution. Purposes, as the second factor, guarantees that only the more reasonable alternatives get the attention of a detailed analysis.

### 610.67 Formulation of Alternatives

#### A. Introduction



- (1) Alternatives are approaches to achieving a desired condition (i.e., purposes) or meeting an underlying need that are different from the proposed action. All alternatives are compared to benchmark conditions. The no-action alternative provides a means to compare and contrast alternatives to determine their relative merits and disadvantages.
- (2) The purpose of alternatives is to ensure decisionmakers are aware of the choices available to them to meet a need that has been identified or to achieve a desired condition. Alternatives provide a basis for understanding the impacts of those choices. More information about alternatives can be found in subpart D, section 610.50, of this handbook.

#### B. Requirements

- (1) **Alternatives Meet a Need for Action.**—An action is proposed to meet some underlying need or to achieve a desired future condition. This action is one alternative that must always be considered, along with the no-action alternative. The underlying need is the rational basis for taking Federal action, so other reasonable ways to meet the underlying need must also be considered, particularly when the proposal involves unresolved conflicts concerning alternative uses of available resources.
- (2) **Alternatives Can Do More than Meet a Need.**—Alternatives may do more than just address the need that has been identified. To the extent possible, they should also prevent additional problems from occurring and take advantage of available opportunities to enhance the environment. They may also achieve other client, NRCS, and stakeholder objectives and should include measures that mitigate potential adverse effects and have potential to help clients address regulatory requirements.

#### C. No-Action Alternative

- (1) The no-action alternative describes what measures will be implemented in the future should NRCS not provide technical or financial assistance. The no-action alternative must be considered in every EA and EIS as well as in all EE documentation.
- (2) According to CEQ guidance, there are two interpretations of the no-action alternative that must be considered, depending on the nature of the proposal being evaluated:
  - (i) For programs and plans, the no-action alternative is considered to be a continuation of the current management direction or level of management intensity.
  - (ii) For projects, the second interpretation would be simply not to implement the project. Where a choice of “no action” by the agency would result in predictable actions by others, this consequence of the no-action alternative should be included in the analysis.
  - (iii) The no-action alternative explains the future circumstances without implementation of a project, what current management plans or programs will continue without the proposed action, or what actions a client will implement without Federal involvement.

#### D. Alternatives in Conservation Planning

- (1) Title 180, National Planning Procedures Handbook (NPPH), Part 600, states, “The purpose of formulating alternatives is to provide the most effective, efficient, and economical conservation treatments that meet planning criteria and are acceptable to the client in solving problems, addressing opportunities, and meeting stated

objectives. These alternatives relate to identified problems and are developed in view of the cultural, social, ecological, and economic conditions of the planning area.”

- (2) NRCS typically develops resource management systems (RMSs) to address specific natural resource concerns and achieve desired natural resource conditions. These are presented to landowners and operators as alternative ways to meet the underlying needs they and NRCS or others have identified during the early steps of the planning process. The EE process and documentation helps these clients understand the environmental effects of their decisions about which conservation alternatives to implement and any tradeoffs that may result.

#### E. Alternatives in an EA or EIS

- (1) **Number of Alternatives.**—The EA or EIS must include a minimum of two alternatives, the proposed action and the no-action alternative. If there are conflicts in alternative uses of resources, additional alternatives that meet the underlying need are required. There should ideally be a limited range of alternatives since each alternative requires detailed analysis.
- (2) **Reasonably Limiting the Number of Alternatives.**—The statement of underlying need defines a reasonable range of alternatives, so this statement should be neither too broadly nor too narrowly stated. The statement of purposes defines the alternatives that are analyzed in the greatest detail (see section 610.66 above). Thus, there are four kinds of alternatives; those that—
  - (i) Meet the underlying need and purposes.

These alternatives must be presented in the EA or EIS unless the document provides an explanation for why those alternatives were not carried forward for detailed analysis.

- (ii) Meet the underlying need but not the purposes.

Alternatives that meet the underlying need but do not meet the stated purposes must be presented in the EA or EIS but can be eliminated from detailed analysis with appropriate rationale.

- (iii) Meet the purposes but not the underlying need.

Alternatives that do not meet the underlying need can be eliminated from the EA or EIS with appropriate rationale.

- (iv) Do not meet the underlying purposes or need.

Alternatives that do not meet the underlying need or the purpose can be eliminated from the EA or EIS with appropriate rationale.

- (3) **Environmentally Preferable Alternative.**—The final EIS must identify the environmentally preferable alternative from the range of alternatives considered. If one exists at the draft stage of the EIS it should be included then. This alternative best promotes NEPA’s goals, causes the least damage to the environment, and best protects natural and cultural resources. This is normally a subjective process on the part of the decisionmaker. There may be times when one alternative may be preferred for some environmental resources, while another alternative is preferred for others.

#### F. Summary

The “Alternatives” section is the heart of the NEPA document. It is based on the information and analysis presented in the “Affected Environment” and “Environmental

Consequences” sections. The “Alternatives” section should present a summary of the environmental impacts of the proposal and the alternatives in comparative form, to sharply define the issues and provide a clear basis for choice among options by the decisionmaker and the public. In this section—

- (i) Rigorously explore and objectively evaluate all reasonable alternatives; for alternatives eliminated from detailed study, briefly discuss the reasons they were eliminated.
- (ii) Devote substantial treatment to each alternative considered in detail, including the proposed action, so reviewers may evaluate their comparative merits.
- (iii) Include reasonable alternatives not within the jurisdiction of the lead agency.
- (iv) Include the no-action alternative.
- (v) Identify the agency’s preferred alternative or alternatives, if one or more exists, in the draft document, and identify such alternative in the final document unless another law prohibits the expression of such preference.
- (vi) Include appropriate mitigation measures not already included in the proposed action or alternatives.

#### G. Additional Considerations

- (1) Take no action concerning the proposal that would limit the choice of reasonable alternatives until a final decision is made and a FNSI or record of decision (ROD) is published.
- (2) Use a format for EAs and EISs that will encourage good analysis and clear presentation of the alternatives including the proposed action.
- (3) In the record of decision for an EIS, identify all alternatives considered, specifying the environmentally preferable alternatives.

#### H. Tips to ensure the successful formulation of alternatives

- (1) The statement of underlying need—a problem or opportunity—determines the range of alternatives in an EA or EIS. Any alternative course of action that would meet the stated need must be evaluated in the EA or EIS.
- (2) There is no need to examine—
  - (i) Every conceivable alternative or speculative alternatives.
  - (ii) Alternatives that won’t work, are not reasonable, or are unfeasible, unrealistic, impractical, or not economical.
  - (iii) Alternatives that would have similar effect or greater adverse effect.
    - Lack of authorization to implement does not automatically eliminate an alternative. It may be reasonable to seek authorization for a given alternative. Or, if not, NRCS should be prepared to explain why it is unreasonable.
    - A narrowly scoped EA or EIS is easier to write than one that is broadly scoped. Precise definition of the underlying need limits the range of alternatives to those that could reasonably meet that underlying need.
    - Eliminate alternatives that do not meet the underlying need, but if a member of the public has raised them, address that alternative and state why it was eliminated.
    - Think and write in terms of alternative ways to meet the underlying need rather than alternatives to the proposed action, for which there may be no limit.

## 610.68 Public Participation

A. Public participation is the part of the scoping process during which affected parties and interested persons and organizations are provided the opportunity to provide their views, values, and opinions about actions. Public views help NRCS to make informed decisions about actions it should take and, when feasible, modify actions to address concerns and avoid adverse impacts. Public participation also provides information to assist NRCS in identifying the scope of issues, alternatives, and impacts to be analyzed in NEPA documents. The interested public includes individuals, groups, organizations, and government agencies.

### B. Requirements

- (1) NRCS has discretion in how to involve the public. The RFO, after consultation with the sponsors, will determine when public meetings or hearings are held.
- (2) Public participation must be appropriate to the proposed action. Planning intensity, public involvement, and documentation vary depending on the scope of the proposed action.

#### (i) Individual Conservation Planning

Public participation for nonproject technical and financial assistance on non-Federal lands is normally limited and occurs as part of conservation district meetings, State Technical Committee meetings, and locally led planning meetings related to the broader implementation of the program. However, if the EE reveals a high degree of controversy over the proposed action or it is particularly large, and the action has not been addressed in a Statewide or areawide EA, preparation of an EA and the opportunity for public involvement should be strongly considered. (See subpart D, section 610.41, of this handbook.) Environmental documents supporting financial assistance on private lands should reference the manner in which public participation occurred.

#### (ii) Arewide EAs

- Extensive public participation is required for new program or project actions. At a minimum, if development of the EA follows a locally led planning process that is already complete and no public meetings will be held, reference information discussed during the locally led planning meetings, conservation district meetings, and State Technical Committee meetings. (See also the discussion below concerning requirements for Public Law 566 and Public Law 534 watershed projects.) NRCS public participation policy in 400-GM, Part 400, “Public Participation Coordination,” also applies here.

#### (iii) EISs

- Reference relevant information discussed during conservation district meetings, State Technical Committee meetings, and locally led planning meetings or other listening sessions or hearings. Hold additional meetings as deemed appropriate. (See also the discussion below concerning requirements for Public Law 566 and Public Law 534 watershed projects.)
- CEQ regulations require that comments from the public on the draft EIS be requested and considered before preparing a final environmental impact statement. Comments are to be specifically requested from persons or organizations who may be interested in, or affected by, the action, as well as those who have requested copies of the draft EIS.

#### (iv) Watershed Projects

- Refer to Title 390, National Watershed Manual (NWSM), which provides a format outline that must be followed in all watershed project plan EAs, EISs,

and EEs. The format outline provides a framework which facilitates compliance with NEPA, “The Principles, Requirements and Guidelines” (PR&G) for Federal investments in water resources, Executive orders, the Code of Federal Regulations, Public Law 83-566, and related NRCS planning policy.

- A public participation plan must be developed for each watershed project plan in accordance with 400-GM, Part 400.

#### D. Solicitation, Response, and Integration of Comments

- (1) Comments are solicited during scoping (see section 610.64) and by making environmental documents available and providing notice to the public of their availability for comment (see section 610.74). NRCS must make diligent efforts to solicit comments from persons and agencies who may be interested in or affected by a proposed action.
- (2) If comments are received following a public scoping meeting on a draft EA or EIS, a summary of the comments should be included in a table format in chapter 1 of the document, along with references to where in the EA or EIS the comments are addressed. This makes it easy for the reader, decisionmaker, or judge to see how an agency addressed the comments of concerns raised by the public. Also, it makes it easier for the agency to determine what issues need the most attention and helps to focus the analysis on those issues of concern to the public.
- (3) If an EA was prepared and it is determined that there will be no significant impacts, a FNSI will be prepared to conclude the process and document the decision. A FNSI is issued when environmental analysis and interagency review during the EA process find a project to have no significant impacts on the quality of the environment. The FNSI should reflect all applicable comments and responses summarized in the EA.
- (4) The EIS must summarize the scoping process, the results of any meetings that have been held, and any comments received during preliminary coordination. Between the draft and final EIS, NRCS must consider and respond to all substantive comments received on the draft EIS, including those from public hearings. The final EIS must include copies of the comments received and the agency's responses. If comments are voluminous, they may be summarized. If the EIS was changed in response to comments, changes should be referenced in the responses.
- (5) All comments received during the comment period will be considered during preparation of the final EIS. Comments received after the comment period will be considered to the extent practicable. CEQ regulations require consideration of public comments on a draft EIS during the preparation of a final EIS. Thus, the final EIS that supports agency decisionmaking includes the comments made by the public during their review, as well as agency responses to the comments through a comment response document that identifies all the public comments and provides agency responses to the comments.
- (6) If the EA and FNSI have been published and you receive comments, then you will need to determine how substantive those comments are and whether the EA needs to be supplemented to address those comments. If the comments are not substantive, it is still recommended that an errata sheet be issued explaining what comments were received along with your response, and why the EA does not need to be supplemented.

#### E. Addressing Substantive and Nonsubstantive Comments

- (1) The general rule under the CEQ regulations is that a final EIS (or FNSI) must respond to all substantive comments on a draft EIS or FNSI. The CEQ regulations

and guidance do not define the term “substantive,” nor is there any definition of this term in NRCS regulation or policy. In general, comments are considered substantive if they raise specific issues or concerns regarding the project or the study process, but not if they merely express support for or opposition to the project or a particular alternative.

- (2) If a draft EA was made available for public comment and those comments were addressed in the final EA and FNSI, additional comments that raise new issues solely in an attempt to prevent NRCS from moving forward with the proposed action need not be considered substantive. However, if new comments are received identifying recent changes to the affected environment, new science supporting changes in the effects analysis, or similar new information, NRCS should consider this information in determining whether the EA should be supplemented.

#### F. Integrating NEPA Public Participation With Public Participation Requirements of Other Environmental Mandates

- (1) In addition to NEPA, there are other laws, regulations, and Executive orders for the protection of the environment that include public participation provisions. For example, Executive Order 11990, Protection of Wetlands, requires that agencies provide an opportunity for early public review of any plans or proposals for actions involving draining, dredging, channelizing, filling, diking, impounding, or related actions occurring in wetlands.
- (2) The NHPA implementing regulations also require that interested persons be invited to consult with the action agency, taking into account the scale and nature of the proposed project. American Indian Tribes, as sovereign Nations, also have special status, both under NHPA and Executive orders, and must be consulted on a Nation-to-Nation basis. Simple notification is not enough. For purposes of NHPA, interested persons may include, but are not limited to the following:
  - (i) Historical organizations
  - (ii) Historic preservation organizations
  - (iii) Civic and business organizations
  - (iv) Community organizations
  - (v) Individuals
  - (vi) Neighbors
  - (vii) Local, State, and county government
  - (viii) The head of local government
  - (ix) Partners
  - (x) Applicants for and holders of grants, permits, and licenses involved in the action, and owners of affected lands
  - (xi) Representatives of Indian Tribal governments
  - (xii) Others, when agency, State historic preservation officers, and the Advisory Council on Historic Preservation deem it appropriate
- (3) Consult 400-GM, Part 400, Sections 400.3 to 400.5, for policy and guidelines on public participation. See also 180-NPPH, Part 600; 390-NWSM; the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (Principles and Guidelines or P&G); and 190-NCRPH, Part 601.

#### G. Tips to Ensure Effective Public Participation

- (1) Begin the public participation process early.
- (2) Provide public notice of NEPA-related hearings, public meetings or other public forums, and the availability of environmental documents so as to inform those

- persons and agencies who may be interested or affected. Explain where interested persons can get information or status reports on EISs and other elements of the NEPA process. See section 610.74 below.
- (3) Solicit relevant information from the public concerning alternatives and issues, including potential effects of NRCS-assisted actions on environmental resources such as wetlands, floodplains, cultural values, endangered species, and important farmland.
  - (4) At meetings, present and discuss environmental information along with other appropriate information.
  - (5) In addition to public meetings, other forms of public forums have come to be accepted practice, including the following:
    - (i) Open houses
    - (ii) Newsletters
    - (iii) Telephone hotlines
    - (iv) Internet communications
    - (v) Tours
    - (vi) Workshops
  - (6) When public meetings are held, keep in mind that—
    - (i) Public meetings are often the first contact between NRCS and the public, and are probably the most important.
    - (ii) The public learns how NRCS sees their problems and how NRCS will investigate and evaluate them.
    - (iii) NRCS will learn the public's interpretation of the situation, expectations, concerns, and ideas.
    - (iv) One of the primary objectives of public involvement is to earn the confidence of public participants by being honest, open, and responsive.
  - (7) Identify relevant information, including potentially controversial issues that could motivate litigation, and seek resolution with the appropriate parties.
  - (8) Pertinent information should be provided to attendees for review before the meetings.
  - (9) Maintain a reviewable record of public participation in the planning process.
  - (10) Seek out members of the interested public, including but not limited to individuals, groups, organizations, and government agencies. Encourage them to participate in and contribute to interdisciplinary planning and analysis of environmental effects. In addition to participating in public meetings, Federal, State, Tribal, and local governmental organizations may be separately consulted or be cooperating agencies. (See Section 610.64, "The Scoping Process," above.)
  - (11) Invitations, public notices, and detailed meeting arrangements need adequate and experienced handling. Seek assistance if needed. It is important that top NRCS management in the State ensure meeting arrangements receive proper attention. Meetings may be held by conservation districts or local sponsors, but ensure announcements and agendas are specific enough for the public to understand the purpose of the meeting is to provide input into a Federal decision.
  - (12) Ensure adequate preparation for the meeting. Visual aids should be simple and to the point. Information packets should be well organized and easy for the public to follow—they should not be lengthy or highly technical and should be written in plain language. Avoid the use of agency acronyms. Packets should be available to the invited publics and agencies prior to the meeting. First impressions are critical.
  - (13) Take the time to ensure the meetings are documented. Flipcharts can be used effectively to record comments from the floor as they are given and for reference during and after the meeting.
  - (14) Participants and stakeholders may include the following:

- (i) Community action groups
  - (ii) Environmental advocacy organizations
  - (iii) Special interest groups
  - (iv) Local government
  - (v) Individuals whose homes, livelihood, or neighborhoods may be affected by the action
- (15) In diverse communities, make written materials available in the appropriate languages.

## 610.69 Describing the Affected Environment

### A. Introduction

- (1) The affected environment is the area impacted by the proposed alternatives. It includes the area of ecological, cultural, social, aesthetic, and economic resources affected by the alternatives and impacts. The purpose of describing the affected environment is to define the context in which the impacts will occur.
- (2) The “Affected Environment” section of a NEPA document describes the physical and social conditions of the geographic area in which the impacts of a proposed action are expected to occur. To make an informed decision about what actions to implement, it is necessary to first understand what is being affected by the alternatives and what those impacts are. The affected environment section should provide the basis for this understanding. NRCS has a variety of tools it can use, such as maps, photos, graphs, and tables, to clearly and concisely describe the affected environment so the impacts are understandable by the public.
- (3) The detail provided about a specific resource should be commensurate with the degree of potential impact to that resource. There is a human tendency to include extensive information about a resource just because it is available or easily obtained. Try to focus on those resources that will be impacted and minimize the information provided on those where impacts will be negligible.
- (4) The scale of the impacts is another important factor to consider when describing the affected environment. Impacts to different resources may occur at different scales or in different contexts (e.g., an airshed, watershed, or viewshed versus a patch of habitat for a listed species), and all of these need to be considered and included in the affected environment.

### B. Requirements

#### (1) Environmental Assessments

There is no requirement that EAs include a separate section describing the affected environment. However, impacts cannot be analyzed without discussing the context in which they occur. Context is one factor analyzed in determining the significance of an action. Therefore, either include an affected environment section or, in describing the impacts of an action, be certain to include a discussion of the resources that are present and how they are affected by the proposed action and alternatives. In an EA, enough information should be included to provide an understanding of the context and intensity of impacts, so the RFO can make a determination about their significance.

#### (2) EISs

- (i) EISs must succinctly describe the environment of the areas to be affected or created by the proposed action and alternatives.



- (ii) The descriptions should be no longer than is necessary to understand the effects of the proposed action and alternatives.
  - (iii) Data and analyses must be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced.
  - (iv) Avoid useless bulk and concentrate attention on important issues. Verbose descriptions of the affected environment are no measure of the adequacy of an environmental document.
  - (v) Describe resources, including those protected by Federal, State, Tribal, or local requirements. Include references to any limited-resource areas, individuals, or protected groups, particularly those impacted by the proposed action and alternatives.
  - (vi) Describe all areas directly or indirectly affected by the proposed action and alternatives, including the area necessary to understand the cumulative impacts on the affected resources and groups.
- (3) Social and Economic Considerations
- (i) The human environment includes the natural and physical environment and the relationship of people with that environment. To understand those relationships, the social and economic components affected by NRCS activities need to be considered and described in the EA or EIS.
  - (ii) Descriptions of the social and economic aspects of the affected environment might include the following:
    - Demographics, including the local facilities and services that support those demographics, the neighborhood cohesion, and community stability.
    - Economics of the area, including employment patterns, average income, the financial stability of residents, municipal tax base, and the viability of local business and social service organizations. Include references to existing economic goals or plans of the area.
    - Resources on which people depend for subsistence, employment, or recreation.
    - Community institutions, traditions and values, and the way of life of individuals in communities, including such things as the flow of foot traffic and transportation routes.

#### C. Tips for Describing the Effected Environment

- (1) Consider past and present actions within the affected environment. These can assist with development of cumulative impact analysis by providing a snapshot of conditions in the existing environment.
- (2) The EA or EIS need only address and describe the affected or baseline environment for resources to the degree that the resources may be impacted. If air quality may only be minimally impacted, then a detailed discussion on air quality baseline conditions is not needed. The affected environment section should address resources commensurate with the degree of potential impact to that resource.
- (3) Go to subpart H, section 610.124, of this handbook for the “Affected Area Planning Worksheet.”

### **610.70 Effects Analysis**

#### A. Introduction

- (1) For purposes of NEPA, the terms “impacts” and “effects” are synonymous. There are two reasons to assess impacts:

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- (i) To compare consequences of actions for each alternative relative to a stated level of concern (a “threshold” or “standard”).
  - (ii) To compare effects of each alternative and to make an informed choice between them.
- (2) The EA or EIS should clearly articulate how the analyses are conducted, what criteria were used to select an alternative, as well as how decisions were made. When considering methods for organizing the analyses, they should be based on the scope of actions that have to be present in an EA or EIS (40 CFR Section 1508.25).

### B. References

There are a number of references that can assist with effects analysis, including “NEPA Models and Case Law,” by Owen L. Schmidt (2009), and “The NEPA Book,” by Bass, Herson, Bogdan (2001). Additional guidance memoranda has been issued by CEQ and the EPA Office of Federal Activities that suggest methods for evaluating particular impacts. Here are some examples:

- (i) CEQ Guidance on Impact Methodology
  - “Considering Cumulative Effects Under NEPA” (1997a)
  - “Incorporating Biodiversity Considerations into Environmental Impact Analysis Under the National Environmental Policy Act” (1993a)
  - “CEQ Environmental Justice Guidance” (1997b)
- (ii) EPA Office of Federal Activities Guidance on Impact Methodology
  - “Considering Ecological Processes in Environmental Impact Assessment” (1999)
  - “Guidance for Consideration of Environmental Justice in NEPA Reviews” (1999)
  - “Consideration of Cumulative Impacts in EPA Review of NEPA Document” (1999)

### C. Requirements

- (1) Analyze all direct, indirect, and cumulative impacts of proposed actions and alternatives for both EAs and EISs.
  - (i) Direct impacts are caused by the action and occur at the same time and place.
  - (ii) Indirect impacts are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.
  - (iii) Cumulative impacts are those that result from the proposed action’s incremental impacts when these impacts are added to the impacts of other past, present, and reasonably foreseeable similar future actions, including those under the control of other entities.

**Note:** “Reasonably foreseeable future” actions are those that are currently proposed and not speculative. They can result from individually minor but collectively significant actions taking place over a period of time. This analysis is best done on an areawide, watershed, or larger-area level to put the proposal into perspective.

- (2) Effects can be ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health related.
- (3) Effects include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the effect will be beneficial.

### D. Environmental Assessments

- (1) An EA is an analysis of whether a proposed action has the potential of causing a significant impact to some aspect of the human environment. The culmination of the analysis results in either a FNSI or the need for an EIS. Provide enough detail in the EA to determine whether effects are significant. Be sure to include discussions of how significance was determined for each criteria in CEQ's definition of significance in 40 CFR Section 1508.27 and the thresholds established that, when exceeded, would signal significance (see subpart D, section 610.44, in this handbook). Analysis must be commensurate with the importance or scope of the issue.
- (2) Cumulatively Significant Effects.—When preparing an EA, Federal agencies must also consider the cumulative effects of a proposed action and other alternatives. We must prepare an EIS, rather than an EA or FNSI, for proposed actions for which it is reasonable to anticipate cumulatively significant impacts. For example, if a construction project is anticipated to add a small amount of water runoff and pollutants to a local stream system that is already receiving similar increments of runoff from other actions (or from other proposed actions), the construction project's contribution added to the effects of other actions could be considered a cumulatively significant effect on water quality. More detailed information on how to conduct cumulative effects analysis can be found below.

#### E. Environmental Impact Statements

- (1) For the RFO to make an informed decision about taking a particular action or the alternatives to it, the full range of impacts of each action needs to be known.
- (2) Include discussions of the environmental impacts of each alternative, including the proposed action. Discuss all of the following:
  - (i) Any adverse environmental effects that cannot be avoided should the proposal be implemented
  - (ii) The relationship between short-term uses of the human environment and the maintenance and enhancement of long-term productivity
  - (iii) Any irreversible or irretrievable commitments of resources that would be involved in the proposal should it be implemented
  - (iv) Possible conflicts between the proposed action and the objectives of other land use plans and controls for the area concerned
  - (v) Energy requirements and conservation potential
  - (vi) Natural or depletable resource requirements and conservation potential
  - (vii) Urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential
  - (viii) Any risks associated with the actions or their impacts
  - (ix) Means to mitigate adverse environmental impacts if not already included as an alternative
- (3) Devote substantial treatment to each alternative (including the no-action alternative) so readers can evaluate the comparative merits. In addition—
  - (i) State the reasons for the conclusions.
  - (ii) State how alternatives considered in the analysis and decisions based on it will or will not achieve the requirements of NEPA and other laws and policies.
  - (iii) Include citations for all source material and technical references in the references cited section.
- (4) Wherever possible, impacts need to be quantified in units that are reproducible and easily understood by decisionmakers and the public.

#### F. Analytical Approaches

- (1) Data for analysis may be drawn from research, NRCS resource evaluation tools, professional judgment, or other sources that depict the environmental effect that resulted when a given action was applied to a given set of environmental conditions. In addition to information prepared by NRCS, include data and analysis available from sources other than NRCS. Data sources may include the following:
  - (i) Technical reports
  - (ii) Professional journals
  - (iii) Monitoring reports
  - (iv) Study results
  - (v) Professional judgment
  - (vi) Computer model results
  - (vii) Textbooks
  - (viii) Professional articles
  - (ix) Inventory data
  - (x) Symposium papers and proceedings
  - (xi) Historical records
  - (xii) RMS guide sheets
  - (xiii) Ecological site descriptions
  - (xiv) Analysis by other agencies
- (2) Soil, water, air, plant, and animal (SWAPA) resource concerns all have planning criteria in section III of the Field Office Technical Guide (FOTG). Each should have recommended assessment tools and models. For example, soil loss is measured by the Revised Uniform Soil Loss Equation (RUSLE), and wildlife habitat quality is measured either by habitat evaluation procedures (HEP) or by habitat appraisal guides.
- (3) When impacts cannot be quantified, objectively describe the impacts qualitatively. Be certain to state the reasons or cite the basis for reaching conclusions about what the effects will be. For example, reference the tool or model that was used, scientific research, tests, or the basis for best professional judgment, such as limited demonstration projects. This is to ensure that NRCS is not arbitrarily reaching conclusions without having a reasonable basis for doing so, as well as to identify gaps in scientific research. Where there is a conflict in research or information, NRCS can reach its own conclusion about what the impacts will be, but be sure to state why NRCS is accepting one position over another.
- (4) Section V of the FOTG contains impact information related to common RMSs in the local area (guidance documents), as well as the Conservation Practice Physical Effects. These documents should be updated whenever better impact information becomes available.

#### G. Data Sources and Gaps

When incomplete information is essential to a reasoned choice between alternatives with reasonably foreseeable significant adverse effects on the human environment, NRCS must obtain the information and include it in the EIS unless the costs of doing so are exorbitant or the means to obtain it are not known. If it cannot be obtained for one of these reasons, include in the EIS a statement that the information is not available and why it is relevant to evaluate reasonably foreseeable significant adverse impacts. Also, summarize existing credible, relevant scientific evidence and describe the conclusions reached about impacts based on that evidence.

#### H. Social and Economic Analysis

- (1) The human environment includes the natural and physical environment and the relationship of people with that environment. To understand those relationships, the social and economic components affected by NRCS activities need to be considered and described. Social and economic analyses are valuable planning tools because they identify areas of potential conflict and options for decisionmaking that might not otherwise be apparent. That is why NRCS planning policy always requires a review of social and economic impacts in addition to environmental impacts. A social impact assessment should be included for all EISs to determine how people will be affected.
- (2) Data describing the human aspects of the affected environment and changes to that environment include—
  - (i) Demographics.—Describe the effects of an increase or decrease in population growth on local facilities and services, neighborhood cohesion, and community stability.
  - (ii) Economically Related Changes.—Describe the effects of new patterns of employment and income on the financial stability of residents, municipal tax base, and the viability of local business and social service organizations.
  - (iii) Resource-Related Changes.—Describe the effects on natural resources upon which people depend for subsistence, employment, or recreation.
  - (iv) Cultural.—Describe the effects of demographic, economic, and resource-related changes on community institutions, traditions, and values and on the way of life of individuals in communities, including such things as the flow of foot traffic and transportation routes.
- (3) Detailed information on data collection for social components is found in Title 420, National Social Sciences Manual (NSSM), Part 500, Subpart D.
- (4) Use the social and economic components described in the “Affected Environment” section to direct assessments of impacts of a given activity on the people involved. Specific guidance on assessing impacts is found in 420-NSSM, Part 500, Subpart F.
- (4) NRCS should note that the intensity and view of whether an impact is beneficial or adverse will vary according to the affected populations, geographic location, and community economic conditions. For example, an increase in population might be beneficial in one area and adverse in another, depending on the availability of employment and housing, and the size of the community infrastructure.

#### I. Special Environmental Concerns

Human considerations and special environmental concerns that are protected by law or Executive order will generally need to be analyzed in accordance with the laws, regulations, or Executive orders established to protect them. For example, a description of wetland impacts should describe not only the acres involved, but the functions and values of those wetlands (based on a hydrogeomorphic model), and perhaps their value as wildlife habitat (according to the results of an HEP or habitat appraisal guides), as well. There might also be a need to discuss and support impacts on downstream water quality, and any other effects the wetland may have within the ecosystem. Detailed guidance to assess NRCS’s special environmental concerns can be found in subpart C of this handbook.

#### J. Cumulative Impacts

- (1) NEPA requires analysis of cumulative effects (CEQ Regulations, 40 CFR Section 1508.7); however, we often struggle with how to evaluate such efforts. As defined above, cumulative impacts, are those that result from the proposed action’s incremental impacts when added to the impacts of other past, present, and reasonably

foreseeable similar future actions. Cumulative impacts can result from individually minor, but collectively significant actions that take place over time. For example, there may be numerous small sources of air pollution in the same air basin that may result in cumulatively significant violations of ambient air quality standards.

- (2) The guidance provided here to assist with the analysis of cumulative impacts uses a variation of the model that CEQ provides in their guidance, “Considering Cumulative Effects Under NEPA.”
- (3) An EA or EIS will fully capture all impacts that exist in a natural system if all of the necessary actions are present, and the analysis of these actions that has traced out the chains of consequences (that capture all direct and indirect impacts) is included. In their 1997 publication “Considering Cumulative Effects,” CEQ recounts the principles of cumulative effects “are the total effects, including both direct and indirect effects.”
- (4) **Determining Magnitude and Significance of Cumulative Effects**
  - (i) The primary goal of the environmental analysis is to determine the magnitude and significance of the environmental impacts of the proposed action. To this end, a conceptual model is needed that defines an appropriate baseline condition (including other present actions) against which to compare predictions of effects, as well as threshold conditions for all identified resources, beyond which adverse or beneficial change would cause significant degradation or enhancement of the resource. For example, the loss of 50 percent of historical wetlands within a watershed may indicate that further losses would significantly affect the capacity of the watershed to withstand floods of certain frequency and duration.
  - (ii) Historical context and ongoing actions are critical for evaluating cumulative effects as well as developing potential restoration alternatives. Once the impacts of the proposed action and foreseeable future actions are added to the separate effects of past and present actions, cumulative effects can be evaluated. The cumulative effects on a specific resource, however, may or may not be additive. It depends on the resource and the cause-and-effect relationship between it and the proposed action.
  - (iii) The significance of effects should be determined based on context and intensity. See subpart D of this handbook for a detailed discussion of determining significance.
- (5) **Example Summary Table of Cumulative Effects**
  - (i) Figure 610-E4 provides one example of how cumulative impacts can be itemized into categories of past, present (existing), proposed, and future actions.
  - (ii) This example considers cumulative effects of the preferred alternative for a Wetlands Reserve Program project involving wetland restoration and stream channel restoration activities on a segment of the stream. There would most likely be a number of additional issues and elements of concern to consider under normal circumstances. This example considers only two: wetlands and stream temperatures. There would be one column for each element of concern. The table represents a summary of the detailed analysis that is included in the body of the NEPA document.

Figure 610-E2: Example Summary Table of Cumulative Effects

Impact Increments	Issue, Element of Concern, or Resource Concern	
–	Wetlands	Stream Temperatures

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Impact Increments	Issue, Element of Concern, or Resource Concern	
–	Wetlands	Stream Temperatures
Threshold or standard (units)	No net loss (acres)	Bull trout require 54-degree stream temperatures for spawning and rearing (State water quality standard)
Existing condition (includes impacts of past actions and natural events)	Currently there are 40 acres of wetlands onsite with limited connectivity and reduced functionality (22% of the presettlement wetlands of 183 acres determined from watershed analysis— acres lost to development and agriculture ~1% annually)	Currently an average of 58 degrees has been recorded during spawning and rearing. Past agricultural actions (clearing) and stream channelization have increased stream temperatures since presettlement (watershed analysis)
Proposed actions	Program funding to restore 13 additional acres of wetlands and enhance functions of existing 40 acres of wetlands	In the short-term, temperature will increase to 60 degrees from vegetative removal. When riparian vegetation matures (15 years) and grazing management is applied, stream temperature is expected to decrease to 54 degrees at the project site.
Other present actions	Under the preferred alternative, wetland restoration and enhancement, there will be no loss of wetlands (1% of existing wetlands within the project area have been systematically lost annually for last 5 years to accommodate current management)	Improperly managed livestock grazing in the uplands continues to contribute to increased sediment, loss of riparian canopy and decreased complexity, floodplain connectivity, and hyporheic exchange with the historic channel.
Foreseeable future actions	Three acres of existing wetlands will be lost due to construction of highway interchange	One acre of forest will be logged on uphill slope within next 5 years.
Mitigation actions	None needed for proposed action as wetlands will be enhanced and created.	Grazing management plan will be applied.
Sum of impacts of contributing	Project will exceed the standard of no net loss.	There will be negligible long-term impact on stream temperatures for

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Impact Increments	Issue, Element of Concern, or Resource Concern	
–	Wetlands	Stream Temperatures
Increments for each issue (compared to threshold or standard)	<p>Postimplementation of wetland restoration and enhancement – Increase existing total wetlands to 50 acres (25% increase from existing condition), enhance connectivity of existing wetlands, and enhancement of functions of the existing 40 acres of wetlands.</p>	<p>Spawning and rearing at the project site. Short-term increase to approximately 60 degrees, with long term decrease to approximately 55 degrees within project area (1,500-foot stream segment).</p>
Integrated effects (i.e., interactive, synergistic, temporal)	<p>In general, wetland and stream channel restoration will enhance resiliency of the hydrologic system over time to better withstand high-flow events, protecting health and safety of the local community. Wetland restoration activities as part of the proposed action could decrease stream temperatures slightly in the long-term due to enhanced vegetative cover.</p> <p>The stream segment planned for channel restoration is 1,500 feet. Currently, bull trout are not using the stream because of lack of habitat, but State wildlife agency felt that the stream would be utilized if habitat is provided. Currently the stream in question is a small feeder stream that flows into bull-trout-occupied habitat.</p> <p>The enhancements to this feeder stream will minimally impact temperatures at the project site, but the enhancements will contribute to a slight reduction in sediment and allow water to cool slightly prior to entering downstream bull-trout-occupied habitat. Therefore, although effects to stream temperatures will be minimal, there will be slight benefits to downstream bull-trout-occupied habitat.</p> <p>Although effects to onsite stream temperatures will be short-term, long-term impacts of stream temperature on bull trout will not be significant due to lack of current use and the size of the stream entering bull-trout-occupied waters. Long-term benefits will be beneficial as riparian vegetation matures; however, it is not significant as it is speculative as to whether or not bull trout will use the project stream.</p> <p>For impacts to wetlands, the proposed action, when combined with other past, present, and future actions, should result in a net increase in the number of wetland acres. The future loss of 3 acres from a proposed highway construction project should be negligible with the addition of acres from the proposed action taken by NRCS. Furthermore, acres potentially lost from the highway construction projects may result in compensatory replacement of wetlands on another area of the property.</p>	



(iii) Where—

- “Threshold or standard” represents the level of concern that applies to that specific issue or element of concern (could be a professional standard, law or regulation, biological threshold for a threatened or endangered species, etc.). Thresholds or standards that are used to determine the significance of effects will vary depending on the type of resource being analyzed, the condition of the resource, and the importance of the resource as an issue (as identified through scoping). These can be quantitative units of measure or they can be qualitative units of measure such as the visual quality of a landscape. As in the example above, a fish species of concern may require a certain minimum and maximum stream temperature to maintain viability. This standard would, therefore, represent a threshold level of temperature that you could compare when assessing impacts.
- “Existing condition” includes past actions and naturally occurring events providing a baseline against which to compare predictions of the effects of the proposed actions and alternatives. Any references that were used to make this determination should be included in the NEPA documentation.
- “Other present actions” include the impacts of all other actions occurring presently that are contributing to the cumulative impact to a specific issue or element of concern, regardless of the entity or agency implementing them.
- “Proposed actions” describe what potential impacts the present action will or may have on the specific issue or element of concern.
- “Foreseeable future actions” include the impacts of all reasonably foreseeable future actions. Remember that a “reasonably foreseeable future action” is one that has been proposed and is not speculative. It could be a similar action, a connected action, or a cumulative action.
- “Mitigation actions” describe impacts of all mitigation actions being planned beyond those already accounted for in the proposed alternative.
- “Sum of contributing increments” describes the cumulative impacts on the specific issue or element of concern after each increment is determined. It is important to remember that the cumulative effects may not necessarily be the sum of the effects of all the incremental actions. There may be a more complex cause-and-effect relationship between the actions and the issue or element of concern whereby the effects are not simply additive.
- “Integrated Effects” describe the interactions that may impact a specific issue or element of concern. Cumulative effects may not necessarily be the direct sum of the incremental actions. Therefore, it is helpful to consider impacts that may be—
  - Interactive or nonlinear. Stressors from a single source that interact with receiving biota to have an interactive net effect (for example, organic compounds that biomagnify up food chains and exert disproportionate toxicity on raptors and large mammals).
  - Synergistic. Effects arising from multiple sources that affect environmental resources in an interactive or synergistic way (for example, discharges of nutrients and heated water to a river that combine to cause an algal bloom and subsequent loss of dissolved oxygen that is greater than the additive effects of each pollutant).
  - Temporal. Since nothing in natural systems remains static over time, it is important to note what changes may occur to a resource over time if an action is implemented.

K. Tips for conducting effects analyses

- (1) Before beginning the impact analysis, ask these questions:
  - (i) What information is needed to assess the proposed action?
  - (ii) Is the information already available or must it be obtained? From what sources?
  - (iii) Which disciplines are needed on the interdisciplinary team?
- (2) Begin to determine information and data needs early in the process. Determine what data is needed and what is already available. Generally this task involves—
  - (i) Reviewing and organizing existing data.
  - (ii) Deciding what other data is needed and on what level of detail.
  - (iii) Getting more data.
- (3) Deciding if information is incomplete or unavailable.
- (4) The level of detail and types of information needed are mainly determined by the types of impacts and the extent to which the proposed action and alternatives are likely to affect the quality of the human environment. Gather enough information about the proposed action, alternatives, and the environmental setting to identify issues and analyze impacts.
- (5) Information from existing NEPA documents or other analyses should be used whenever possible to reduce the amount of new analysis needed and to increase consistency between documents. (See subpart F of this handbook for methods available to reduce the need for new analysis.) Also consider using analysis prepared by State, Tribal, or nongovernmental organizations.
- (6) Describe assumptions and assessment guidelines used in analyzing the environmental consequences, either in a separate section or before the discussion of impacts. This information gives the reader a basis for understanding and judging the reliability of the impact analysis. List any criteria, timeframes, rates of change, and other common data or ground rules for analysis that team members used in conducting the analysis. Clearly explain the methodology and assumptions used when information critical to the analysis is incomplete or unavailable.
- (7) Document the reasons or evidence on which conclusions about effects are based. This may include scientific research, demonstrations, or personal or agency experience, but others must understand what the conclusions are based on. Establish the cause and effect relationship for the impacts of the proposed action and each alternative. All actions have a cause and corresponding effects or consequences. By identifying the causes and then tracing out all the associated consequences, adequate analysis of the impacts will be achieved. Quantify the impacts to the extent possible.

L. See “Analyzing Effects of Conservation Practices” at subpart H, section 610.127, of this handbook.

M. See “Considering the Cumulative Effects of NRCS Activities” at subpart H, section 610.128, of this handbook.

## 610.71 Mitigation

A. Definition

- (1) Mitigation means to avoid, minimize, rectify, reduce, or compensate for the impact of an action or alternative on a quality or condition. Its purpose is to reduce undesired impacts of an action.
- (2) Mitigation includes one or more of the following:
  - (i) Avoiding the impact altogether by not taking a certain action or parts of an action

- (ii) Minimizing impacts by limiting the degree of magnitude of the action and its implementation
- (iii) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- (iv) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
- (v) Compensating for the impact by replacing or providing substitute resources or environments

#### B. Requirements

NEPA requires that mitigation measures be discussed in an EA or EIS that would mitigate adverse environmental impacts (40 CFR Section 1502.16(h)). All relevant, reasonable mitigation measures that could alleviate the environmental effects of a proposed action must be identified, even if they are outside the lead or cooperating agencies' jurisdictions (CEQ 40 Questions No. 19(b)).

#### C. EAs

- (1) There may be mitigation measures or alternatives that would be desirable to consider and adopt even though the effects or impacts of the proposal will not be significant. In such cases, documentation for the EE or the EA should discuss these measures or alternatives to assist NRCS planning and decisionmaking. The appropriate mitigation measures can be imposed as enforceable permit conditions, where applicable, or adopted as part of NRCS's final decision in the same manner mitigation measures are adopted in the formal ROD in the case of an EIS.
- (2) Sometimes an EA with a FNSI may indicate that the environmental effects of a proposal are significant but that, with mitigation, those effects may be reduced to less than significant levels. In such a case, an EIS is required unless the proposed action is modified to include mitigation as an integral part of the proposal. If the proposed action is modified to include mitigation after a FNSI has been published, a new EA and FNSI must be prepared.

#### D. Environmental Impact Statements

- (1) Include appropriate mitigation measures not already included in the proposed action or alternatives. A cooperating agency expressing reservations about the proposal on environmental grounds may specify the mitigation measures it considers necessary to allow the agency to grant or approve an applicable permit, license, or related concurrences. If mitigation is not included in the proposed action or alternatives, include discussions of the means to mitigate adverse environmental impacts in the environmental consequences section of the EIS.
- (2) In the ROD, state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not.
- (3) A monitoring and enforcement program must be adopted and summarized for any mitigation.

### **610.72 Monitoring and Adaptive Management**

#### A. Key Terms

- (1) Monitoring means to scrutinize, check, or watch systematically by collecting certain specific categories of information. Monitoring is critical to assess the accuracy of

predictions of effects and to ensure the success of mitigation. The purpose of monitoring is to—

- (i) Determine baseline conditions.
  - (ii) Determine whether actions were implemented.
  - (iii) Determine whether the implemented actions achieved a desired condition.
  - (iv) Validate assumptions.
  - (v) Document the findings.
- (2) Adaptive management is a decision process that promotes flexible decisionmaking and can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process (U.S. Department of Interior (DOI) Adaptive Management Working Group Technical Guide, 2009).
- (3) Adaptive management allows us to learn about the effects of the actions we take and to modify the actions to achieve the desired conditions based on monitoring results. Adaptive management recognizes that monitoring provides critical information on the progress and success of conservation practices. Resource managers and conservation planners must remain flexible or “adaptive” to adjust future management recommendations or decisions based on monitoring results.

**Example:** Adaptive management strategies are a key to the success of a variety of coordinated resource management planning efforts on broad, complex, heterogenous landscapes that are attempting to coordinate livestock grazing management across jurisdictional ownership lines (public and private) in the West. Annual monitoring of the outcome of management actions and other events provides the basis for making the kind of iterative management changes that contribute to the learning process of how best to meet the environmental, social, and economic goals of the stakeholders.

- (4) The DOI Adaptive Management Working Group sponsored the development of a technical guide (2009) that is designed to help practitioners determine when and how to apply adaptive management.

## B. Background

- (1) The 180-NPPH, Part 600, Subpart B, discusses monitoring as step 9 of the conservation planning process (“Evaluate the Plan”). In addition, it defines the concept of “follow-up” that NRCS refers to while working with customers. The definition embodies the concepts of monitoring and adaptive management.

“Follow-up is the act of maintaining contact with the client to provide timely assistance in implementing decisions, keeping current with new technology, encouraging continued implementation, updating objectives and decisions in a conservation plan, and determining the conservation effects experienced.”

- (2) The most critical stage of implementing monitoring is not data collection, presentations, or interpretation, but rather design. Many years of data can be useless unless the monitoring plan was given careful consideration. When designing a monitoring plan, attention must be given to the questions that need to be answered.

**Example:** If your intent is to monitor a wetland restoration project, you must first consider the components that drive wetland systems, such as hydrology and vegetation. Each of these components requires different kinds of data to be collected. Determining revegetation success would probably require an analysis of species

diversity (i.e., what plants are on the site) as well as density (i.e., percent cover of each species). If only species occurring on the site were collected, it would not tell you which species were dominant, which may be critical to achieving species objectives, such as habitat for migratory songbirds.

- (3) Designing a monitoring plan should involve the appropriate technical expertise. Because this knowledge may reside outside of NRCS, our partners' input should be sought. In addition, collaborative efforts with our partners, the Agricultural Research Service, the U.S. Geological Survey, and universities can enhance the quality of our monitoring and ensure success in meeting conservation objectives.

#### C. Requirements

##### (1) EA

If mitigation is used to reduce impacts so they are not considered significant (mitigated FNSI), a monitoring program must be used to ensure that the mitigation was implemented and that it achieved the reduction of impacts.

##### (2) EIS

If mitigation was adopted in the ROD, a monitoring and enforcement program must be implemented by the lead or cooperating agencies. (40 CFR Section 1505.2(c)).

#### D. Application

- (1) Monitoring is a critical part of conservation planning and implementation. Because our knowledge about ecosystem functions is often provisional and incomplete, we should view conservation practice application and management decisions as hypotheses that need to be evaluated. Monitoring allows us to adapt our management decisions to ensure success in achieving conservation objectives.
- (2) Status reviews are a very simple approach to monitoring. If conducted properly, they not only provide information on program compliance but the success of conservation practices. However, the Agricultural Conservation Easement Program, Wetland Reserve Easements, require more detailed annual monitoring because restoring ecosystems is a complex undertaking that often takes decades to establish the targeted functions and values.
- (3) Monitoring should be documented using the same techniques and measurement units each time, so that all data are comparable.
- (4) The following types of monitoring should be considered when developing any monitoring strategy:
  - (i) Implementation Monitoring.—Answer the question: Was the mitigation or practice installed according to the agreement or decision document?
  - (ii) Baseline Monitoring.—Establish the preinstallation condition in the same units and with the same techniques as will be used for future monitoring.
  - (iii) Validation Monitoring.—Answer the question: Were the assumptions made during the planning process correct?
  - (iv) Effectiveness Monitoring.—Answer the question: Were the objectives of the mitigation or practice achieved?
- (5) When developing a monitoring strategy, you should consider the following components:
  - (i) Measurable indicators of the magnitude and direction of ecological and social change
  - (ii) Appropriate timeframes
  - (iii) Appropriate spatial scales

- (iv) Means of assessing causality
- (v) Means of measuring mitigation efficacy
- (vi) Provisions for adaptive management

### 610.73 Preparing the FNSI and ROD

A. NEPA requires RFOs to consider the environmental impacts of their actions before those actions are implemented, to choose between alternatives when there are conflicts in alternative uses of available resources, and to make that information available to the public. NEPA also requires RFOs to prepare a public record of their decision on the selected alternative for implementation and the potential environmental impacts of that alternative.

#### B. Requirements

- (1) Relevant environmental documents, comments, and responses must accompany the proposal through existing agency review processes so agency officials can reference the documents in making decisions.
- (2) The decisionmaker must consider the full range of alternatives discussed in the NEPA document. See subpart D of this handbook for additional information regarding requirements of FNSIs and RODs.

#### C. Timing of Decision and Implementation of Action

##### (1) EA

- (i) We must make the EA and FNSI available for a 30-day public review period in the following circumstances:
  - The proposed action is, or is closely similar to, one that normally requires the preparation of an EIS.
  - The nature of the action is unprecedented.
  - The public was not involved in the preparation of the EA.
- (ii) When availability for public comment is not required, NRCS will involve the public in the preparation of the EA. We may then take action upon completion of the EA and publication of the FNSI. If there are controversial circumstances, NRCS should consider allowing a 30-day review and comment period when feasible. The purpose of the comment period is to allow time for the public to raise concerns about issues not already analyzed in the EA and to provide reasons why a FNSI is not appropriate and an EIS should be prepared.
- (iii) When proposed actions are located in wetlands or floodplains, a period of public review of the FNSI is required (CEQ “Forty Most Asked Questions” #37(b)). The State Conservationist may determine the length of time afforded for public review of the FNSI in these situations. However, to ensure adequate public review, the FNSI should be made available for at least 15 days.

##### (2) EIS

When an EIS has been prepared, no decision on the proposed action may be made or recorded until the later of the following dates:

- Ninety days after publication of the NOA of the draft EIS in the Federal Register
- Thirty days after publication of the NOA of the final EIS in the Federal Register
  - If the final EIS is filed within 90 days after a draft EIS is filed with the U.S. Environmental Protection Agency (EPA), the minimum 30-day period and the minimum 90-day period may run concurrently.

- NRCS must allow no fewer than 45 days for comments on draft EISs. Where emergency circumstances make it necessary to take an action with significant environmental impact without observing the provisions of the CEQ regulations, NRCS should consult with the CEQ about alternative arrangements.

(3) An illustrated graphic of the review timeframes for EA FNSIs and EIS RODs in subpart H, section 610.129, of this handbook.

#### D. Documenting the Decision

After an EIS has been made available for the required period of time, the decision must be documented in a concise public ROD. For an EA where a determination has been made that there are no significant impacts, a FNSI provides public documentation of the RFO's decision. See subpart D of this handbook for additional information regarding these topics.

#### E. Tips for NRCS Decisionmaking

- (1) When NRCS assists with individual conservation planning, the client selects conservation alternatives based on NRCS technical advice. This involves comparing alternatives and selecting one or more alternatives for implementation based on the client's understanding of the environmental and economic impacts.
- (2) When NRCS is asked for financial assistance to implement an alternative, NRCS makes a decision whether or not to fund that alternative or to offer to fund a different alternative.
- (3) NEPA documentation is required to support this funding decision, because that is the action that NRCS controls. Funding of the client's selected alternative becomes the proposed action for NEPA purposes, but NRCS must not agree to fund that alternative if it is inconsistent with NRCS conservation objectives and other environmental requirements.

### **610.74 Distribution and Publication of Environmental Documents**

#### A. Requirements

- (1) Environmental documents must be made available to the public and notice must be published of the availability of all environmental documents. A table is provided at the end of this section summarizing where notices of various environmental documents are to be published and what agency is responsible for the publication. See section 610.68 above for information about addressing public comments.
  - (i) If the effects of the proposed action are of local or statewide concern only, the notice need only be published locally or statewide, as applicable, and distributed directly to interested parties.
    - NRCS is responsible for publishing notices of availability of the EA and FNSI, and NOI ROD for actions of local concern in media likely to reach those who may be interested in the proposed action, including in newspapers of general circulation, in newsletters, and on NRCS Web sites. At least one notice must be published in a newspaper with local or statewide circulation.
    - Notice of the availability of an EA or EIS for public review should also be—
      - Submitted to interested State and local agencies.
      - Submitted to Indian Tribes if they are interested.
      - Published in local newspapers or distributed through other local media.

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- Provided to potentially interested community organizations, including small business associations.
  - Published in newsletters that may be expected to reach potentially interested persons.
  - Mailed directly to owners and occupants of nearby or affected property.
- (ii) If the effects of an action are of national concern, NRCS is responsible for publishing the notice of the public availability of an EA or EIS in the Federal Register, and for mailing notices to national organizations reasonably expected to be interested. See paragraph B below for instructions to publish in the Federal Register.
- (iii) Public notices of the availability of all draft, final, and supplemental EISs are published in the Federal Register by EPA, regardless of whether the concerns are local or national in scope. In some cases, EPA also publishes notices of the availability of EISs being adopted. (See paragraph E below for information on submitting environmental documents to the EPA.)
- (2) Environmental documents must be publically available prior to or concurrent with the publication of a notice of their availability. The published notice must state how the document can be obtained electronically and provide contact information for requesting a hard copy.
- (i) Draft and final EISs must be furnished in their entirety to Federal, State, local, and Tribal agencies with jurisdiction by law or special expertise and any person, organization, or agency requesting the entire EIS. Final EISs must be furnished to persons, organizations, or agencies that submitted substantive comments on the draft EIS.
- (ii) Consider furnishing other environmental documents (i.e., EA, FNSI, ROD) to the entities listed above and to all persons, organizations, or agencies which participated in scoping.
- (3) Proof of publication of notices and lists of document recipients should be kept as part of the administrative record (see section 610.75 below.)

### B. Procedures for Publishing Notices in the Federal Register

- (1) Title 340, Regulatory and Publication Handbook (RPH), outlines specific instructions to assist staff with the development, oversight, and coordination of NRCS notices for publication in the Federal Register. Notices should not be mailed directly to the Office of the Federal Register. Instead, NOIs, RODs, and NOAs of an EA and FNSI must be sent to: Director/Federal Register Liaison Officer, Office of Strategic Planning and Accountability, Compliance Division, USDA/NRCS/REAPD, 5601 Sunnyside Avenue, GWCC Building 1-1112D, Beltsville, MD 20705.
- (2) Use the following procedures for processing documents for publication after they have been developed and signed per 340-RPH instructions:
- (i) Submit, along with a cover letter, three doubled-spaced, single-sided paper copies printed from a Microsoft Word document, each individually signed with original signatures in blue ink.
- (ii) Include one CD-RW disk with an exact copy of the publication in Microsoft Word format. No other formats will be accepted. Please do not include additional files on the disk.
- (iii) Submit the complete package to the Federal Register liaison officer at the address above.
- (3) Allow 3 to 5 business days for processing.
- (4) If you have questions, contact the Federal Register liaison officer. Contact information for the Federal Register liaison officer is available on the NRCS



Environmental Compliance Web page under the heading “NRCS NEPA Regulations, Guidance, Documents, and Tools”:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/nra/ec/>

- (5) A NOA need not be prepared for draft, final, and supplemental EISs. EPA will prepare the appropriate notices and forward them to the Office of the Federal Register for publication upon receipt of the documents from NRCS (see section 610.74F below).
- (6) See subpart H, section 610.131, of this handbook for a sample NOA and subpart H, section 610.132, for a sample NOI.

C. Publishing an NOI to Prepare an EIS

D. EISs

- (1) The entire EIS is to be circulated unless it is unusually long, in which case only the summary may be circulated. The entire EIS will be furnished to the following:
  - (i) Any Federal agency that has jurisdiction by law or special expertise with respect to any environmental impact involved and any appropriate Federal, State, Tribal, or local agency authorized to develop and enforce environmental standards
  - (ii) The applicant, if any
  - (iii) Any person, organization, or agency requesting the entire EIS
  - (iv) In the case of the final EIS, any person, organization, or agency that submitted substantive comments on the draft
  - (v) The applicable EPA regional office
  - (vi) The EPA e-NEPA electronic filing system, also known as the Central Data Exchange (eNEPA) (<https://cdx.epa.gov/>) according to the instructions below
  - (vii) For Watershed Program projects, the DOI, as directed in Title 390, National Watershed Program Manual
- (2) Notice of the availability of the EIS must be published in statewide and local newspapers in the affected area. Specific requirements of State laws concerning legal notices will be followed.

E. File Draft, Final, Adopted, and Supplemental EISs with EPA

- (1) CEQ regulations (40 CFR Section 1506.9) require Federal agencies to file draft, final, adopted, and supplemental EISs with EPA. The EISs must be filed no earlier than they are transmitted to commenting agencies and made available to the public.
- (2) NRCS files draft, final, and supplemental EISs with EPA electronically through the EPA e-NEPA (<https://cdx.epa.gov/>).
- (3) Adopted EISs are filed with EPA through e-NEPA in cases where NRCS was not a cooperating agency in preparation of the EIS. EPA will publish an NOA in the Federal Register to announce a comment and review period for the adopted EIS. If NRCS was a cooperating agency on the EIS, the document does not need to be circulated for public comment or review or filed through e-NEPA. However, EPA must be notified by email to [EISfiling@epa.gov](mailto:EISfiling@epa.gov) when NRCS adopts such an EIS to ensure the official EIS record is accurate.
- (4) Use of e-NEPA for electronic filing of EISs does not change any of the requirements for distribution of EISs to other Federal agencies for review, including EPA regional offices, or the general public. If EPA receives an EIS for official filing and NRCS has not completed transmittal of that EIS to interested agencies and members of the public, EPA will not publish a NOA in the Federal Register until assurances have been given that the transmittal process is complete. Completion of an EIS distribution is verified through e-NEPA. If EPA discovers that a filed EIS has not

been transmitted, EPA will issue a notice with the weekly NOAs retracting the EIS from public review of the EIS until the transmittal process is completed. After the transmittal process has been completed, EPA will reestablish the filing date and the minimum time period, and will publish this information in the next NOA.

- (5) The minimum time periods for public review of EISs set forth in 40 CFR Sections 1506.10 (b), (c), and (d) are calculated from the date EPA publishes the NOA in the Federal Register. Time periods do not end on the weekends or Federal holidays, and will be extended to the next working day. NRCS often publishes a date by which all comments on an EIS are to be received; such actions are encouraged. However, NRCS should ensure that the date used is based on the date of EPA's publication of the NOA in the Federal Register.

#### F. How to Electronically File an EIS using e-NEPA

- (1) Register with the e-NEPA electronic filing system. Go to [https://cdx.epa.gov/epa\\_home.asp](https://cdx.epa.gov/epa_home.asp) and select "Register with CDX." Registration for e-NEPA is only open to Government employees.
- (2) After registration is complete and your account is activated, ensure the EIS pdf documents to be submitted meets EPA's formatting and file size requirements. See "[e-NEPA Guide on Registration and Preparing an EIS for Electronic Submission](http://www2.epa.gov/nepa/environmental-impact-statement-filing-guidance)" available at <http://www2.epa.gov/nepa/environmental-impact-statement-filing-guidance> for details.
- (3) When you are ready to submit your document, return to <https://cdx.epa.gov> and log in with your username and password. Click on "Submit an EIS." Complete the "EIS Filing Form" and "PDF Checklist," then click "Submit." You will be prompted to digitally sign the uploaded files. Once signed, you will receive a confirmation email verifying your signature and submission.
- (4) EISs, including comments and responses, are to be filed with EPA's Office of Federal Activities no earlier than they are transmitted to commenting agencies and made available to the public.

#### G. ROD

The ROD may not be prepared until the EIS has been available at least 30 days. Notice of the ROD's availability is published in the Federal Register for actions of national concern, and should also be published in the same newspapers in which the NOI was published. Send notices for publication in the Federal Register to the Federal Register liaison officer for review, and transmission to the Office of the Federal Register. For actions of local concern, the NOA is to be published in the same newspapers in which the NOI was published or other appropriate local media.

**Note:** The RFO, at his or her discretion, may publish NOAs in the Federal Register for actions of local concern.

#### H. EAs and FNSIs

EAs and FNSIs are concise public documents that must be made available to the public. If the proposed action is of national concern, an NOA of an EA and FNSI is to be published in the Federal Register. Send these notices to the Federal Register liaison officer for review and transmission to the Federal Register. In all other cases, for proposed actions that are of local or regional concern, an NOA should be published in appropriate local news media. Consider publication in appropriate newsletters and other media, as well, in order to inform those persons and agencies who may be interested or affected. Provide notice by mail to persons, agencies and organizations reasonably

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expected to be interested in the matter. EAs and FNSIs should be distributed for review and comment to all cooperating agencies and others who assisted in the preparation of the document, and all others who specifically request a copy. Single copy requests for the document are to be filled without charge.

Figure 610-E5: Summary Guidance on Publishing NEPA Documents

NEPA Document	Scope of Concern (National, State, Local)	What is Published	Where is Published		Agency Responsible for Publication
			Federal Register	Local** Media	
NOI	All - N, S ,L	NOI	X	X	NRCS
Draft EIS	All - N, S ,L	NOA	X		EPA
Draft EIS	S, L	NOA	X*	X	NRCS
Final EIS	All - N, S ,L	NOA	X		EPA
Final EIS	S, L	NOA	X*	X	NRCS
Supplemental EIS	All - N, S ,L	NOA	X		EPA
Supplemental EIS	S, L	NOA	X*	X	NRCS
ROD	N	NOA	X	X	NRCS
ROD	S, L	NOA		X	NRCS
Draft EA (optional)	N	NOA	X		NRCS
Draft EA (optional)	S, L	NOA		X	NRCS
EA/FONSI	N	NOA	X		NRCS
EA/FONSI	S, L	NOA		X	NRCS
<p>* For all EIS documents, notice is published by EPA in the Federal Register. NRCS is responsible for publication of notification in local media.</p> <p>** “Local media” may be State, regional, or local, as appropriate to the scope of the action.</p>					

**Note:** Certain programs have specific requirements for distribution and publication of NEPA documents that may vary from what is shown above.

### 610.75 Judicial Review of NEPA Compliance

A. NRCS does not provide an appeals process for those who are dissatisfied with NRCS's NEPA process. The only recourse for individuals or organizations is to file a lawsuit. Agency decisions usually must be considered final, meaning NRCS has issued a final EIS and ROD, or final EA and FNSI, before a lawsuit may be filed.

B. NEPA is a procedural law that allows agencies broad discretion for decisionmaking. Legal challenges to an agency's compliance with NEPA are based on whether procedures established in statute and regulations were followed. A court's determination will generally be based upon a review of the administrative record (see section 610.76 below). If proper procedures were not followed, the court may prevent an agency action from being implemented while the agency takes steps to complete the process appropriately.

### 610.76 Administrative Record

A. The administrative record is a set of documents that supports the decisionmaking process.

This is the agency's collection of the evidence that proves that RFOs—

- (i) Understood the law applying to the decision.
- (ii) Considered all the relevant factors.
- (iii) Made a reasoned decision.

B. Its purpose is to reflect what the agency did and why it did it. It should reflect the process the agency used to arrive at its decision as well as what the decision was. It should reflect both the factors that support the decision and the factors contrary to the decision and how the agency handled them.

#### (1) Background

The biggest mistake made in putting together administrative records is omission. Omission generally means there is a lack of explanation of the reasons for an action or decision. When the basis for decisions is not explicitly disclosed by the agency, the court is free to draw its own conclusions, including the conclusion that the agency acted arbitrarily. When a particular law or regulation requires the consideration of specific factors, the administrative record must reflect those factors and how they were considered. Otherwise, if the decision is challenged in court, omission of a single factor can mean the agency's decision will be overturned.

#### (2) Requirements

- (i) An administrative record should show that the agency considered the relevant factors and articulated a rational connection between the facts found and the choice made.
- (ii) An administrative record should support the agency's action with substantial evidence.
  - Evidence is substantial if a reasonable person might accept it as adequate to support a conclusion.
  - Evidence is not substantial if it is overwhelmed by other evidence or if it constitutes mere conclusion.
- (iii) See Title 180, National Food Security Act Manual, Parts 510 to 520, and other appropriate program manuals for more specific information on what should be included in the administrative record. See also Title 120-GM, Part 408, Subpart D, Section 408.63B, for information on disposition of records related to conservation planning.

- (3) Application
  - (i) You are authorized to keep as many records as you need. The Federal Records Act is broad enough to support your keeping any documents you need to keep in order to do your job.
  - (ii) Keep what you need to keep; do not keep documents unintentionally. What you do not wish to keep should be destroyed effectively. Stacks, piles, and boxes of documents may wind up in the administrative record if they are still around when the final record is collected.
  - (iii) What you keep goes into the administrative record. If it's important enough to keep it, it probably will be deemed important enough to put it into the record. Eliminate duplicates to keep the size of your administrative record manageable.
  - (iv) You might wish to create documents. If it's not in the administrative record, it probably does not exist. Written proof is usually the only proof, and the administrative record is the only place for the proof.
  - (v) Copies on computer disks are copies, as well. Whether you intend to keep it or destroy it, remember that there may be a copy on your hard drive, backup tape, archival disk, server, floppy in the bottom of the drawer, on that disk you sent to a colleague early in the project.

## **610.77 Reviewing Other Agencies' Environmental Documents**

### **A. Introduction**

- (1) Federal agencies may request NRCS to review their environmental documents. The purpose of this section is to establish a method for NRCS reviewers to examine other agencies' EISs. The intent is for this method to be based on consistent criteria, which will deliver uniformity in responses across the country.
- (2) NRCS employees who are assigned to review environmentally related documents—in this case EISs—must be familiar with NRCS policies and guidelines related to NEPA. When responding to EISs, comments must be objective, with the intent to offer suggestions that help minimize adverse impacts. Here, it is important for NRCS to make sure the lead agency has considered all areas of environmental impact. The expertise that NRCS has in many natural resource areas is why the agency is required to review EISs.
- (3) The FOTG, soil surveys, field investigation reports, and other resource material developed by NRCS and other groups should be used and cited. It is not intended that special surveys or investigations be conducted to acquire additional information for use in preparing comments. It is important to reference or cite materials used when responding to requests to review and comment on EISs.

### **B. Requirements**

- (1) Section 102(2)(C) of NEPA obligates an agency preparing an EIS to “consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved,” and to make the EIS and agency comments available to interested parties. The review process provides opportunities for a full scrutiny and critique of the lead agency's environmental analysis methods and its rationale for selecting a proposed action. It also provides a forum for opposing views and can be a source of new information.
- (2) 7 CFR Section 650.20 further obligates NRCS to review and comment on EISs prepared by other Federal agencies.

- (3) NRCS might be asked to review and comment on environmental assessments or other documents received from other agencies. NRCS is not required to comply with that request, according to CEQ requirements. However, NRCS's response should be based upon staff availability, project location, applicability, or interest.
- (4) A reply to the lead agency should be made within 30 days or the time period provided for comments when asked to review an environmental document.

C. Application

- (1) Specific to NRCS, the following are the minimum issues that NRCS should evaluate when reviewing an EIS prepared by another Federal agency:
  - (i) Soil suitability and limitations
  - (ii) Provisions for erosion, sediment, and dust control
  - (iii) Considerations for soil and water conservation management systems
  - (iv) Water discharges
  - (v) Effects of disruption to the natural drainage patterns and severance of private land units
  - (vi) Impact on previously installed soil and water conservation management systems
  - (vii) Impacts on prime and unique farmland
  - (viii) Impacts on ecosystems
  - (ix) Impact on other NRCS-related projects
- (2) To provide the NRCS reviewer with the best possible tools to consistently address environmental consequences of the proposed project outlined in the EIS, interpretations of these concerns are provided below in greater detail. These examples are in the form of questions that the reviewer can use to help answer what the environmental impacts could be. These questions are aids and are by no means all-inclusive. Each State office will more than likely have this expertise and more on staff.
  - (i) Soil Suitability and Limitations for the Proposed Action.—Would the alternatives being proposed have another route, location, or layout that could minimize land use problems and adverse environmental impacts related to soils? Have the soils' productivity, capability, and erodibility been adequately considered in this EIS?
  - (ii) Provisions for Erosion, Sediment, and Dust Control Prior to and During Project Construction.—Are there resources downstream that would be affected by sediment from the construction area? Does the EIS provide for adequate control measures? Will lack of erosion or dust control cause air pollution or visibility problems? Is the stockpiling of topsoil for future use considered? Are seeding periods outlined and nonseeding times? Are air resources adequately considered in this EIS?
  - (iii) Considerations for Soil and Water Conservation Management Systems and Measures on Project and Adjacent Lands.—Typically, these areas would be rights-of-way, access roads, and borrow areas. Does the EIS indicate that long-lasting soil and water conservation practices are to be installed and maintained? Are there conservation measures that can be recommended to reduce negative environmental impacts?
  - (iv) Water Discharges From Project Area to Offsite Locations.—What effect (consider positive and negative) will water leaving the site or a nearby area have once the project is completed? What happens if the project isn't installed? Will those discharges cause erosion, flooding, or pollution problems? Is there an environmental impact to water quality, streamflow, floodplains, wetlands, groundwater recharge, or irrigation systems?

- (v) Effects of Disruption to the Natural Drainage Patterns and Severance of Private Land Units.—Does the EIS indicate that drainage patterns will be maintained, altered, enhanced, or negatively affected? Will bridges, culverts, or other structures, if installed, cause flooding problems or restrict nearby land use in some fashion? Does this EIS consider that private land ownership units could be severed from contiguous tracts?
- (vi) Impact on Previously Installed Soil and Water Conservation Management Systems.—To what extent will conservation systems be altered or severed? Will outlet structures or features be inoperable if this project is installed? Will new and better conservation systems be installed? Will livestock operations or facilities affect or be affected by this project? Will the project affect or be affected by a livestock operation?
- (vii) Impacts on Prime and Unique Farmland.—Would an alternative location or route require less prime farmland to be converted? Does the EIS consider secondary effects on prime farmland? In other words, if prime farmland is not directly converted, but the project is installed, will the project make farming impractical or impossible? What benefits or consequences are anticipated if the prime farmland is converted?
- (viii) Impacts on Ecosystems.—Does the EIS describe impacts on major plant communities, and terrestrial and aquatic ecosystems? Are vegetation components considered (forest, range, threatened and endangered plants, biodiversity, noxious weeds, and fuel load for prescribed and wildfires)?
- (ix) Impact on Other NRCS-Related Projects.—Does NRCS have any current or planned projects in this project area that will or could be impacted? Does this EIS consider those NRCS projects? Are there any NRCS projects within the watershed that could be impacted by this action? Are you aware of cultural resources that are in the vicinity of the project area?

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### Subpart F – NEPA Tools for Efficiency

#### 610.80 Incorporating by Reference

##### A. Introduction

- (1) Incorporation by reference is a technique used to avoid redundancies in description or analysis and to reduce the bulk of a National Environmental Protection Act (NEPA) document. Both environmental assessments (EAs) and environmental impact statements (EISs) may incorporate previous material by reference. The lead agency may incorporate reference materials from other sources when preparing a NEPA document. These materials are not necessarily limited to other NEPA documents.
- (2) Reference materials may include—
  - (i) Material from NEPA documents for other proposed actions with similar environmental effects.
  - (ii) Special technical or professional studies and analyses prepared by NRCS or other Federal, State, local, or Tribal agencies, or by private interests.
  - (iii) Documents prepared for compliance with other Federal laws.
  - (iv) Documents prepared in compliance with State environmental laws (a.k.a., “mini-NEPAs”).

##### B. Requirements

- (1) Material incorporated by reference must be summarized in the NEPA document.
- (2) Briefly describe the content of the document being referenced.
- (3) No material may be incorporated by reference unless it is reasonably available for inspection within the time allowed for comment. (40 CFR Section 1502.21).
- (4) Proprietary data is not to be incorporated by reference.

##### C. Application

- (1) The EA or EIS must name documents that are incorporated by reference and should state where the public may review them or obtain copies of them. A full bibliographic citation of all materials incorporated by reference should be presented in the “References Cited” section.
- (2) Relevant portions of the incorporated analysis must be referenced by page number and summarized in the EA or EIS to the extent needed to give the responsible Federal official (RFO) and the public an understanding of the significance of the referenced material to the current analysis. Incorporation by reference should not result in a loss of comprehension to the reader. The NEPA document must be able to stand alone; it must provide enough analysis to allow the reader to follow the analysis and arrive at a conclusion.
- (3) Material incorporated by reference must be reasonably available for inspection by potentially interested persons within the time allowed for comment. The manager responsible for preparing the EA or EIS must determine how to satisfy this “reasonably available” standard. If the document is not or cannot be made readily available, then it may not be incorporated by reference.



## 610.81 Tiering

### A. Introduction

- (1) The purpose of tiering is to eliminate repetitive discussions of the same issues and avoid duplication of paperwork. In general, tiering is a process by which an agency can reduce and eliminate repeating content of a NEPA document that already appears, or will appear, in another of the agency’s NEPA documents. This can happen when using content from an earlier stage or phase while developing NEPA documents at a later one (temporal tiering) or when assessing projects or planning from a larger scale to a smaller site-level scale. In that case, broad analyses that cover a larger spatial scale can be incorporated by reference when subsequent analyses are conducted.
- (2) In NRCS, tiering can be thought of as the coverage of general matters in broader EISs or EAs (such as national, State, or areawide program or policy NEPA documents prepared for the Environmental Quality Incentives Program (EQIP), Agricultural Conservation Easement Program (ACEP), etc.) with subsequent narrower documents or environmental analyses (such as regional or basinwide program NEPA documents or ultimately site-specific NEPA documents). In such cases, incorporate by reference the general discussions and concentrate solely on the issues specific to the analysis subsequently prepared. To incorporate by reference, briefly summarize in the tiered document to such a degree that the reader can understand context of material being incorporated by reference. The original referenced document must also be made available for inspection.
- (3) Figure 610-F1 illustrates the use of tiering.

Figure 610-F1: Example of Tiering

<b>Tier</b>	<b>Document</b>	<b>Focus of Document</b>
Tier 1	National programmatic EA or EIS (e.g., EQIP EA)	Analysis informs development of implementing regulations Analyzes broad impacts of implementation alternatives nationally Broad discussion of mitigation measures inherent in policy
Tier 2`	Regional, statewide, or watershed EA or EIS (e.g., New England and New York regional EA)	Incorporation by reference of tier-1 material Scaled-down setting and impacts Increased specificity of mitigation measures and performance criteria
Tier 3	Project-level EA or EIS (e.g., project plan where there are potential site-specific extraordinary circumstances)	Incorporation by reference of tier-2 materials Project site setting and impacts Project-specific mitigation measures

## B. Requirements

- (1) Although NEPA does not require tiering, NRCS is strongly encouraged to tier its environmental analysis documents to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review. Note that an agency may only tier to its own NEPA documents. NEPA documents prepared by another agency must be officially adopted by NRCS (see Section 610.83, “Adopting Another Agency’s EA or EIS,” below) before NRCS may utilize them in the tiering process. Whenever a broad EA or EIS has been prepared and a subsequent statement or assessment is then prepared on an action included within the entire program or policy (such as a site-specific action)—
  - (i) Summarize the issues discussed in the broader NEPA document.
  - (ii) Incorporate discussions from the broader NEPA document by reference.
  - (iii) Concentrate on the issues specific to the subsequent action.
  - (iv) State where the earlier document is available or attach a copy of the document.
  - (v) Thoroughly analyze actions or impacts not already analyzed in the previous EA or EIS. Discuss similarities and differences in actions and document the reasons for concluding the impacts will be similar.
- (2) “Tiering” of Form NRCS CPA-52, “Environmental Evaluation Worksheet,” to Programmatic NEPA Documents
  - (i) Although the NRCS EE documented on the NRCS CPA-52 is not considered to be a formal NEPA document, NRCS regulations, as depicted in figure 1 at 7 CFR Section 650.5, allow NRCS RFOs to determine whether a site-specific EA or EIS should be prepared for an action or whether the action can be tiered to an existing programmatic EA or EIS. The determination of whether a site-specific EA or EIS should be prepared after the EE has been completed should be based on whether—
    - There are significant issues or impacts to resource concerns that have not been adequately evaluated in an existing NRCS programmatic EA or EIS.
    - An EA or EIS is required by NRCS regulations at 7 CFR Sections 650.7 or 650.8.
  - (ii) If an EA or EIS is not required by sections 650.7 or 650.8, then NRCS should consider preparing an EA or EIS at the site-specific level for any other actions if warranted by the context and intensity of the anticipated impacts, considering the significance criteria in found in 40 CFR Section 1508.27 and described in subpart D, section 610.44, of this handbook. Careful consideration should be given to situations where impacts surpass regulatory defined thresholds or standards, such as water or air quality standards, greenhouse gas emission threshold levels, etc., or there are other issues or circumstances present that warrant a more in-depth analysis through a site-specific EA or EIS. The potential for significant impacts to protected resources that will require consultation are another indication that a site-specific EA or EIS should be considered.

## C. Application

- (1) Tiering is appropriate when the sequence of NEPA documents or analyses is as follows. Figure 610.F2 provides additional examples and guidance.
  - (i) From a program, plan, or policy EA or EIS to a program, plan, or policy NEPA document or analysis of lesser scope or to a site-specific NEPA document or analysis.
  - (ii) From an EA or EIS on a broad action (such as an NRCS program, policy, or areawide NEPA document) to a subsequent EA or EIS on an action included

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within the entire program, policy, or areawide document (such as a site-specific action). Tiering in such cases is appropriate when it helps the lead agency to focus on issues that are ripe for a decision and exclude from consideration issues already decided or not yet ripe for a decision.

- (iii) From an EA or EIS on a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent NEPA document or analysis at a later stage (such as environmental mitigation).

Figure 610-F2: Actions Already Analyzed

<b>If the proposed action is—</b>	<b>And the impacts already analyzed are—</b>	<b>Then cite the other NEPA document and—</b>
The same as an action already analyzed and discussed in an existing NEPA document	The same as those discussed in the existing NEPA document	Indicate that the action is the same as one described in an existing NEPA document, that the impacts of the proposed action are expected to be the same as those discussed in the other document, and discuss the reasons for expecting the same impacts.
The same as an action already analyzed and discussed in an existing NEPA document	Similar to but not the same as impacts discussed in an existing NEPA document for the same action	Indicate that the action is the same as one described in an existing NEPA document, identify the impacts that were already discussed, and analyze and discuss differences in the impacts and reasons for the differences. Consider preparing an EA.
Similar to but not the same as an action discussed in an existing NEPA document	The same as those discussed in the existing NEPA document	Indicate how the proposed action is similar to but not the same as the action discussed in an existing NEPA document, state that the impacts are expected to be the same, and discuss the reasons for expecting the same impacts.
Similar to but not the same as an action discussed in an existing NEPA document	Similar to but not the same as impacts discussed in an existing NEPA document for the same action	Indicate how the proposed action is similar to but not the same as the action discussed in an existing NEPA document, identify the impacts that were already discussed and analyze and discuss differences in the impacts and the reasons for the differences. Consider preparing an EA.

(2) Citation and Summary of Issues

Cite the document being tiered to by naming the document, identifying the authors, and the date it was issued. Attach the document or relevant pages or indicate where a copy of the document can be obtained. Briefly summarize the relevant issues discussed in the existing NEPA document.

(3) Persons and Agencies Consulted

If site-specific circumstances are such that compliance requirements for other laws, regulations, Executive orders, etc. will need to be addressed, list the persons and agencies contacted or consulted about the proposed action so it is clear appropriate environmental reviews have occurred.

## 610.82 Supplementing an Existing EA or EIS

A. An existing EA or EIS may be supplemented to provide additional information, analysis, and material. The purpose of supplementing is to analyze actions, alternatives, or relevant information not analyzed in an existing draft or final EA or EIS. For example, if new information about a project comes to light, a supplement may be needed to evaluate and incorporate this additional information into the decision making process.

B. Requirements

Supplements must be prepared to either draft or final EAs or EISs if either of the following occur:

- (i) NRCS makes substantial changes in the proposed action that are relevant to environmental concerns.
- (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

C. Application

(1) Supplementing Guidelines

- (i) Name the draft or final EA or EIS being supplemented and say why the supplement is needed (e.g., significant new circumstances or information relevant to environmental impacts, or substantial changes to the original proposed action).
- (ii) The mere passage of time does not necessarily trigger the need for a supplement to an EA or EIS, although an EA or EIS that is more than 5 years old should be scrutinized closely to determine whether a supplement should be prepared.
- (iii) Also note that NRCS may choose to prepare a supplement to an EA or EIS any time it believes doing so will further the purposes of NEPA.
- (iv) In order to support a decision not to supplement, Federal agencies are expected to provide a statement of explanation after carefully considering all information relevant to an action as well as to evaluate impacts. In general, courts will uphold an agency's decision not to supplement an EA or EIS if the decision is reasonable. In this case, NRCS should prepare a "Memo to the Administrative File" that documents this decision and why.
- (v) Prepare, circulate, and file a supplement to an EA or EIS in the same fashion as the draft or final assessment or statement was. There is no need to repeat the scoping process. Therefore, no additional notice of intent (NOI) is necessary. However, supplemental EISs must be filed with the U.S. Environmental Protection Agency (EPA). (See subpart E, section 610.74E, of this handbook).
- (vi) The finding of no significant information (FNSI) and record of decision (ROD) on the supplement should define its relationship to the previous FNSI and ROD.

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- (vi) If the public raises concerns that a supplemental EIS is needed and NRCS disagrees, document the reasons a supplement is not needed and make a finding of no significant change in actions, circumstances, or information that has a bearing on environmental effects. This finding should be documented in a memo to the administrative file.
  - (vii) When NRCS supplements a draft EIS, incorporate the supplement into the text of the final EIS. The supplement should focus only on those sections that require updating. The supplement does not have to repeat information from the prior version of the EA or EIS.
  - (viii) Refer to Title 390, National Watershed Program Manual, Parts 500 to 506, and Title 390, National Watershed Program Handbook, Parts 600 to 606, for guidance on supplementation of watershed plan EAs and EISs (Public Law-566 and Public Law-534)
- (2) The following are examples of circumstances under which supplementing an EIS may be appropriate:
- (i) Significant Changes to the Proposed Action and New Technology
    - NRCS prepares an EIS to support a proposal to riprap an extensive length of stream bank to address a need to reduce the severe stream bank erosion concerns, but the work does not begin immediately.
    - Strong public support develops for using bioengineering instead of riprap. NRCS did consider bioengineering techniques as one of the alternatives in the original EIS, but at the time there was little information about the stability of those techniques. Now there is substantial new information about the effects of bioengineering techniques, as well as the effects of riprap on stream temperature and aquatic habitat.
    - Rather than starting the NEPA process from the beginning, NRCS may supplement the previous EIS to incorporate the new information that has become available and document the changed circumstances.
  - (ii) Significant New Information
    - NRCS prepares a programmatic EIS to support wetland restoration efforts within a watershed and makes certain assumptions based on its understanding of the hydrology of wetlands and their connection to groundwater and surface water flows.
    - New hydrogeologic models become available indicating that the original assumptions are not correct.
    - NRCS should supplement the existing EIS.
  - (iii) Significant Changes to the Proposed Action
    - NRCS had originally proposed removing several fish barriers and improving riparian vegetation and channel conditions in a small watershed and evaluated this in an EA. The action would result in improved water quality and fish habitat.
    - Ten years later, the project was not fully implemented and the decision was made to expand the project to include the removal of several additional fish barriers by replacing several culverts. During the last 10 years, two additional fish species had been listed as threatened. Also, the original EA had not adequately analyzed impacts that may occur as a result of the additional barrier removals being proposed.
    - Rather than start a new NEPA process, NRCS may supplement the previous EA to incorporate analysis of the additional proposed actions, and should include any consultation required by the Endangered Species Act to

accommodate the threatened fish species. However, depending upon the degree of changes that have occurred in the last 10 years and the magnitude of change associated with the project expansion, it may be easier to prepare a new EA or EIS.

- (3) The following is an example of a circumstance under which a memo to the administrative file is sufficient, and a supplemental NEPA document is not necessary:
  - (i) NRCS prepares an EIS to support the removal of several dikes to restore natural wetland conditions along a river to its original functions to enhance fish habitat and flood control.
  - (ii) During the implementation phase of the project it was determined that it would be difficult to accomplish dike removal using heavy machinery as planned since the soils would not accommodate the weight of the machinery. The decision was made to use explosives to remove existing dikes instead of machinery. After taking a “hard look” at the alternatives and carefully evaluating the impact of this change, it was determined that the change was environmentally insignificant.
  - (iii) In this case, a statement of explanation in the form of a memo to the administrative file is adequate to support the decision.

D. See subpart H, section 610.134, of this handbook for the “NEPA Supplementation Review and Documentation Checklist.”

E. See subpart H, section 610.135, of this handbook for the “Sample Completed Supplementation Worksheet.”

### 610.83 Adopting Another Agency’s EA or EIS

A. NRCS may adopt a draft or final EA or EIS prepared by another Federal agency, Tribal agency, or by a State (“mini-NEPA”) to improve efficiency and reduce expenditures of resources by utilizing existing EAs or EISs where applicable.

See subpart H, section 610.136, of this handbook for an adoption process flowchart and section 610.137 for a sample NOI to adopt an EA or EIS.

#### B. Requirements

Adoption procedures depend on whether NRCS was a formal cooperating agency for preparing the EA or EIS. For NRCS to be a cooperating agency, it is good practice to have a memorandum of understanding signed that outlines agency responsibilities, and NRCS should have been named as a cooperating agency on the cover of an EA, or for an EIS, be included in the NOI, draft EIS, and final EIS.

Figure 610-F3: Effect of Agency Status on Adopting an EA or EIS

If NRCS was—	And—	Then—
A cooperating agency	–	The lead agency’s analysis may be adopted without further analysis or public review so long as the final EA/EIS and the process followed meet NRCS standards. NRCS will just need to issue its own ROD or

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If NRCS was—	And—	Then—
		FNSI.
Not a cooperating agency	The proposed action is substantially the same	Recirculate the EA or EIS as a final for public review on the issue of whether circumstances have changed or there is new information indicating a new or supplemental EIS should be prepared, and then issue a FNSI or ROD, addressing outstanding comments at that time.
	The proposed action is not substantially the same	Adopt as a draft or as a portion of the agency’s draft, circulate the EA or draft EIS, prepare a final EIS, and issue a FNSI or ROD.

C. Application

- (1) The adoption flowchart in subpart H, section 610.136, of this handbook illustrates the steps involved in adopting NEPA documents from outside sources.
- (2) Part or all of another Federal, Tribal, or State agency’s EA or EIS may be used for NEPA compliance if both of the following criteria are met:
  - (i) NRCS must assume full responsibility for information contained in the environmental documents it adopts.
  - (ii) The document must meet the Council on Environmental Quality and NRCS standards.
- (3) NRCS must independently review the document and conclude that it has addressed NRCS concerns and suggestions. This review must be documented in the official files or in the decision document.
- (4) In order to adopt a NEPA document, it must have been written by a Federal agency or a contractor selected by the agency. If it was written by a State or other entity, the document must be “federalized” through a process of public notice, review, and comment.
- (5) NRCS must prepare its own ROD or FNSI based on the analysis.
- (6) All material contents of the EA or EIS must be made available to the public.

D. Determining Adequacy of NEPA Documents from Outside Sources

These questions will assist with answering the question of whether the EA or EIS (or portion thereof) in question meets the standards for an adequate EA or EIS:

- (i) How do the alternatives and impact analyses match up with your needs?
- (ii) How reliable is the information? Are there conflict of interest issues? (See 40 CFR Section 1505.5 for author restrictions.)
- (iii) Does the document have all of the needed components?
- (iv) Were the proper procedures and documentation followed regarding public review and administrative procedures?
- (v) Is the material outdated? Alternatives, environmental variables such as threatened and endangered listed species, habitat, implementation design, etc., can change.

- (vi) What additions or deletions would be needed to the content of the document to satisfy your NEPA requirements?
- (vii) What is the status of the document and what actions are needed on your part to accept it?

E. Example: Would adoption be an option? If so, what are the steps?

Three years ago the U.S. Fish and Wildlife Service (FWS) prepared an EA/FNSI that analyzed impacts of a proposed project that involved the removal of fish barriers and stream restoration activities. NRCS was not a cooperating agency. Now, the NRCS is considering a project in a nearby drainage that includes the removal of fish barriers, replacement of a bridge, and some stream bank stabilization.

- (i) We first need to determine whether the EA meets our standard for adequacy.
- (ii) In this case, we find that it does, but since NRCS was not a cooperating agency, we need to determine if NRCS's actions are substantially the same as those analyzed in this document.
- (iii) We find, upon thorough review of the FWS EA, that, yes, they are substantially the same. Since it is an EA, NRCS must now circulate its own draft EA for public review and respond to comments.
- (iv) Once the commenting period is over and comments have been addressed, NRCS will need to publish its own FNSI.

F. Notification of EPA When Adopting an EIS

- (1) EPA must be notified when a Federal agency adopts an EIS in order to commence the appropriate comment or review period.
  - (i) If NRCS chooses to adopt an EIS written by another agency and NRCS was not a cooperating agency in the preparation of the original EIS, the EIS must be recirculated and filed with EPA according to the requirements set forth in 40 CFR Section 1506.3(b). In turn, EPA will publish a NOA in the Federal Register announcing that the document will have an appropriate comment or review period.
  - (ii) When NRCS adopts an EIS on which it served as a cooperating agency, it is not necessary to file the EIS again with EPA. However, EPA should be notified in order to ensure that the official EIS record is accurate. EPA will publish an amended NOA in the Federal Register that states that an adoption has occurred. This will not establish a comment period, but will complete the public record.
  - (iii) See subpart E, section 610.74E, of this handbook for instructions on submitting an EIS or notice of adoption to EPA
- (2) EPA is not notified regarding the adoption of an EA.

G. See subpart H, section 610.136, of this handbook for the "Adoption Flowchart" (Schmidt, 2009).

H. See subpart H, section 610.135, of this handbook for a sample "Notice of Intent to Adopt an EA or EIS."

## 610.84 Writing A Better NEPA Document

A. Use Plain English

- (1) Write clearly, succinctly, and plainly, without using unnecessary jargon or technical terms. This is important so that decisionmakers and the public can readily understand the analysis.



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- (2) Environmental documents are to be written in plain language and may use appropriate graphics to relate the analysis effects.

### B. Requirements

- (1) Include relevant graphics, maps, and pictures in environmental documents to illustrate the concepts being discussed, but ensure they can be legibly reproduced, even if in black and white.
- (2) To the extent feasible, allow skilled editors to write, review, or edit environmental documents.

### C. Rules of Thumb

#### (1) General Rules of Thumb

- (i) Avoid characterizing impacts as adverse or beneficial unless necessary to comply with a particular requirement. Some people may consider an impact to be beneficial, while others may consider that same impact to be adverse. Characterizing impacts can cause more controversy and create the impression NRCS is not objective in its assessment of impacts.
- (ii) Avoid characterizing impacts as “insignificant.” The determination of significance is made only in a FNSI.
- (iii) Where a legal standard exists, a finding must be made. For example, because of the ESA, NRCS must make a finding about impacts to any designated critical habitat that is present in the action area.
- (iv) To limit the length of NEPA documents, include only information that is essential to making a reasoned choice among alternatives.
- (v) Always have a supporting record that documents the process followed and all data and factors considered during analysis. (See subpart E, section 610.75, of this handbook.)
- (vi) The RFO is ultimately responsible for ensuring the adequacy of NEPA documents and may not delegate this role.
- (vii) To avoid the need for a mitigated FNSI, incorporate mitigation in the description of the proposed action and alternatives whenever possible.

#### (2) Rules of Thumb Specific to EA-Level Analysis

- (i) An EA should be brief.
- (ii) Although an EA may be prepared in only a few days, the typical timeframe is 60 to 180 days.
- (iii) Signatures are provided in the FNSI, and therefore are not required in the EA.
- (iv) Only the RFO may sign the FNSI.
- (v) Never characterize an impact as significant in an EA. This is a determination reserved for the decisionmaker in a FNSI and “significance” is an indicator that an EIS should be prepared.
- (vi) The “List of Agencies and Persons Consulted” refers to external contacts.

#### (3) Rules of Thumb Specific to EIS-Level Analysis

- (i) There is no specified length for an EIS. Keep the document as concise as possible, but ensure all required content elements are addressed.
- (ii) The typical time for preparing an EIS is 9 to 18 months.
- (iii) The minimum time for preparing an EIS should never be less than 7 months in order to satisfy “timing of agency action” requirements.
- (iv) The EIS is an analytical document, not a decision document.
- (v) NRCS employees are placed on the “List of Preparers.”

### D. Writing tips for NEPA Documents

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- (1) Avoid using the word “significant” in the preparation of an EA since the conclusion of an EA is a FNSI. If impacts are truly significant, an EIS will need to be prepared.
- (2) Coordinate with all team members to ensure clear communication and consistency in writing. For example, if the fisheries biologist and the hydrologist do not coordinate, the two might present conflicting analyses.
- (3) Place discussions in the proper place within a document. For example, impacts should be discussed in the environmental consequences section of an EIS, not in the description of the affected environment.
- (4) Carefully document sources of information. Each reference should include all the information the reader will need to locate it. Systematically check every reference cited to ensure it appears in the list of references.
- (5) Avoid vague and meaningless statements. For example, the statement, “Deer habitat would be heavily affected,” is meaningless without further elaboration on how the habitat would be affected.
- (6) While a document is still being developed, save electronic or paper copies of all drafts. You never know when important information might be inadvertently deleted from a draft.
- (7) Maintain consistency in spelling, abbreviations, capitalization, compound words, and use of numbers.
- (8) Whenever possible, use short and simple words rather than multisyllable words.
- (9) Place subjects and verbs as close as possible to each other in a sentence and place adjectives and adverbs as close as possible to the words they modify. The following sentence contains a misplaced modifier: “Overgrazing would also threaten streambank stability where cattle water by reducing vegetative root mass.” This statement could be better communicated as follows: “Overgrazing would also threaten streambank stability by reducing vegetative root mass, especially where cattle water.”
- (10) Avoid or explain technical jargon and agency-specific acronyms. Remember that this is a public document.
- (11) Keep your sentences and paragraphs short. Sentences of more than 20 to 30 words may be too confusing or have too many ideas for the reader to grasp. Long paragraphs are hard on the reader’s eyes. For example, the sentence above might be made even clearer to individuals not familiar with livestock operations by breaking it into two sentences, such as, “Cattle tend to overgraze areas next to the streams from which they frequently drink. This overgrazing reduces vegetative root mass and thereby threatens streambank stability.”
- (12) Write so as not to attract the reader’s attention to your writing style and divert it from your message. Unusual grammar or spelling, for example, may distract the reader.
- (13) Use strong, vigorous verbs in your writing. Write, “They decided to...” instead of, “They made a decision to...” Write, “They monitored the condition of the vegetation” instead of, “Monitoring of vegetation condition was done.” Write, “Solitude would not be disturbed...” instead of, “Disturbance of solitude would not occur.”
- (14) Avoid vague verbs. Such verbs as “identify,” “indicate,” and “develop” have so many meanings that at times the reader can’t tell the precise meaning. What precisely does “identify” mean in the following sentence? “The lands along Bitter Creek have been identified for treatment.” Have the lands been selected, proposed, or approved for treatment? Does the sentence mean that lands along Bitter Creek will be treated?

- (15) Avoid meaningless modifiers. Certain adjectives and adverbs have little if any meaning in many contexts: “applicable,” “appropriate,” “available,” “basically,” “substantially,” “truly,” “typically,” “various,” “very,” and many others. If you use one of these modifiers and think it might not be needed, read the sentence without the modifier. If the sentence makes sense, then the modifier is not needed.
- (16) Avoid ambiguous pronouns. Be careful when you use pronouns, such as “it,” “this,” “these,” “those,” “they,” “she,” and “he,” so that the reader can readily tell what the pronoun refers to.
- (17) Use the words “will” and “must” in reference to things for which a decision has already been made (e.g., standard operating procedures, etc.) and the words “would” and “could” in reference to things for which a decision has not been made (e.g., mitigation measures, etc.).
- (18) For a good reference on spelling, punctuation, capitalization, abbreviation, hyphenation, and the use of numbers, see the Government Printing Office (GPO) Style Manual.

### **610.85 NEPA Review Tools**

Use the following tools to perform quality control checks on your NEPA documents:

- (1) See “Eight Questions any EA or EIS Should Readily Answer” (Schmidt, 2009) in subpart H, section 610.138, of this handbook.
- (2) See “NEPA Document Quick Review Questions” in subpart H, section 610.139, of this handbook.

## Part 610 – National Environmental Compliance Handbook

### Subpart G – Endangered Species Act (ESA)

#### 610.90 Overview of ESA Provisions

##### A. Introduction

- (1) NRCS provides technical and financial assistance to landowners through voluntary participation and, as an agency of the Federal Government, upholds the laws and regulations of the Government and protects the interests of the public. With the assistance of NRCS, landowners can apply conservation alternatives that avoid adversely affecting protected species or their habitats or proactively create or enhance habitat. An awareness of habitat locations and an understanding of the impacts of conservation practices, including the long- and short-term effects on habitat, are key to NRCS being able to fulfill its responsibilities under the ESA.
- (2) The ESA sections discussed below are those that are most relevant to NRCS and a private landowner's activities. Additional information on the ESA is available on the Internet, from the U.S. Fish and Wildlife Service (FWS), the National Marine Fisheries Service (NMFS), and numerous other sources.
- (3) Definitions.—A complete listing of definitions related to ESA can be found in the Endangered Species Consultation Handbook (FWS and NMFS, 1998).

##### B. State and Tribal Species of Concern

- (1) “Species of concern” (defined in Title 190, General Manual (GM), Part 410, Subpart B, Section 410.22D(30) as those that have been protected by State or Tribal laws or regulations) are also addressed in NRCS policy. NRCS must consider impacts to plant, fish, or wildlife species protected by a State or Tribe as endangered, threatened, rare, declining, sensitive, or otherwise at risk. NRCS policy states, “NRCS shall use its authorities and programs to provide for the conservation of Federal candidate and State and Tribal species of concern.” (190-GM, Part 410, Subpart B, Section 410.22E(7)(i)).
- (2) Where State or Tribal species of concern are identified during the planning process, NRCS will make landowners aware of the existence of State or Tribal species of concern on their lands and must recommend appropriate measures to avoid or minimize potential negative impacts to the species.
- (3) When an action may adversely affect State or Tribal species of concern, the NRCS customer must agree to apply recommended alternatives that will avoid or minimize the effect to the extent required by State or Tribal law in order to continue to receive assistance. In some cases, NRCS may have an agreement with the State or Tribal resource agency to provide additional assistance to landowners or to consult on State species of concern. For additional information, see 190-GM, Part 410, Subpart B, Section 410.22E7(iii).
- (4) Because each State and Tribe has different laws regarding species of concern, it is recommended that State Conservationists supplement this handbook with information and procedures for addressing State and Tribal species of concern. States are required to contact State and Tribal governments to identify species of concern and the NRCS actions that may have the greatest potential to affect those species and their habitats through both adverse and beneficial impacts (190-GM, Part 410, Subpart B, Section 410.22E(7)(i)).

- (5) Although the remainder of this section discusses the Federal ESA, for additional guidance about how to consider State and Tribal species of concern, refer to your State-specific guidance and the threatened and endangered (T&E) guide sheet in subpart H of this handbook. Individual State and local laws and requirements are beyond the scope of this handbook, but must be considered during the planning process and resultant environmental evaluations.

### C. ESA Provisions

- (1) When Congress enacted the ESA in 1973, it made several findings regarding the disappearance of various plant and animal species of the United States, the importance of these species to the Nation and its people, and the obligation of the Federal Government to conserve to the extent practicable the various species of fish, wildlife, and plants facing extinction.
- (2) Specifically, Congress declared under section 2 of the ESA that—
  - (i) Various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation.
  - (ii) Other species of fish, wildlife, and plants have been so depleted in numbers that they are endangered or threatened with extinction.
  - (iii) These species of fish, wildlife, and plants are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people.
  - (iv) The United States has pledged itself as a sovereign state in the international community to conserve to the extent practicable the various species of fish or wildlife and plants facing extinction in accordance with international agreements.
  - (v) States and other interested parties should be encouraged through Federal financial assistance and a system of incentives to develop and maintain conservation programs that meet national and international standards that are key to meeting the Nation's international commitments and to better safeguarding, for the benefit of all citizens, the Nation's heritage in fish, wildlife, and plants.
- (3) The facts on which these statements of declaration were based in 1973 have not changed today. However, the recognition of the causal relationships between problem sources and their effects on the environment and the awareness of the opportunities to address those sources are changing. The science continually tries to catch up to the policymaking to confirm theories and hypotheses.
- (4) NRCS has always based its technical standards on the best science available. Certain cause and effect relationships are evident in the environment, while others are subtle. Sensitive ecosystems cannot, however, wait for all the science to support or disprove all the theories identifying these causal relationships. Many of the conservation activities NRCS assists landowners with have the potential to immediately and directly impact specific species, designated critical habitats, or both and, depending on the extent of these practices, larger ecosystems.
- (5) The ESA states that it is congressional policy that all Federal Departments and agencies seek to conserve endangered species and threatened species and utilize their authorities to further the purposes of ESA and that Federal agencies must cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species.
  - (i) NRCS works to conserve ecosystems on which endangered and threatened species depend. Section 7 of the ESA details Federal agency responsibilities to conserve listed species and interagency consultation processes.

- (ii) Section 7(a)(1) of the ESA requires Federal agencies to use their authorities to carry out programs for the conservation of threatened and endangered species. Technical and financial assistance programs afforded to NRCS customers provide a number of opportunities to carry out the ESA policies established by Congress.
- (6) The purposes of the ESA are to—
  - (i) Conserve the ecosystems on which endangered and threatened species depend.
  - (ii) Provide a program for the conservation of such endangered species and threatened species.
  - (iii) Take such steps as may be appropriate to achieve the purposes of international treaties.
- (7) General Agency Roles and Responsibilities
  - (i) **FWS** is a Federal land management and regulatory agency within the Department of Interior. The Secretary of the Interior has delegated responsibility for administering the ESA and coordinating with other Federal and State agencies in the effort to conserve endangered and threatened species to the FWS. As part of the FWS’s stewardship role, it administers the ESA for terrestrial, freshwater, and some diadromous species.
  - (ii) **NMFS** is a regulatory agency within the Department of Commerce. It is responsible for stewardship of the Nation’s living marine resources. The Secretary of Commerce has delegated responsibility for administering the ESA and coordinating with other Federal and State agencies in the effort to conserve most diadromous and marine species endangered and threatened species to NMFS.
  - (iii) **NRCS** is an agency that provides technical and financial assistance to private land users on a voluntary basis and as such is considered an action agency with regard to compliance under ESA. NRCS is required by the ESA to protect and conserve federally listed species and species proposed for listing. This responsibility includes but is not limited to research, protection, habitat acquisition, restoration, enhancement, and maintenance.
- (8) Coordination Tools
  - (i) There are a number of tools that are available to NRCS for landowners to enhance coordination opportunities with the FWS and NMFS. Subpart H, section 610.143 of this handbook provides a matrix that summarizes the various tools that are available to enhance conservation efforts on private land as well as to enhance consultation efforts.
  - (ii) See subpart H, section 610.144 of this handbook for a sample ESA memorandum of understanding with FWS and NMFS to enhance cooperation and coordination for large, complex actions.

## **610.91 ESA Section 4 – Determination of Endangered and Threatened Species**

### **A. Introduction**

- (1) Section 4 of the ESA describes the “determination of endangered species and threatened species” as the process by which the Secretary of the Interior or the Secretary of Commerce determines whether species are endangered or threatened and provides the basis for making such determinations.
- (2) Determinations of a species’ status may be based on several factors. These factors include the present or potential destruction, modification, or curtailment of habitat or

range; overutilization for commercial, recreational, scientific, or educational purposes; disease or predation; the inadequacy of existing regulatory mechanisms; or other natural or manmade factors affecting its continued existence.

- (3) Section 4 of the ESA requires the Secretary of the Interior or the Secretary of Commerce to publish in the Federal Register a list of all species determined to be endangered or threatened. This is done to disseminate information on the protective regulations afforded these species and to develop and implement recovery plans for the conservation and survival of listed species, and to develop and implement recovery plans for the conservation and survival of listed species. Section 4 also contains a mechanism by which citizens may petition to force a listing determination.

#### B. Listing and Delisting Species

- (1) The process for listing species as endangered or threatened or for removing them from this status includes publication of several notices in the Federal Register. Any interested person may petition the Secretary of the Interior or the Secretary of Commerce to add a species to the list of endangered or threatened species. Interested persons may also petition the Secretary of the Interior or the Secretary of Commerce to delist a species.
- (2) For each petition, the Secretary of the Interior or the Secretary of Commerce must, to the maximum extent practicable, make a finding within 90 days as to whether the petition presents substantial scientific and commercial information indicating the petitioned action may be warranted, and this finding must be promptly published in the Federal Register.
- (3) If the petition to list is deemed as potentially warranted, the Secretary of the Interior or the Secretary of Commerce must initiate a review of the status of the species concerned and, within 1 year from the date of the petition, publish in the Federal Register one of the following findings:
  - (i) The petitioned action is not warranted. This finding is then published in the Federal Register.
  - (ii) The petitioned action is warranted. A notice of this finding is published in the Federal Register, along with the text of a proposed regulation to implement the action. In this case, species are considered to have a “proposed” (for listing) status.
  - (iii) The petitioned action for listing or delisting is warranted, but one of the following applies:
    - It is precluded by pending proposals to determine whether other species should be listed or delisted. In the case of a petition for listing, the species remains a “candidate” species and its status is reviewed annually.
    - Expeditious progress is being made to add the qualified species to the respective list to which the petitioned action refers or to remove species for which protection from the ESA is no longer needed.
- (4) At least 90 days before the effective date of a regulation, the Secretary of the Interior or the Secretary of Commerce must publish a general notice and the complete text of the proposed regulation in the Federal Register.
- (5) In addition, within 1 year from the date the general notice is published, the Secretary of the Interior or the Secretary of Commerce must publish one of the following in the Federal Register:
  - (i) A final regulation to implement the proposal
  - (ii) Notice that the 1-year period is being extended
  - (iii) Notice that the proposed regulation is being withdrawn, together with the finding on which the withdrawal is based

- (6) There are limited exceptions to these time periods when there is substantial disagreement about the sufficiency or availability of existing data or it is essential to the conservation of a species to implement a rule more quickly.

C. NRCS and the Listing and Delisting Process

The NRCS State biologist should obtain Federal Register notices for species within the State and provide appropriate comments on the proposed listing or delisting of species. An outline of the petition process can be found on the FWS Web site. When species will be listed as threatened, there may be opportunities for NRCS to suggest activities that might be exempted from the “take” provisions of ESA under section 4(d) rules.

D. Critical Habitat

- (1) Concurrently with making a designation for a species as endangered or threatened, or within 1 year of a species listing if habitat information is lacking, the Secretary of the Interior or the Secretary of Commerce must designate any habitat of that species that at that time is considered to be critical habitat. The Secretary of the Interior or the Secretary of Commerce may also revise this designation as appropriate.
- (2) The term “critical habitat” for a threatened or endangered species means—
  - (i) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of ESA, on which are found those physical or biological features meeting both of the following criteria:
    - Essential to the conservation of the species
    - May require special management considerations or protection
  - (ii) Specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of ESA, upon a determination by the Secretary of the Interior or the Secretary of Commerce that such areas are essential for the conservation of the species.
- (3) How is Critical Habitat Designated and Revised?
  - (i) Designation of critical habitat and revisions of that designation are based on the best scientific data available, as well as consideration of economic and other relevant impacts of designating critical habitat.
    - Any area may be excluded from a critical habitat designation if the benefits of the exclusion outweigh the benefits of including the area as part of the critical habitat, except as specified below.
    - If the Secretary of the Interior or the Secretary of Commerce determines, based on the best scientific and commercial data available, that the failure to designate an area as critical habitat will result in the extinction of the species concerned, it will be given critical habitat status.
  - (ii) Any interested person may petition the Secretary of the Interior or the Secretary of Commerce to revise a designation of critical habitat. The following deadlines must be met with regard to such petitions except when there is substantial disagreement about the sufficiency or availability of existing data or it is essential to the conservation of a species to implement a rule more quickly:
    - Within 90 days after receiving such a petition, the Secretary must make a finding as to whether the petition includes substantial scientific information indicating that the revision may be warranted. This finding must be published in the Federal Register.
    - If there is substantial scientific information indicating the revision may be warranted, within 1 year of receiving the petition the Secretary of the Interior



or the Secretary of Commerce must determine how to proceed with the requested revision and publish in the Federal Register a notice of his or her intention.

- If the intention of the Secretary of the Interior or the Secretary of Commerce is to publish a regulation implementing a designation or revision of critical habitat, then at least 90 days before the effective date of a regulation, the Secretary must publish a general notice and the complete text of the proposed regulation in the Federal Register.
- In addition, within 1 year from the date the general notice is published, the Secretary of the Interior or the Secretary of Commerce must publish one of the following in the Federal Register:
  - A final regulation to implement the proposal
  - Notice that the 1-year period is being extended
  - Notice that the proposed regulation is being withdrawn, together with the finding on which the withdrawal is based

#### E. Recovery Plans

- (1) Section 4 of the ESA states that recovery plans must be developed by the Secretary of the Interior for species listed as endangered or threatened unless it is determined that a plan will not promote the conservation of the species. Recovery plans include background information on the natural history of the species, population trends, and potential threats to their viability. They also lay out a recovery strategy to address potential threats based on the best available science and, as required by ESA, include the following:
  - (i) Site-specific management actions necessary to achieve the plan's goals
  - (ii) Objective, measurable criteria that, when met, would result in a determination that the species no longer be threatened or endangered
  - (iii) An estimate of the time required and costs to implement recovery actions including intermediate and final steps to meet the plan's goals.
- (2) Interrelationships exist between management actions outlined in recovery plans and the consultation process. The FWS or NMFS representative assisting in the development of recovery plans (with species experts) should be able to ensure that any reasonable and prudent alternative or any reasonable and prudent measures developed through the consultation process is consistent with recovery plan goals. Further, management actions identified in a recovery plan may be used as terms and conditions of an incidental take statement. If recovery plans identify specific habitats as essential for species survival and recovery, then throughout the consultation process, close attention should be given to recommended practices or alternative actions that may affect that habitat.

**Note:** NRCS participation in development of recovery plans may be considered part of exercising its section 7(a)(1) responsibilities to consult with FWS and NMFS and use NRCS resources for the conservation of species.

### 610.92 ESA Section 7 – Consultation and Conference Responsibilities

A. This section covers general provision of section 7 of ESA that are most relevant to NRCS and private landowner activities, including consultation procedures. NRCS personnel should check with their respective State biologists for specific protocols on making biological evaluations and ESA effect determinations.

B. Section 7(a)(1) – Using NRCS Authorities to Further the Purpose of ESA

- (1) This section requires NRCS, in consultation with and with the assistance of FWS or NMFS, as appropriate, to utilize NRCS authorities in furtherance of ESA purposes by carrying out programs for the conservation of endangered and threatened species.
- (2) To do this, NRCS, when appropriate, should help develop species recovery plans, develop national and State policy, and use its conservation and technical assistance programs to conserve species and habitat protected by the ESA.
- (3) NRCS can meet much of its section 7(a)(1) responsibilities to carry out programs for the conservation of endangered and threatened species on a programmatic basis by involving FWS and NMFS in NRCS State Technical Committee meetings and in local work group meetings. Their participation with these groups augments other discussions that NRCS has with the FWS and NMFS regarding the conservation of protected species. Examples of such activities include—
  - (i) Inviting Service officials to field demonstrations to observe how the conservation planning process is conducted and how conservation practices are implemented with funding provided through conservation programs.
  - (ii) Discussions with the FWS and NMFS regarding the potential to modify conservation practices in the Field Office Technical Guide to better address the needs of protected species and ways to provide technical assistance in a manner that furthers the conservation of threatened and endangered species.
  - (iii) Identifying NRCS program priority areas that benefit listed species or designated critical habitat.
- (4) On a site-specific basis, NRCS may also use its authorities to support section 7(a)(1) requirements by implementing conservation recommendations FWS or NMFS makes during the section 7(a)(2) consultation process. Conservation recommendations are nonbinding suggestions the FWS or NMFS make during formal or informal consultation.
- (5) The Farm Bill specifies a number of conservation programs, each of which lists a set of goals that the program is authorized to address, including those specifically focused on the conservation of species. These goals may change with the passing of each new Farm Bill. Creative use of these programs can further NRCS efforts to comply with section 7(a)(1) of ESA.

C. Section 7(a)(2) – Consultation for Federally Listed Species and Critical Habitat

- (1) This section requires NRCS to consult with the FWS and NMFS to ensure that any action NRCS authorizes, funds, or carries out is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of habitat determined to be critical by the Secretary of the Interior or the Secretary of Commerce.
- (2) It is important to maintain good communication with FWS and NMFS to ensure that NRCS appropriately evaluates the effects of proposed actions on listed species and their habitats. Much of this communication is considered part of the informal consultation process and should be documented in notes to the file or by other appropriate means.
- (3) On a site-specific basis, NRCS field personnel must consider the effects of actions and alternatives on listed and proposed species and designated critical habitat as part of the environmental evaluation process. These effects, as well as other relevant informal communications, should be documented on Form NRCS-CPA-52, “Environmental Evaluation Worksheet,” or as designated in each State.
- (4) When considering site-specific actions, NRCS first determines whether there will be any effect on a protected species or habitat. If NRCS determines there will be no effect on any protected species or habitat, consultation is not required.

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- (i) A “no-effect” determination is based on the best available scientific and commercial data and is proper only when the proposed actions will not have any direct or indirect impact, positive or negative, on an ESA-protected species or habitat.
  - (ii) Document this determination on the NRCS-CPA-52, or as designated in each State. Include in the notes the reasons for reaching this conclusion and reference any relevant information, such as species life history, proximity of the species to the action, timing of the proposed action and species presence, etc.
- (5) Should formal consultation be required, it is critical that consulting parties stay in close contact through all stages of the process to ensure the shortest possible time to successful conclusion. As will be discussed later, this is especially important given that formal consultations can take up to 135 days (or longer if an initiation package is incomplete or all parties agree to an extension).

### D. Programmatic Consultations

Programmatic consultations should be developed in coordination with FWS, NMFS, or both to identify situations in which site-specific consultation is or is not required. This process could involve significant effort up front but may significantly reduce workloads associated with site-specific actions. Any agreements or other conclusions reached through this process should be thoroughly documented.

### E. Section 7(a)(4) – Species and Critical Habitat Proposed for Listing

This section states that NRCS must confer with the Secretary of the Interior or the Secretary of Commerce on any agency action that is likely to jeopardize the continued existence of any species proposed to be listed under section 4 or result in the destruction or adverse modification of critical habitat proposed to be designated for such species.

### F. Section 7(d) – Irreversible or Irrecoverable Commitment of Resources

This section states that Federal agencies or applicants may not make any irreversible or irretrievable commitment of resources with respect to an agency action. Therefore, when needed, ESA consultation should be completed prior to the signing of legally binding conservation program agreements that provide financial assistance to clients for the implementation of NRCS conservation practices.

### G. When to Consult With FWS or NMFS

#### (1) NRCS Technical Assistance Only

- (i) There is no requirement to consult on a site-specific basis when NRCS provides technical assistance only. NRCS technical assistance activities provide information and advice to recipients regarding the utilization of their resources. In such cases, NRCS does not control the action that is ultimately taken, and therefore technical assistance does not fall within the parameters of an agency action subject to section 7(a)(2) consultation.
- (ii) However, NRCS policy in 190-GM, Part 410, Subpart B, Section 410.22E(5)(ii) requires consultation when NRCS technical assistance provides the basis for NRCS financial assistance, and the proposed actions may affect listed species or critical habitat.
- (iii) When providing site-specific technical assistance, NRCS personnel must still refer to section 2 of the Field Office Technical Guide, other existing maps, habitat criteria, and other available information to determine whether protected species or designated critical habitat are present. NRCS personnel must also

refer to this information to determine whether proposed, candidate or State-listed species of concern or the habitats on which they depend are also present.

- (iv) Circumstances That May Prompt Discontinuation of Service to a Client
  - If NRCS determines that there may be an adverse impact on a listed species or designated critical habitat as a result of the recipient voluntarily implementing a conservation system, NRCS will recommend an alternative conservation treatment that avoids the adverse impact.
  - If the landowner pursues a conservation system that adversely affects a protected species, NRCS field staff will inform the client about the client's obligation to contact the FWS or NMFS, as appropriate, to determine whether there is a need for a habitat conservation plan (HCP) (see section 610.94 below to avoid violating the ESA).
  - NRCS will not provide assistance for those conservation practices or systems that will cause an adverse effect unless the landowner obtains an HCP and an incidental take permit.
- (2) NRCS-Controlled Action
  - (i) If a proposed action funded by NRCS may affect a listed species or designated critical habitat, NRCS must initiate consultation with the FWS or NMFS, as applicable.
  - (ii) Consultation may be formal or informal, depending on the circumstances, and must be conducted whether the effect is beneficial or adverse. The consent of the landowner and land user are to be obtained before initiating site-specific consultation.
  - (iii) Circumstances That May Prompt Discontinuation of Service to a Client.—If the landowner or land user is unwilling to consent to NRCS initiating the consultation process and decides to implement conservation practices or measures that will result in adverse effects to listed species or will modify designated critical habitat, NRCS may not provide financial or technical assistance for those conservation practices or systems that will cause the adverse effects.

H. See subpart H, section 610.140 for a flowchart of section 7 ESA compliance procedures.

#### I. Determination of Effects and Consultation Protocols for Federally Listed Species or Designated Critical Habitat

- (1) Overview
  - (i) NRCS personnel are responsible for determining whether or not a proposed action will have an effect on listed species or designated critical habitats. In making a determination, field staffs should utilize existing resources, such as maps identifying protected species' ranges and designated critical habitats, information from the FWS and NMFS regarding listed species and designated critical habitats, and any other appropriate, reliable information. The "best scientific and commercial data" must be considered in making this determination.
  - (ii) Landowner Consent Form
    - Before initiating site-specific consultation, NRCS must obtain the written consent of the landowner and land user (when the land user provides written indication of having complete control over the land, the landowner's consent is not required).
    - This signed form, along with all other pertinent correspondence relevant to the consultation should be maintained in the administrative file that is kept with the client's conservation plan.

- See subpart H, section 610.142 for a sample landowner consent form.
- (2) Effect Categories
- (i) See subpart H, Section 610.141 for an outline that may be used to make ESA effects determinations or to develop a biological assessment.
- (ii) “No-Effect” Determinations: No Consultation
- If an NRCS representative makes the determination that an action will not affect a listed species or designated critical habitat, the result is a no-effect determination.
  - A no-effect determination may only be made after thoroughly assessing the proposed project’s impacts on listed species or designated critical habitat. When this is the case, no consultation with the FWS or NMFS is necessary.
  - If a no-effect determination is made, it must be supported by sound evidence and documented on the environmental evaluation (NRCS-CPA-52 worksheet) or in a separate document referenced by the NRCS-CPA-52.
  - Although not required, NRCS may request written concurrence from the FWS or NMFS, as appropriate, that the proposed action will have no effect on listed species or designated critical habitat. This concurrence is sometimes useful for the administrative record, but is not always given.
- (iii) “May Affect, Not Likely to Adversely Affect” Determinations: Informal Consultation
- If an NRCS representative determines an action may effect an endangered or threatened species or designated critical habitat, either positively or adversely, then NRCS must enter into informal consultation unless formal consultation is initiated instead. Before any consultation begins, however, the landowner’s and land user’s written approval must first be obtained.
  - Most situations can be resolved through informal consultation. Informal consultation is a term referring to the discussions, correspondence, and related contact that occurs when NRCS is attempting to obtain the concurrence of the FWS or NMFS that the action may proceed. Informal consultation is used when any of the following apply:
    - An action is expected to be discountable, insignificant, or completely beneficial to listed species or designated critical habitat.
    - An action that is likely to adversely affect a species can be modified to avoid the adverse effects.
    - There is a need to assess whether the parties need to enter into formal consultation.
  - Initiating Informal Consultation.—Normally, informal consultation is initiated when NRCS sends a letter to the FWS or NMFS, as applicable, requesting their concurrence that the proposed action may affect, but is not likely to adversely affect an endangered or threatened species or designated critical habitat.
    - The analysis supporting the NRCS conclusion that the direct, indirect, and cumulative effects of the action are not likely to adversely affect the species or designated critical habitat must be documented in the letter requesting concurrence with the NRCS determination.
    - If an action is likely to adversely affect a threatened or endangered species or designated critical habitat and NRCS does not anticipate being able to avoid an adverse effect, NRCS may undertake formal consultation without first concluding informal consultation.

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- Once consultation has begun, NRCS may make no irreversible or irretrievable commitment of resources that has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative or measure.
- Timelines.—Section 7 regulations provide no specific schedule for informal consultation. However, FWS and NMFS typically try to conclude informal consultation within 30 days.
- Informal consultation concludes when NRCS receives a letter from FWS or NMFS with one of the following outcomes:
  - Concurring that the action may affect but is not likely to adversely affect an endangered or threatened species or designated critical habitat.
  - Stating that adverse effects cannot be avoided and formal consultation is necessary.
  - Recommending ways to avoid adverse effects.
    - If the recommendations are adopted, then FWS or NMFS may issue a determination, or letter of concurrence, that the action may affect a threatened or endangered species or designated critical habit, but the affect is unlikely to be adverse.
    - If the recommendations are not adopted, then NRCS must proceed to formal consultation.
  - When it is not clear what effects the proposed action will have on the protected species or designated critical habitat, the FWS and NMFS will give the benefit of the doubt to the species. The outcome of informal consultation should be documented on the environmental evaluation (NRCS-CPA-52) and the letter of concurrence kept in the case file.
- (iv) “May Affect, Likely to Adversely Affect” Determinations: Formal Consultation
  - The NRCS must enter formal consultation with the FWS or NMFS, as applicable, if an action is likely to adversely affect listed species or adversely modify designated critical habitat.
  - The approval of both the landowner and land user must be obtained in writing before
  - The approval of both the landowner and land user must be obtained in writing before consultation or preparation of a biological assessment begins (see section 610.93A, below). Inform both the landowner and the land user about what the formal consultation process involves and the requirement to comply with the terms of the biological opinion (see section 610.93B, below).
  - If the landowner or land user does not agree to the consultation process, further technical assistance will not be provided. Financial assistance to implement conservation systems or practices that will adversely affect threatened or endangered species or modify designated critical habitat will not be provided.
  - Initiating Formal Consultation.—To initiate formal consultation, an NRCS representative must prepare a biological assessment (see section 610.93A, below) and forward it to the FWS or NMFS, as appropriate.
  - Timelines
    - Following receipt of the biological assessment, the FWS or NMFS, as applicable, has 30 working days (or approximately 45 calendar days) in which to review the biological assessment and advise NRCS of any data deficiencies. The FWS or NMFS then has 90 days to issue the biological

opinion, with an additional 45 days when circumstances warrant. It is likely that it will take a total of 135 days before NRCS receives the biological opinion (see section 610.93B, below).

- Formal consultation concludes within 90 days after its initiation (receipt of a complete initiation package) unless extended by mutual agreement, not to exceed an additional 60 days when there is an applicant for Federal assistance.
- Once consultation has begun, NRCS may make no irreversible or irretrievable commitment of resources that has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative or measures. This provision does not apply when NRCS is conferring with the Services about species that have been proposed for listing. (See section 610.92J, below.)
- Upon completion of consultation, the FWS or NMFS, as applicable, must provide to NRCS a written statement setting forth the FWS or NMFS biological opinion, detailing how the NRCS actions may affect the listed species or its designated critical habitat, and a summary of the information on which the opinion is based.
- Programmatic consultation may be used to identify situations in which site-specific consultation is or is not required. It can reduce the workload associated with site-specific actions. Any agreements or other conclusions reached through this process should be thoroughly documented.

#### J. Determination of Effects and Conferencing Protocols for Federally Proposed Species or Proposed Critical Habitat

##### (1) When Conferences are Required

- (i) While consultations are required when the proposed action may affect a listed species, a conference is required only when the proposed action is likely to jeopardize the continued existence of a proposed species or will result in the destruction or adverse modification of proposed critical habitat. NRCS also has the option of conferencing when assistance is desired in determining whether an action is likely to jeopardize the continued existence of a proposed species or will result in the destruction or adverse modification of proposed critical habitat. These conferences include all discussions between the NRCS and the FWS or NMFS regarding the impact of the agency's action and include both an informal and formal process similar to the consultation process on listed species or designated critical habitat.
- (ii) See subpart H, section 610.146 for a comparison of "conferencing" and "consultation" provisions of the ESA.

##### (2) Informal Conference

- (i) Conferences may involve informal discussions among the FWS or NMFS (as appropriate), NRCS, and the NRCS client (if any). During the conference, the FWS or NMFS may assist NRCS in determining effects and may advise NRCS about ways to avoid or minimize adverse effects to proposed species or proposed critical habitat.
- (ii) Although not required by ESA, the FWS and NMFS also encourage the formation of partnerships to conserve candidate species since these species, by definition, may warrant future protection under the act. It is in NRCS's and our clients' best interests to proactively conserve Federal candidate, proposed, and State and Tribal at-risk species in an effort to prevent future listing and the regulatory oversight and constraint that results.

- (iii) Conference Report.—Following informal conferencing with NRCS, the FWS and NMFS, as appropriate, will issue a conference report containing recommendations for reducing adverse effects. These recommendations are advisory because the action agency is not prohibited from jeopardizing the continued existence of a proposed species or destroying or adversely modifying proposed critical habitat until the species is listed or critical habitat is designated. However, as soon as a listing becomes effective, the prohibition against jeopardy or adverse modification applies regardless of the action’s stage of completion. Therefore, NRCS should use the conference report’s recommendations to avoid future conflicts and to comply with NRCS policy (190-GM, Part 410, Subpart B, Section 410.22E(6)(ii)).
- (3) Formal Conference
- (i) NRCS may request formal conference on a proposed action. Although the regulations permit the FWS and NMFS to decide whether formal conference is appropriate, formal conferences will generally be provided if requested.
- (ii) Conference Opinions.—Formal conferences follow the same procedures as formal consultation. NRCS must prepare a biological assessment. The opinion issued at the end of a formal conference is called a conference opinion. It follows the contents and format of a biological opinion. However, the incidental take statement provided with a conference opinion does not take effect until the FWS or NMFS adopt the conference opinion as a biological opinion on the proposed action—after the species is listed.
- (iii) Timelines.—Section 7 regulations provide no specific schedule for conferences. However, by FWS policy, formal conferences follow the same timeframes as formal consultations. The timing of a formal conference can be affected by a final listing action. If a proposed species is listed during the conference and the proposed action still may affect the species, the formal conference ends and formal consultation begins. The subsequent formal consultation timeframes begin with the request from the action agency for initiation of formal consultation.
- (iv) Jeopardy Determination.—If the FWS or NMFS determines the proposed action will result in jeopardy to the species or adverse modification of designated critical habitat, the FWS or NMFS must suggest reasonable and prudent alternatives that would not jeopardize the continued existence of the listed species or result in the destruction or adverse modification of its designated critical habitat.
- (v) Nonjeopardy Determination.—If jeopardy or adverse modification is not the conclusion, the Secretary of the Interior or the Secretary of Commerce will suggest reasonable and prudent measures with terms and conditions that the Federal agency must follow. The opinion and any reasonable and prudent measures constitute a section 7 "incidental take statement" applicable to the NRCS action and any private landowner actions covered by the consultation (see subpart A, sections 610.2A (46) and (75) of this handbook).
- The term “take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct.
  - The term “incidental take” is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Incidental take is not prohibited under the ESA provided such taking is in compliance with the terms and conditions of the “Incidental Take Statement.”

K. Interrelated and Interdependent Actions.—There may be cases where the effects of an action under consultation must be analyzed together with the effects of other activities that



are interrelated to, or interdependent with, that action. An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation.

- (i) Larger Actions.—The regulations refer to the action under consultation as the “larger action” (50 CFR Section 402.02). In fact, the use of the term “larger” has proven to be confusing when applied in the case of a modification to an existing project. Instead of keeping the inquiry on whether other activities are interrelated to or interdependent with the modification, it has unintentionally and inappropriately shifted the focus to an inquiry on whether the modification itself is interrelated to or interdependent with the “larger” action or project. To better understand how the interdependent or interrelated analysis should work, examples are provided in FWS and NMFS “Endangered Species Consultation Handbook” (pages 4–26).
- (ii) The “But-For” Test.—The analysis of whether other activities are interrelated to, or interdependent with, the proposed action under consultation should be conducted by applying a but-for test: Would the activity in question occur but for the proposed action under consultation? If the answer is “no” (that the activity in question would not occur but for the proposed action), then the activity is interrelated or interdependent and should be analyzed with the effects of the action. If the answer is “yes” (that the activity in question would occur regardless of the proposed action under consultation), then the activity is not interdependent or interrelated and would not be analyzed with the effects of the action under consultation.

**Example:** NRCS is providing assistance with the replacement of a siphon that is part of an existing larger, complex water-distribution infrastructure. The question here is whether the proposed action (siphon) is interdependent or interrelated with other actions that are currently taking place or planned. This could be true if the resulting new siphon required additional actions within the water distribution infrastructure to accommodate the effects of the new siphon. In this case, but for the replacement of the siphon, the additional actions would not be necessary; therefore, the actions are considered to be interrelated or interdependent, requiring broader analysis of effects. If there are no other actions currently taking place or being planned, there can be no interrelated or interdependent actions.

#### L. Addressing Candidate Species

- (1) Candidate species are not protected under the ESA, although, as noted above, the FWS and NMFS encourage the formation of partnerships to conserve candidate species. NRCS policy also suggests that States set priorities for addressing candidate species. Conferencing for actions that may adversely impact a candidate species is optional. FWS and NMFS will usually treat candidate species as proposed in the event that conferencing is requested.
- (2) When considering impacts to candidate species it is important to note that—
  - (i) Some candidate species may be protected by State or Tribal law.
  - (ii) When providing technical and financial assistance, NRCS policy is to recommend only alternative conservation treatments that will avoid or minimize adverse effects, and to the extent practicable, provide long-term benefit to candidate species (190-GM Part 410, Subpart B, Section 410.22E(7)).
  - (iii) If a candidate species becomes federally listed, proposed for listing, or the critical habitat is federally designated or proposed prior to the completion of an action, the project will be halted while the necessary consultation or conferencing requirements are met.

## 610.93 ESA Section 7 – Biological Assessments and Biological Opinions

### A. Biological Assessments

- (1) A biological assessment (BA)—
  - (i) Is information NRCS prepares to determine whether a proposed action is likely to—
    - Adversely affect listed species or designated critical habitat.
    - Jeopardize the continued existence of species that are proposed for listing.
    - Adversely modify designated or proposed critical habitat.
  - (ii) Is necessary to initiate formal consultation.
  - (iii) May be prepared for informal consultation, but is not required.
  - (iv) Is optional for conferencing if only proposed species or proposed critical habitat is involved. However, if both proposed and listed species are present, a biological assessment is required and must address both proposed and listed species.
  - (v) For those States with essential fish habitat (EFH) covered under the Magnuson-Stevens Act (commercially valuable species), developed for ESA may also include the information on EFH.
  - (vi) May be written by a third party for NRCS, but NRCS is responsible for its content and must initiate the consultation with the BA.
- (2) Landowner Consent Form.—When NRCS informally consults, conferences, or prepares a biological assessment for formal consultation, it may be necessary to include information that the landowner or land user considers private. This is why NRCS must obtain a written agreement from the landowner and land user before NRCS begins consultation or a biological assessment. If such agreement is not obtained, NRCS may not continue to provide assistance in areas where listed or proposed species are located or which are designated or proposed critical habitat.

See subpart H, section 610.142 for a sample landowner consent form.
- (3) Contents.—The contents of a biological assessment are discretionary and may vary in detail and scope as appropriate to the action and site conditions. However, the biological assessment or a cover letter enclosing the assessment must include—
  - (i) A description of the action to be considered.
  - (ii) A description of the specific area and species that may be affected by the action.
  - (iii) A description of the manner in which the action may beneficially or adversely affect any listed species or critical habitat and an analysis of any cumulative effects the action may have on those species; scientific or demonstration studies or other evidence supporting the conclusions about effects should be referenced when possible.
  - (iv) Referenced or appended relevant reports, including any environmental impact statement or environmental assessment.
  - (v) Any other relevant information about the action, the affected listed species, or critical habitat.
- (4) Format.—Particular FWS or NMFS field offices may require specific formats or specific information for BAs. Check with the local field office staff before beginning the assessment to reduce the need for later revisions. Although NRCS may outsource the preparation of a BA, it is ultimately responsible for the content. Only NRCS may conduct interagency consultation.
- (5) The following sections in subpart H of this handbook, provide additional guidance when writing BAs:

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- (i) Section 610.131 for an outline for making biological evaluations and assessments.
- (ii) Section 610.145 for a figure depicting an action area within the species' range from the FWS/NMFS Endangered Species Consultation Handbook (1998).
- (iii) Section 610.147 for the USFWS guide "How to Write a Better BA."

### B. Biological Opinions

A biological opinion (BO) is prepared by the FWS and NMFS. However, NRCS may contribute to its development and, more importantly, should be involved with the development of "terms and conditions," as described below. The BO includes—

- (i) A description of the proposed action and the action area.
- (ii) Status of the species or critical habitat.
- (iii) The environmental baseline.
- (iv) Effects of the action.
- (v) Cumulative effects.
- (vi) The FWS or NMFS conclusion of jeopardy or no jeopardy, adverse modification or no adverse modification, or both.
- (vii) Reasonable and prudent alternatives, reasonable and prudent measures and terms and conditions, or both, as appropriate (see below).

C. If jeopardy to a species or adverse modification of designated critical habitat is found, the FWS or NMFS, as applicable, must suggest mandatory reasonable and prudent alternatives or specify that none exist. Reasonable and prudent alternatives are those that—

- (1) Are consistent with the intended purpose of the action.
- (2) Are within the scope of NRCS authority and jurisdiction.
- (3) Are economically and technologically feasible.
- (4) In the considered opinion of FWS or NMFS, would avoid the likelihood of jeopardizing the continued existence of listed species or avoid in the destruction or adverse modification of designated critical habitat.

D. Reasonable and prudent alternatives (RPAs) are only presented with "jeopardy" and "adverse modification of critical habitat" opinions. If a jeopardy or adverse modification opinion with RPAs is provided, the FWS or NMFS will also provide an incidental take statement (ITS) with nondiscretionary reasonable and prudent measures (RPMs) and terms and conditions (TC). This ITS exempts NRCS and its clients from the ESA's section 9 prohibitions. If a proposed action results in jeopardy or adverse modification with no RPAs available, an ITS with RPMs and TC is not provided because any "taking" is prohibited in this case and would be a violation of section 9 of the ESA.

E. Reasonable and prudent alternatives or measures and terms and conditions should be developed with NRCS and client (or applicant) input, when appropriate. NRCS, in the development of a BA, should request to review and comment on draft BOs.

F. An ITS provides an allowable level of take. The taking must—

- (1) Not be likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.
- (2) Result from an otherwise lawful activity.
- (3) Be incidental to the purpose of the action.
- (4) Only occur when the reasonable and prudent measures and terms and conditions are in effect.

G. Reasonable and prudent measures—

- (1) Are intended to minimize the level of incidental take.

- (2) Are nondiscretionary actions for take exemptions to apply.
- (3) Describe in general terms the desired actions.

H. Terms and conditions are the means to implement the reasonable and prudent measures. Terms and conditions should—

- (1) Describe the specific methods to accomplish each reasonable and prudent measure.
- (2) Be clear, precise, and enforceable.
- (3) Only require minor changes to the proposed action.
- (4) Include reporting and monitoring requirements.
- (5) Include guidance for salvage and disposition of species taken.

I. When the FWS or NMFS conclusion is a “no jeopardy or no adverse modification” opinion, only an ITS with RPMs and TC will be provided. In this case, RPAs may exist, but are not presented or required.

J. Finally, a BO often contains conservation recommendations, which are optional but may assist NRCS in meeting its obligations under section 7(a)(1) of the ESA.

K. As previously discussed, BOs are to be developed and delivered with a maximum of 135 days from the acceptance of a BA by the FWS or NMFS, unless an extension of more than 60 days is approved by the FWS or NMFS and program applicant.

L. Monitoring

- (1) When incidental take is anticipated, the terms and conditions set forth in the incidental take statement developed by the FWS or NMFS during formal consultation generally include provisions for monitoring. This monitoring may be done by NRCS, the program participant, or a partner. State Conservationists may provide monitoring assistance if resources and technical expertise allow.
- (2) A monitoring program will be designed to—
  - (i) Detect adverse effects resulting from a proposed action.
  - (ii) Assess the actual level of incidental take in comparison with the anticipated incidental take level documented in the BO.
  - (iii) Detect when the level of anticipated incidental take is exceeded.
  - (iv) Determine the effectiveness of reasonable and prudent measures and their implementing terms and conditions.
- (3) In general, monitoring programs should include—
  - (i) Well-developed objectives.
  - (ii) A description of the subject area being monitored.
  - (iii) The variables to be measured and how data will be collected.
  - (iv) The detail of frequency, timing, and duration of sampling.
  - (v) How the data are to be analyzed and who will conduct the analyses.
  - (vi) The relationship between the monitoring program included in the consultation and any other environmental monitoring program being conducted in that area.
- (4) Managing collected information efficiently makes it easier to—
  - (i) Evaluate cumulative effects over time.
  - (ii) Identify when consultations need to be potentially reinitiated as a result of new species listings.
  - (iii) Determine when incidental take levels are being approached or exceeded.
- (5) If NRCS is responsible for monitoring and it has been determined, after conservation follow-up measures, that detrimental impacts are occurring to designated or proposed critical habitats, listed or proposed species, or State or Tribal species of concern as a result of implemented conservation practices or measures, then—

- (i) Alert the State Conservationist to the issue.
  - (ii) Reinitiate informal consultation with the FWS, NMFS, or responsible State or Tribal agency, as appropriate, to identify alternative conservation measures.
  - (iii) Proceed with implementing adaptive management measures to rectify the situation.
- (6) When Formal Monitoring is Not Required.—When nonproject technical assistance activities take place as a result of conservation planning activities and only informal consultation is required, or if a no-effect determination is made, then a formal monitoring program is not required. However, conservation follow-up measures should occur as part of the conservation planning process.

As part of the follow-up procedures, an evaluation should be conducted on the effects that implemented conservation practices or systems are having on designated or proposed critical habitats or on listed species or species proposed for listing.

### **610.94 ESA Section 9 – Prohibited Acts**

A. Under section 9 of the ESA, it is a criminal offense for any person, including Federal agency personnel, to take an endangered or threatened fish or wildlife species. Violations of ESA can result in either civil penalties up to \$25,000 per violation or criminal penalties up to \$50,000, a year in prison, or both per violation. The ESA defines “take” to mean harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Section 9 also makes it unlawful for any person to attempt to commit, solicit another to commit, or cause to be committed any offense defined in the ESA.

#### **B. Compliance Requirements for the Protection of Federally Listed Plants**

- (1) Section 9 does not provide this same level of protection to plants located on private lands, unless a State law does. Specifically, section 9 provides that it is unlawful to remove and reduce to possession, or maliciously damage or destroy, any endangered species of plants from areas under Federal jurisdiction.
- (2) Section 9 also makes it unlawful to remove, cut, dig up, or damage or destroy an endangered plant species “in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law.”
- (3) NRCS as a Federal agency may not authorize, fund, or carry out actions that are likely to adversely affect threatened or endangered species, including plants, without consulting with the FWS, although NRCS clients are not prohibited by the ESA from taking federally endangered plants on non-Federal land.
- (4) If the FWS or NMFS does not concur with the NRCS determination that an action is not likely to adversely affect a threatened or endangered species or critical habitat, NRCS—
  - (i) Must respect the determination of the FWS or NMFS.
  - (ii) Need not conduct additional studies to identify the effects of actions unless the State Conservationist considers such studies to be in NRCS’s interests.

#### **C. Section 9 Liabilities**

- (1) NRCS personnel remain responsible for determining whether to enter into consultation with the FWS or NMFS, as appropriate, though FWS and NMFS do have authority to request agencies to consult under section 7.
- (2) If NRCS fails to consult when it has such a duty, its personnel may incur section 9 liabilities if NRCS proceeds without an ITS and its actions result in the take of a

listed species or modification of designated critical habitat. (See section 610.95 below.)

- (3) The landowner, land user, or any other individual contributing to the take may also incur this liability. NRCS programs may also be shut down until consultation is completed in the event NRCS is sued by a third party for failure to comply with the ESA. NRCS must withdraw from providing assistance if it exercises its option not to undertake consultation when such consultation is required.

### **610.95 ESA Section 10 – Exceptions**

A. Section 10 of the ESA authorizes the Secretaries of Interior and Commerce to allow a take of endangered species when the take is for scientific purposes, to enhance the propagation or survival of the affected species, or incidental to an otherwise lawful activity. There are several mechanisms by which to achieve this under section 10.

B. Habitat Conservation Plans (HCPs)

- (1) Private landowners must obtain a permit from the FWS or NMFS, as applicable, before a take is permissible, unless the action is under the authority or control of a Federal agency. An incidental take permit will only be issued to a landowner upon the submission and approval of an HCP and after the opportunity has been provided for the public to comment on the permit and related conservation plan.
- (2) Incidental takings associated with NRCS actions are covered under ESA Section 7 as long as NRCS and the client follow the reasonable and prudent measures and terms and conditions in the biological opinion. Therefore, there is no need for the landowner to develop an HCP or obtain a separate section 10 incidental take permit. However, if an action is beyond the scope of the activities on which NRCS has consulted with the FWS or NMFS, and such action will have an adverse affect upon federally listed animal species or adversely affect critical habitat, an approved HCP and section 10 permit must be obtained by the client.
- (3) It is also possible for NRCS to coordinate with FWS or NMFS and the landowner when an HCP is being developed to ensure that actions, which include NRCS conservation practices, can be included under the biological opinion of the HCP.

C. Safe Harbor Agreements (SHAs)

The main purpose of safe harbor agreements (SHAs) is to protect landowners from future ESA restrictions when they cooperate with the FWS or NMFS, as applicable, to benefit listed species on their land.

(i) Landowner Assurances

- Under these agreements, private landowners are encouraged to maintain or enhance existing endangered species habitat, to restore listed species' habitats, or to manage their lands in a manner that benefits listed species. In return, landowners receive assurances that they will not be subjected to increased property-use restrictions if their efforts attract listed species to their properties or increase the numbers or distribution of listed species already present on their properties.
- Although any listed species occupying a landowner's property at the time of enrollment in the program would remain protected (baseline conditions), should the numbers, habitat, or range of those species increase, the landowner would have the option to take the excess back to agreed-upon baseline conditions without penalty.

- (ii) Net Conservation Benefit.—Before entering into an SHA, the FWS or NMFS, as applicable, must make a finding that the covered endangered or threatened species will receive a net conservation benefit from the agreement’s management actions. Examples of such benefits include—
  - Reduction of habitat fragmentation.
  - Maintenance, restoration, or enhancement of existing habitats.
  - Increase in habitat connectivity.
  - Maintenance or increase of population numbers or distribution.
  - Reduction of the effects of catastrophic events.
  - Establishment of buffers for protected areas.
  - Areas to test and develop new management techniques.
- (iii) To implement the safe harbor program, the FWS or NMFS, as applicable, authorizes incidental take by issuing an enhancement of survival permit (ESA Section 10(a)(1)(A)) for all listed species on an enrolled property in excess of those lands or animals that were already protected at the time of signing the agreement.
- (iv) How NRCS Can Be Involved.—Typically, the permit is issued based on the written SHA between the landowner and the FWS or NMFS, as appropriate. However, State and Federal agencies, as well as nongovernmental organizations (NGOs), may administer programmatic (also called “umbrella”) safe harbor permits and may offer certificates of inclusion to program participants (landowners). The certificates of inclusion allow program participants to return to agreed-to baseline conditions established for their property as long as they follow the requirements of the programmatic agreement and permit.

#### D. Candidate Conservation Agreements with Assurances (CCAAs)

- (1) CCAAs are formal agreements between the FWS or NMFS, as applicable, and one or more parties to address the conservation needs of proposed or candidate species, or species likely to become candidates, before they become listed as endangered or threatened. The participants voluntarily commit to implementing specific actions that will remove or reduce threats to these species, thereby contributing to stabilizing or restoring the species so that listing is no longer necessary.
- (2) Landowner Assurances
  - (i) CCAAs provide assurances to owners of non-Federal property when they voluntarily agree to manage their lands or waters to remove threats to candidate or proposed species. The assurances are that no additional conservation measures will be required and no additional land, water, or resource-use restrictions beyond those voluntarily agreed to will be imposed in the “Conservation Measures” section of the CCAA, should the covered species become listed in the future.
  - (ii) The FWS or NMFS, as applicable, would provide technical assistance in the development of these agreements. Property owners may protect and enhance existing populations and habitats, restore degraded habitat, create new habitat, augment existing populations, restore historic populations, or undertake other activities on their lands to improve the status of candidate or proposed species.
- (3) Benefit to the Species.—The CCAA describes in detail the type and level of take permitted. The permit is issued at the time the CCAA is signed, but it has a delayed effective date tied to the date the covered species is listed. Before the FWS or NMFS enter into a CCAA, they must make a finding that the species will benefit such that, if the activities conducted under the agreement were undertaken by other property

owners similarly situated, the cumulative benefit to the species would be significant enough to remove the need to list the covered species.

- (4) How NRCS Can Be Involved.—As with SHAs, State and Federal agencies, as well as NGOs, can administer “programmatic” (also called “umbrella”) CCAAs and may offer “certificates of inclusion” to program participants (landowners).

## **610.96 ESA Section 11 – Penalties and Enforcement**

A. Section 11 provides for both civil and criminal enforcement of ESA provisions, citizen suits, and coordination with other laws. The NRCS and its employees are included in the ESA definition of “person” and remain subject to ESA proscriptions, including but not limited to the imposition of civil or criminal liability for engaging in any activity prohibited under section 9.

### **B. Landowner Responsibilities Under State and Tribal Laws**

- (1) State agencies and Tribes may provide legal protection for species that are not listed as endangered or threatened under the ESA, as well as those that are listed. Although NRCS employees should consider these species during conservation planning and implementation, private landowners remain responsible for compliance with State laws protecting such species or habitat.
- (2) Under NRCS policy (190-GM Part 410, Subpart B, Section 410.22E(7)), when NRCS is providing assistance that may affect State or Tribal species of concern, the NRCS customer must agree to apply the recommended alternatives that will avoid or minimize the effect to the extent required by State or Tribal law in order to continue to receive assistance.



## **Part 610 – National Environmental Compliance Handbook**

### **Subpart H – Exhibits**

#### **610.100 NRCS NEPA Flowchart**

[Click here for a copy of the NRCS NEPA Flowchart.](#)

#### **610.101 Clean Air Act Evaluation Procedure Guide Sheet**

[Click here for the Clean Air Act Evaluation procedure guide sheet.](#)

#### **610.102 Clean Water Act / Waters of the United States Evaluation Procedure Guide Sheet**

[Click here for the Clean Water Act/Waters of the United States Evaluation Procedure Guide Sheet.](#)

#### **610.103 Coastal Zone Management Areas Evaluation Procedure Guide Sheet**

[Click here for the Coastal Zone Management Areas Evaluation Procedure Guide Sheet.](#)

#### **610.104 Coral Reefs Evaluation Procedure Guide Sheet**

[Click here for the Coral Reefs Evaluation Procedure Guide Sheet.](#)

#### **610.105 Cultural Resources Evaluation Procedure Guide Sheet**

[Click here for the Cultural Resources Evaluation Procedure Guide Sheet.](#)

#### **610.106 Endangered and Threatened Species Evaluation Procedure Guide Sheet**

[Click here for the Endangered and Threatened Species Evaluation Procedure Guide Sheet.](#)

#### **610.107 Environmental Justice Evaluation Procedures Guide Sheet**

[Click here for the Environmental Justice Evaluation Procedures Guide Sheet.](#)

#### **610.108 Essential Fish Habitat (Magnuson-Stevens Act) Evaluation Procedure Guide Sheet**

[Click here for the Essential Fish Habitat \(Magnuson-Stevens Act\) Evaluation Procedure Guide Sheet.](#)

#### **610.109 Floodplain Management Evaluation Procedures Guide Sheet**

[Click here for the Floodplain Management Evaluation Procedures Guide Sheet.](#)

**610.110 Invasive Species Evaluation Procedure Guide Sheet**

[Click here for the Invasive Species Evaluation Procedure Guide Sheet.](#)

**610.111 Migratory Birds/Bald and Golden Eagle Protection Act Evaluation Procedure Guide Sheet**

[Click here for the Migratory Birds/Bald and Golden Eagle Protection Act Evaluation Procedure Guide Sheet.](#)

**610.112 Natural Areas Evaluation Procedure Guide Sheet**

[Click here for the Natural Areas Evaluation Procedure Guide Sheet](#)

**610.113 Prime and Unique Farmlands Evaluation Procedure Guide Sheet**

[Click here for the Prime and Unique Farmlands Evaluation Procedure Guide Sheet.](#)

**610.114 Riparian Area Evaluation Procedure Guide Sheet**

[Click here for the Riparian Area Evaluation Procedure Guide Sheet.](#)

**610.115 Scenic Beauty Evaluation Procedure Guide Sheet**

[Click here the Scenic Beauty Evaluation Procedure Guide Sheet.](#)

**610.116 Wetlands Evaluation Procedure Guide Sheet**

[Click here for the Wetlands Evaluation Procedure Guide Sheet.](#)

**610.117 Wild and Scenic Rivers Evaluation Procedure Guide Sheet**

[Click here for the Wild and Scenic Rivers Evaluation Procedure Guide Sheet.](#)

**610.118 How to Use NRCS's Categorical Exclusions (CEs)**

[Click here for "How to use NRCS's CEs."](#)

**610.119 Legal Result Pyramid**

[Click here for the legal result pyramid.](#)

**610.120 Sample Letter of Invitation for a Cooperating Agency**

[Click here for a sample letter of invitation for a cooperating agency.](#)

**610.121 Typical Elements of a Cooperating Agency Memorandum of Understanding (MOU)**

[Click here for a copy of the typical elements of a cooperating agency MOU.](#)

**610.122 Sample MOU Between Agencies**

[Click here for a sample MOU between agencies.](#)

**610.123 Sample Statement of Financial Interest (SOFI) Disclosure**

[Click here for a sample statement of financial interest \(SOFI\) disclosure.](#)

**610.124 “Affected Area” Planning Worksheet**

[Click here for a copy of an “affected area” planning worksheet.](#)

**610.125 Ten-Step Approach to Integrating NEPA With Special Environmental Concerns**

[Click here for the “Ten-Step Approach to Integrating NEPA With Special Environmental Concerns.”](#)

**610.126 Coordinating Section 106 of NHPA With NEPA Flowchart**

[Click here for a copy of the “Coordinating Section 106 of NHPA With NEPA Flowchart.”](#)

**610.127 NRCS Technical Note on “Analyzing Effects of Conservation Practices”**

[Click here for a copy of the NRCS technical note on “Analyzing Effects of Conservation Practices.”](#)

**610.128 NRCS Technical Note on “Considering the Cumulative Effects of NRCS Activities”**

[Click here for a copy of NRCS technical note on “Considering the Cumulative Effects of NRCS Activities.”](#)

**610.129 Review Timeframes for EA/FNSIs and EIS/RODs**

[Click here for Review Timeframes for EA/FNSIs and EIS/RODs.](#)

**610.130 Sample FNSI**

[Click here for sample FNSI.](#)

**610.131 Sample Notice of Availability (NOA) for an Environmental Assessment (EA)/Finding of No Significant Impact**

[Click here for a sample Federal Register NOA for an EA/FNSI.](#)

**610.132 Sample Notice of Intent (NOI) for an Environmental Impact Statement (EIS)**

[Click here for a sample Federal Register NOI for an EIS.](#)

**610.133 Sample Record of Decision (ROD)**

[Click here for a sample ROD.](#)

**610.134 NEPA Supplementation Review and Documentation Checklist**

[Click here for the “NEPA Supplementation Review and Documentation Checklist.”](#)

**610.135 Sample Completed Compliance Supplementation Worksheet**

[Click here for a sample completed compliance supplementation worksheet.](#)

**610.136 Adoption Flowchart**

[Click here for the adoption flowchart \(copyright Owen L. Schmidt; reprinted with permission of the copyright owner\).](#)

**610.137 Sample Notice of Intent to Adopt an EA or EIS**

[Click here for a sample notice of intent to adopt an EA or EIS.](#)

**610.138 Eight Questions Any EA or EIS Should Readily Answer**

[Click here for “8 Questions Any EA or EIS Should Readily Answer” \(Schmidt 2009\) \(copyright Owen L. Schmidt; reprinted with permission of the copyright owner\).](#)

**610.139 NEPA Document Quick Review Worksheet**

[Click here for “NEPA Document Quick Review Worksheet”](#)

**610.140 Endangered Species Act Compliance Procedures for Section 7 of the ESA**

[Click here for Endangered Species Act compliance procedures for section 7 of the ESA.](#)

**610.141 Biological Evaluation/Assessment Outline**

[Click here for a biological evaluation/assessment outline.](#)

**610.142 Example Privacy Act Statement for NRCS Conservation Program Application (Landowner Consent Form)**

[Click here for a Privacy Act statement for NRCS conservation program application \(landowner consent form\).](#)

**610.143 Landowner Conservation Tools Available From the FWS**

[Click here for landowner conservation tools available from the FWS.](#)

**610.144 Sample ESA MOU With FWS/NMFS**

[Click here for a sample ESA MOU with FWS/NMFS.](#)

**610.145 Example of an Action Area Within the Species' Range**

[Click here for a copy of the example of an action area within the species' range.](#)

**610.146 Comparison of the Conference and Consultation Provisions of the  
ESA and Regulations Implementing Section 7**

[Click here for a comparison of the conference and consultation provisions of the ESA and regulations implementing section 7 \(FWS/NMFS Consultation Handbook, 1998\).](#)

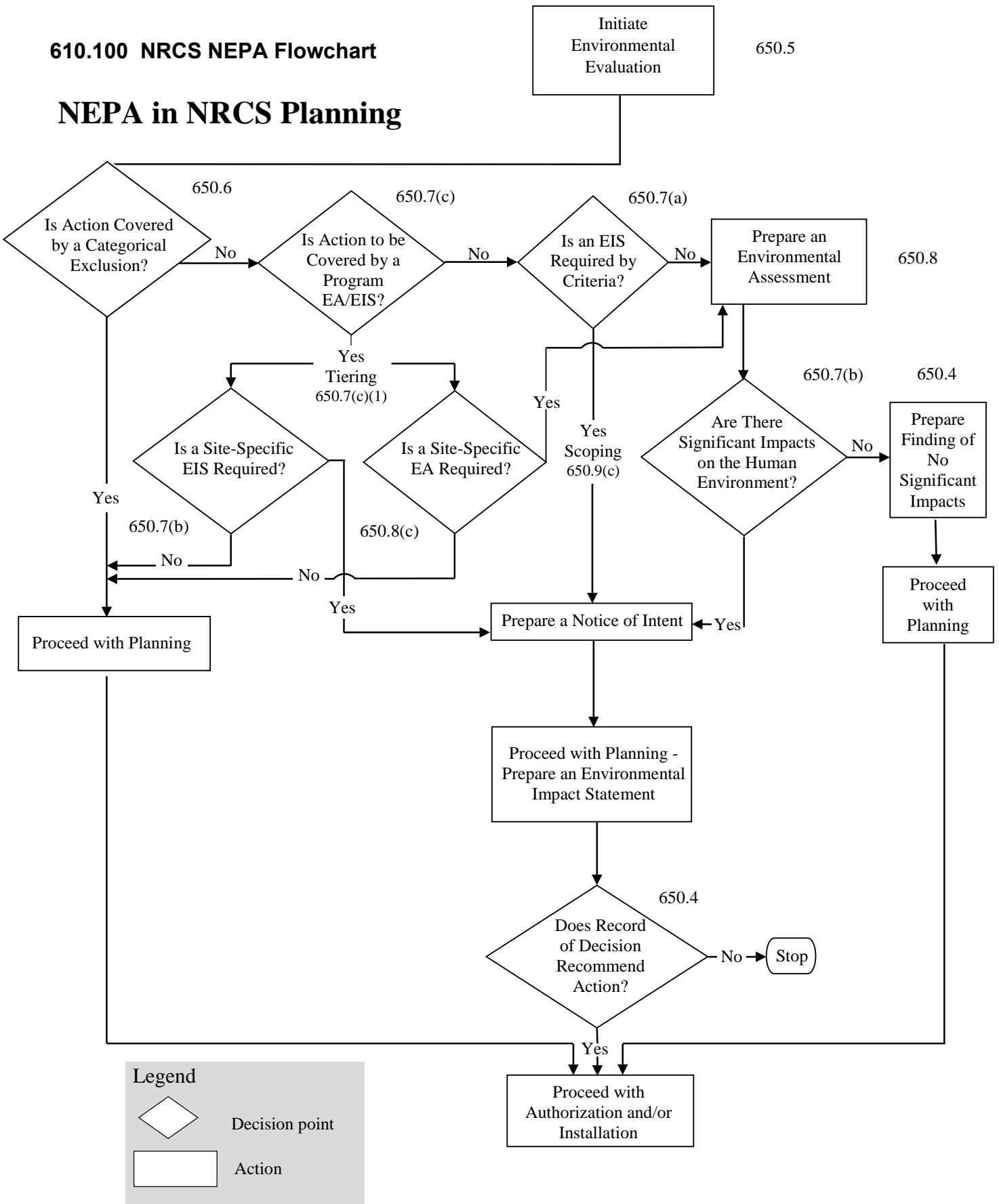
**610.147 How to Write a Better Biological Assessment**

[Click here for "How to Write a Better Biological Assessment."](#)

**Part 610 - National Environmental Compliance Handbook  
Subpart H - Exhibits**

**610.100 NRCS NEPA Flowchart**

**NEPA in NRCS Planning**



## 610.101 Clean Air Act Evaluation Procedure Guide Sheet

<b>CLEAN AIR ACT</b> <b>NECH 610.21</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

**NOTE:** STEPS 1 and 2 help determine whether construction permitting is needed for the planned action or activity. STEP 3 helps determine whether the opportunity for emissions reduction credits exist. STEP 4 helps determine whether any other permitting, record keeping, reporting, monitoring, or testing requirements are applicable. Each of these steps should be updated with more specific language as needed, since air quality permitting and regulatory requirements are different for each state. In each step, if more information is needed or there is a question as to whether there are air quality requirements that need to be met, the planner or client should contact the appropriate air quality regulatory agency with permitting jurisdiction for the site to determine what air quality regulatory requirement must be met prior to implementing the planned action or activity.

### STEP 1.

Is the action(s) expected to increase the emission rate of any regulated air pollutant?

**NOTE:** The definition of a "regulated air pollutant" differs depending on the air quality regulations in effect for a given site. For a federal definition of "regulated air pollutant," please refer to the 40 CFR 70.2. Other definitions for "regulated air pollutant" found in state or local air quality regulations may be different. *States should tailor this question to the State air quality regulations and definitions since those will include any Federal requirements.*

- No    **If "No,"** it is likely that no permitting or authorization is necessary to implement the proposed action or alternative. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used** and advise the client to contact the appropriate air quality regulatory agency with permitting jurisdiction for the site to either verify that no permitting or authorization is necessary or to determine what requirements must be met prior to implementing the planned action or activity. **Go to step 3.**
- Yes    **If "Yes," go to Step 2.**

### STEP 2.

Can the action(s) be modified to eliminate or reduce the increase in emission rate of the regulated air pollutants?

**NOTE:** This Step is to prompt the planner to review the planned action or activity to see if there is an opportunity to either eliminate the emission rate increase (possibly remove a permitting requirement) or reduce the emission rate increase (possibly move to less stringent permitting).

- No    **If "No,"** it is likely that permitting or authorization from the appropriate air quality regulatory agency will be required prior to implementing the planned action or activity. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used** and advise the client to contact the appropriate air quality regulatory agency with permitting jurisdiction for the site to either verify that no permitting or authorization is necessary or to determine what requirements must be met prior to implementing the proposed action or alternative. **Go to Step 3.**
- Yes    **If "Yes,"** modify the proposed action or alternative and **repeat Step 1.**

## CLEAN AIR ACT (continued)

### STEP 3.

Is the action(s) expected to result in a decrease in the emission rate of any criteria air pollutant for which the area in which the site is located in an EPA designated nonattainment area for that criteria air pollutant?

**NOTE:** For an explanation of criteria air pollutants and nonattainment areas, refer to Section 610.21 of the NECH. Further information regarding nonattainment areas can also be found on the U.S. EPA nonattainment area Web page.

- No **If "No," go to Step 4.**
- Yes **If "Yes,"** the opportunity for obtaining nonattainment pollutant emission credits may exist. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used** and advise the client of that potential opportunity. If the client is interested in registering nonattainment pollutant emission credits, advise him/her to contact the appropriate air quality regulatory agency with permitting jurisdiction for the site to determine if and how credits can be documented and/or registered for potential sale. **Go to Step 4.**

### STEP 4.

Is the action(s) subject to any other federal (i.g., New Source Performance Standards, National Emissions Standards for Hazardous Air Pollutants, etc.), State, or local air quality regulation (including odor, fugitive dust, or outdoor burning)?

**NOTE:** Refer to Section 610.21 of the NECH for a further discussion of air quality regulations.

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes,"** additional permits, authorizations, or controls may be needed before implementing the proposed action or alternative. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used** and advise the client to contact the appropriate air quality regulatory agency with permitting jurisdiction for the site to determine what requirements must be met prior to implementing the proposed action or alternative.

### Notes:



**610.102 Clean Waters Act/Waters of the United States Evaluation Procedure Guide Sheet**

<b>CLEAN WATER ACT/WATERS of the U.S.</b> <b>NECH 610.22</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

**NOTE:** This guide sheet should be tailored to meet the specific needs of individual State and local regulatory and permitting requirements. It is important for each State to coordinate with their individual State and Federal regulatory agencies to tailor State-specific protocols in order to prevent significant delays in processing permit applications.

**Complete both sections of this guide sheet to address Federal as well as State-administered regulatory requirements of the Clean Water Act (CWA).**

**SECTION I**

**Federally Administered Regulatory Program - Section 404 of the CWA**

**STEP 1.**

Will the action(s) involve or likely result in the discharge or placement of dredged or fill material or other pollutants into areas that could be considered to be waters of the United States (Including, but not limited to wetlands, lakes, streams, channels, and other water conveyances, including some small ditches)? *More detailed information regarding waters of the United States and Federal permitting programs under CWA is found in the NECH 610.22.*

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with Section II below.**
- Yes    **If "Yes," go to Step 2.**

**STEP 2.**

Is the action(s) an activity exempt from section 404 regulations (40 CFR Part 232)?

**Note:** the exemption should be verified with the local U.S. Army Corps of Engineers (Corps) district.

- No    **If "No," go to Step 3.**
- Yes    **If "Yes," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used to verify the exemption applies and proceed with Section II below.**

**STEP 3.**

Can the action(s) be modified to avoid the discharge of dredged or fill material or other pollutants into waters of the United States?

- No    **If "No," go to Step 4.**
- Yes    **If "Yes," modify the action to avoid discharge. Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with Section II below.**

**CLEAN WATER ACT/WATERS of the U.S. (continued)**

**STEP 4.**

Has the client obtained a section 404 permit (individual, regional, or nationwide) or a determination of an exemption from the appropriate Corps office?

- No **If "No,"** determine if the client has applied for a permit. If a permit has not been applied for, the client will need to do so. If a permit has been applied for, document this, and continue the planning process in consultation with the client and the regulatory agencies. The permit authorization should be reflected in the final plan and documentation. **Continue planning, but a permit is required prior to implementation. Complete Section II below.**
- Yes **If "Yes," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and complete Section II below.** The final plan should not be contrary to the provisions of the permit authorization or exemption. Changes made during the planning process that may impact the applicability of the permit, such as amount or location of fills or discharges of pollutants should be coordinated with the Corps. **Complete Section II below.**

**Notes:**

**SECTION II**

**State Administered Regulatory Programs, Sections 303(d) and 402 of CWA**

**STEP 1**

Is the proposed action or alternative located in proximity to waters listed by the State as "impaired" under Section 303(d) of the CWA?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed to Step 2.**
- Yes **If "Yes," insure consistency with any existing water quality or associated watershed action plans that have been established by the State for that stream segment. Even if TMDLs have not been established by the State for that stream segment, ensure that the action will not contribute to further degradation of that stream segment. Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed to Step 2.**

**STEP 2**

Will the proposed action or alternative likely result in point-source discharges from developments, construction sites, or other areas of soil disturbance, or sewer discharges [e.g. projects involving stormwater ponds or point-source pollution, including concentrated animal feeding operations (CAFOs) for which comprehensive nutrient management plans (CNMPs) are being developed]? *Section 402 of the CWA requires a permit for these activities through the National Pollutant Discharge Elimination System (NPDES) program which the States administer.*

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 3.**

## CLEAN WATER ACT/WATERS of the U.S. (continued)

### STEP 3

Has the client obtained a NPDES permit or a determination of an exemption from the appropriate EPA or State-regulatory office?

- No     **If “No,”** determine if the client has applied for any necessary permits. If a permit has not been applied for, the client will need to do so. If they have applied, document this and continue the planning process in consultation with the client and the regulatory agency. Continue the planning process in consultation with the client and the regulatory agencies. The permit authorization should be reflected in the final plan and documentation. **Continue planning, but a permit is required prior to implementation.**
  
- Yes     **If “Yes,” document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.** The final NRCS conservation plan should not be contrary to the provisions of the permit authorization or exemption. Changes made during the planning process that may impact the applicability of the permit should be coordinated with the appropriate State regulatory agency.

#### Notes:

### 610.103 Coastal Zone Management Areas Evaluation Procedure Guide Sheet

<b>COASTAL ZONE MANAGEMENT AREAS</b> <b>NECH 610.23</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

**STEP 1.**

Is the action(s) in an officially designated "Coastal Zone Management Area"?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 2.**

**STEP 2.**

Is the action(s) "consistent" with the goals and objectives of the State's Coastal Zone Management Program (as required by Section 307 of the Coastal Zone Management Act)?

- No **If "No," go to Step 3.**
- Yes **If "Yes," document the finding, including the reasons, on the NRCS-CPA-52 and proceed with planning.**

**STEP 3.**

Is NRCS providing financial assistance or otherwise controlling the action?

- No **If "No," NRCS should provide the landowner with relevant information regarding any local and State compliance requirements and protocols (permitting, etc) in special management areas as appropriate to comply with local Coastal Zone Management Programs. Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," the NRCS District Conservationist or an NRCS State Office employee must contact the State's Coastal Zone Program Office before the action is implemented to discuss possible modifications to the proposed action. NRCS may not provide assistance if the proposed action or alternative would result in a violation of a State's Coastal Zone Management Plan. NRCS shall provide a consistency determination to the State agency no later than 90 days before final approval of the activity. When concurrence is received from the State, document the agreed to items and reference or attach them to the NRCS-CPA-52.**

**Notes:**

**610.104 Coral Reefs Evaluation Procedure Guide Sheet**

<p><b>CORAL REEFS</b>  <b>NECH 610.24</b>  <b>Evaluation Procedure Guide Sheet</b></p>	<p>Client/Plan Information:</p>
<p>Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other</p>	

**STEP 1.**

Are coral reefs or associated water bodies (e.g. embayment areas) present in or near the planning area?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 2.**

**STEP 2.**

Is there a potential for the action(s) to degrade the conditions of the coral reef ecosystem? (Refer to U.S. coral Reef Task Force Web site for local action strategies in your area.)

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 3.**

**STEP 3.**

Can the action(s) be modified to reduce or avoid degradation to the coral reef ecosystem?

- No **If "No," identify the component(s) of the system which will cause the potential impacts. Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used. Go to Step 4.**
- Yes **If "Yes," modify the action or alternative and repeat Step 2.**

**STEP 4.**

Is NRCS providing financial assistance or otherwise controlling the action(s)?

- No **If "No," and degradation of the reefs is unavoidable, provide the client with information regarding the current status of U.S. coral reefs and the documented causes of degradation (including sedimentation and nutrient runoff), and the beneficial aspects of maintaining coral reefs.**
- Yes **If "Yes," the significance of the impacts must be determined. An Environmental Assessment (EA) or Environmental Impact Statement (EIS) may be required. Contact your State Office for assistance.**

**Notes:**

**610.105 Cultural Resources Evaluation Procedure Guide Sheet**

<b>CULTURAL RESOURCES / HISTORIC PROPERTIES</b> <b>NECH 610.25</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:  
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

**NOTE:** This guidesheet provides general guidance to field planners and managers. States may need to tailor this Evaluation Procedure Guide Sheet to reflect State Level Agreements (SLAs) with SHPOs or Tribal consultation protocols or operating procedures pertinent to your State or other State-specific protocols that reflect the terms of the current National Programmatic Agreement among NRCS, the Advisory Council on Historic Preservation, and the National Conference of SHPOs. For additional information regarding compliance with Section 106 of the NHPA and NRCS cultural resource policy refer to Title 420, General Manual (GM), Part 401, Cultural Resources; for current operating procedures see Title 190, National Cultural Resource Procedures Handbook (NCRPH), Part 601.

**NOTE regarding consultations:** When dealing with undertakings with the potential to affect cultural resources or historic properties, it is important to follow NRCS policy and the regulations that implement Section 106 and complete consultation with mandatory (SHPOs, THPOs, federally recognized Tribes, and native Hawaiians) and identified consulting parties during the course of planning. This consultation is not documented on this guide sheet but would occur with Steps 2, 3, 4, and 6 and these must be conducted in accordance with NRCS State Office operating procedures to ensure appropriate oversight by Cultural Resources Specialists who meet the Secretary of Interior's Qualification Standards.

**STEP 1.**

Is the action(s) funded in whole or part or under the control of NRCS? **To make this determination, answer the following:**

- Is technical assistance carried out by or on behalf of NRCS?  No  Yes  Unknown
- Is it carried out with NRCS financial assistance?  No  Yes  Unknown
- Does it require Federal approval with NRCS as the lead federal agency (permit, license, approval, etc.)?  No  Yes  Unknown
- Is it a joint project with another Federal, State, or local entity with NRCS functioning as lead federal agency?  No  Yes  Unknown

- **If all of your responses are "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- **If any responses are "Yes," go to Step 2.**
- **If "Unknown," consult with your State Cultural Resources Coordinator or Specialist (CRC or CRS) to determine if this is an action/undertaking that requires review and then complete Step 1.**

**STEP 2.**

Is the action(s) identified as an "undertaking" (as defined in the 190-NCRPH and 420-GM) with the potential to cause effects to cultural resources/historic properties?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 3.**

**STEP 3.**

Has the undertaking's Area of Potential Effect (APE) been determined? **NOTE:** Include all areas to be altered or affected, directly or indirectly: access and haul roads, equipment lots, borrow areas, surface grading areas, locations for disposition of sediment, streambank stabilization areas, building removal and relocation sites, disposition of removed concrete, as well as the area of the actual conservation practice. Consultation is essential during determination of the APE so that all historic properties (buildings, structures, sites, landscapes, objects, and properties of cultural or religious importance to American Indian tribal governments and native Hawaiians) are included.

- No **If "No," or "Unknown," consult with your state specific protocols or the CRC or CRS to determine the APE.**
- Unknown **determine the APE.**
- Yes **If "Yes," go to Step 4.**

**CULTURAL RESOURCES (continued)**

**STEP 4.**

Have the appropriate records (National, State and local registers and lists) been checked or interviews conducted to determine whether any known cultural or historic resources are within or in close proximity to the proposed APE or project area? **Note:** This record checking does not substitute for mandatory consultation with SHPO, THPO, Tribes, and other identified consulting parties.

- National Register of Historic Places?  No  Yes  Unknown
- State Register of Historic Places?  No  Yes  Unknown
- The SHPO's statewide inventory or data base?  No  Yes  Unknown
- Local/county historical society or commission lists?  No  Yes  Unknown
- Client knowledge of existing artifacts, historic structures, or cultural features?  No  Yes  Unknown

- **If any responses are "No" or "Unknown," work with your CRC or CRS** to be sure these files are checked (sometimes the SHPO will let only the CRS or CRC review the files). Follow all other operating procedures as required by NRCS policy and procedures, SLA, and Tribal consultation protocols or operating procedures, as appropriate.
- **If all responses are "Yes," and NRCS providing technical assistance only,** then use any known information, notify the landowner of any potential affects, and provide recommendations for consideration. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.** If NRCS is providing more than technical assistance **go to Step 5.**

**STEP 5.**

Did Step 4 reveal the existence of any known or potential cultural resources in the APE, or were any cultural resource indicators observed during the field inspection of the APE? **NOTE:** Field inspections or cultural resource survey will need to be conducted by qualified personnel in your state. Check with your State Cultural Resources Specialist to determine qualification criteria.

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," contact the CRC or CRS. Do NOT proceed with finalizing project design or project implementation until the final CRS response is received. Go to Step 6.**

**STEP 6.**

Can the proposed actions or alternatives be modified to avoid effects on the known cultural resources?

- No **If "No," go to Step 7.**
- Yes **If "Yes," modify the planned actions or activities and proceed according to CRS guidance and document this on the NRCS-CPA-52, or notes section below and continue with planning.**

**STEP 7.**

Has consultation with appropriate and interested parties been completed and documented? **NOTE:** The field planner completing the NRCS-CPA-52 generally does not do the consultation unless it is the CRS or CRC. Refer to the appropriate specialist for the documentation information.

- No **If "No" refer to State CRC or CRS** for further consultation and recommendations to the State Conservationist.
- Yes **If "Yes," and all necessary historic preservation activities of identification, evaluation, and treatment have been completed, document any consultation and proceed with planning.**

**Notes:**

**610.106 Endangered and Threatened Species Evaluation Procedure Guide Sheet**

<b>ENDANGERED AND THREATENED SPECIES</b> <b>NECH 610.26</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

**STEP 1.**

Are protected species or their habitat present in the area of potential effect?

**Note:** protected species include federally listed, proposed, and candidate specie, as well as State and Tribal species protected by law or regulation. In addition, if a species' listing or status changes before implementation, you must complete this review again.

- No     **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes     **If "Yes," document the species and relevant benchmark data on NRCS-CPA-52, then proceed to the applicable section(s) listed below:**
- Section 1- Federally listed endangered or threatened species/habitats
  - Section 2- Federally proposed species/habitats
  - Section 3- Federal candidate species/habitats
  - Section 4- State/Tribal species/habitats

**SECTION 1: Federally listed endangered or threatened species/habitats**

**STEP 1.**

What is the effect (i.e. beneficial/adverse, short-term/long-term, etc.) of the action(s) on endangered or threatened species or their habitat?

- No effect     **If "No effect," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- May affect     **If "May affect," meaning that the action might affect endangered and threatened species or their habitat in some way, go to Step 2.**

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**Federally listed endangered or threatened species/habitats (continued)**

**STEP 2.**

Is NRCS providing financial assistance or otherwise controlling the action(s)?

- No **If "No," and the effects are purely benign or beneficial,** continue with planning but ensure the client is aware endangered and threatened species or their habitat exists and conservation practices must be applied in a manner that avoids adverse effects. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
  
- No **If "No," and there is a possibility of short-term or long-term adverse effects** then inform the client of NRCS's policy concerning endangered and threatened species and the need to use alternative conservation treatments to avoid adverse effects on these species or their habitat. Further, NRCS assistance will be provided only if one of the conservation alternatives is selected that avoids adverse effects or the client obtains a "take" permit from the FWS/NMFS. Refer the client to FWS/NMFS to address the client's responsibilities under Sections 9 & 10 of the ESA, for Federally listed species. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used. If assistance is continued, document how the alternative conservation treatments avoid adverse effects and proceed with planning.**
  
- Yes **If "Yes," and the action will be implemented according to an existing informal consultation, biological opinion, or 4(d) special rule, document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
  
- Yes **If "Yes," and the action cannot be modified to avoid the effect,** inform client that in order to proceed with the action NRCS must consult with FWS/NMFS. Contact your area or State biologist for consultation procedures. The action can only be implemented according to the terms of the consultation. **When consultation is complete, attach the consultation documents to NRCS-CPA-52 or reference them in the notes section below and proceed with planning.**

**Notes** for Federally listed endangered or threatened species/habitats:

## SECTION 2: Federally proposed species/habitats

### STEP 1.

What is the effect (i.e. beneficial/adverse, short-term/long-term, etc.) of the action(s) on proposed species or their habitat?

- No effect      **If "No effect,"** additional evaluation is not needed concerning proposed species or proposed critical habitat. Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.
- May effect      **If "May affect,"** meaning that the action might affect endangered and threatened species or proposed critical habitat in any way, **go to Step 2.**

### STEP 2.

Is NRCS providing financial assistance or otherwise controlling the action?

- No      **If "No," and the effects are purely benign or beneficial,** continue with planning but ensure the client is aware proposed species or their habitat exists and conservation practices must be applied in a manner as to avoid adverse effects. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- No      **If "No," and there is a possibility of short-term or long-term adverse effects** then inform the client of NRCS's policy concerning proposed species and the need to use alternative conservation treatments to avoid adverse effects on these species or their habitat. Further, NRCS assistance will be provided only if one of the conservation alternatives is selected that avoids adverse effects, and to the extent practicable, provide long-term benefits to species and habitat. Should the client or landowner refuse to apply the recommended alternative conservation treatment, NRCS will inform the client and landowner of the NRCS policy and shall not provide assistance for the action or portion of the action affecting the proposed species.
- Yes      **If "Yes," and the action will be implemented according to an existing conference report or conference opinion.** Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.
- Yes      **If "Yes," and the action cannot be modified to avoid the effect,** inform client that the NRCS must conference with FWS/NMFS. Contact your area or State biologist for conference procedures. Further NRCS assistance can only be provided only if the client agrees to implement the conference recommendations to the extent practicable. **When the conference is complete, attach the conference documents to NRCS-CPA-52, or reference them in the notes section below, and proceed with planning.**

**Notes** for Federally proposed species/habitats:

### SECTION 3: Federal candidate species/habitats

#### STEP 1.

What is the effect (i.e. beneficial/adverse, short-term/long-term, etc.) of the action(s) on candidate species or their habitat?

- No adverse effect      **If “No adverse effect,”** additional evaluation is not needed concerning proposed species or proposed critical habitat. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- May adversely effect      **If “May adversely affect,”** recommend alternative treatments that avoid or minimize the adverse effects and, to the extent practicable, provide long-term benefit to the species. **Document the effects of the selected alternative on the NRCS-CPA-52 and proceed with planning.**

Notes for Federally proposed species/habitats:

### SECTION 4: State/Tribal species/habitats

#### STEP 1.

What is the effect (i.e. beneficial/adverse, short-term/long-term, etc.) of the proposed action or alternative on State/Tribal species or their habitat?

- No adverse effect      **If “No adverse effect,”** additional evaluation is not needed concerning State or Tribal species of concern. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- May adversely affect      **If “May adversely affect,”** go to Step 2.

#### STEP 2.

Is NRCS providing financial assistance or otherwise controlling the action?

- No      **If “No,” and there is a possibility of short-term or long-term adverse effects** then inform the client of NRCS's policy concerning State and Tribal species and the need to use alternative conservation treatments to avoid or minimize adverse effects on these species or their habitat. Further, NRCS assistance will be provided only if one of the conservation alternatives is selected that avoids or minimizes adverse effects to the extent practicable. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used.** If assistance is continued, document how the alternative conservation treatments avoid or minimize those adverse effects and proceed with planning.
- Yes      **If “Yes,” and the action cannot be modified to avoid the adverse effect,** inform client that the NRCS must coordinate with State/Tribal government and receive concurrence on recommended alternatives. Contact your area or State biologist for coordination procedures. Further NRCS assistance will be provided only if the client agrees to implement a concurred upon alternative and obtains any required permits. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**

Notes for State/Tribal species/habitats:

## 610.107 Environmental Justice Evaluation Procedure Guide Sheet

<b>ENVIRONMENTAL JUSTICE</b> <b>NECH 610.27</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

### STEP 1.

In the area affected by the NRCS action, are there low-income populations, minority populations, Indian Tribes, or other specified populations that would experience disproportionately high and adverse human health impacts resulting from the proposed action or alternative?

- No      **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes      **If "Yes," go to Step 2.**
- Unknown      **If "Unknown,"** consult your State Environmental Specialist, or equivalent and Tribal Liaison for additional guidance, **and repeat Step 1.** **NOTE:** The USDA Departmental Regulation on Environmental Justice (DR 5600-002) provides detailed "determination procedures" for NEPA as well as non-NEPA activities and suggests social and economic effects for considerations.

### STEP 2.

Is the action(s) the type that might have a disproportionately high and adverse environmental or human health effect on a low-income population, minority population, or Indian Tribe?

- No      **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes      **If "Yes,"** initiate Tribal consultation or community outreach to affected and interested parties that are categorized as low-income, minority, or as Indian Tribes. The purpose is to encourage participation and input on the proposed program or activity and any alternatives or mitigating options. Participation of these populations may require adaptive or innovative approaches to overcome linguistic, institutional, cultural, economic, historic, or other potential barriers to effective participation. If assistance is needed with this process, contact your State Public Affairs Specialist or Tribal Liaison. **Go to Step 3.**

### STEP 3.

Considering the results of the outreach initiative together with other information gathered for the decision-making process, will the action(s) have a disproportionately high and adverse effect on the human health or the environment of the minority, low-income, or Indian populations?

- No      **If "No," notify interested and affected parties of agency decision. Document on the NRCS-CPA-52, or notes section below, the finding and rationale.**
- Yes      **If "Yes,"** consider the feasibility and appropriateness of the proposed alternatives and their effects and the possibility of developing additional alternatives or a mitigation alternative and **repeat Step 3.** **Document results of these early scoping sessions on the NRCS-CPA-52.** If it is determined that there remains a disproportionately high and adverse effect on human health or the environment, or the project or action carries a high degree of controversy then an Environmental Assessment (EA) or Environmental Impact Statement (EIS) may be required. Contact your State Office for assistance.

### Notes:

**610.108 Essential Fish Habitat (Magnuson-Stevens Act) Evaluation Procedure Guide Sheet**

<b>ESSENTIAL FISH HABITAT</b> <b>NECH 610.28</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:  
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

**STEP 1.**

Is the action(s) in an area designated as Essential Fish Habitat (EFH) or in an area where effects could indirectly or cumulatively affect EFH?

**NOTE:** Additional information regarding EFH Descriptions and Identification can be found on NMFS's website.

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes    **If "Yes," go to Step 2.**

**STEP 2.**

Will the action(s) result in short-term or long-term disruptions or alterations that may result in an "adverse effect" to EFH? [16 U.S.C. 1855(b)(2); Magnuson Stevens Act (MSA) Section 305(b)(2)]

- No    **If "No," consultation with NMFS and further evaluation is not needed concerning EFH unless otherwise specified by the State Biologist. Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes    **If "Yes," go to Step 3.**

**STEP 3.**

Can the action(s) be modified to avoid the potential adverse effect?

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used. Go to Step 4.**
- Yes    **If "Yes," modify the action or activity and repeat Step 2.**

**STEP 4.**

Is NRCS providing assistance that would result in the funding, authorization, or undertaking of the action(s)? [MSA Section 305(b)]

- No    **If "No," an alternative conservation system that avoids the adverse effect must be identified as the proposed action or NRCS must discontinue assistance.** If assistance is terminated, indicate the circumstances in the Remarks section of the NRCS-CPA-52 or contact the NRCS State Office for assistance. (Title 190, General Manual, Part 410, Subpart A, Section 410.3)
- Yes    **If "Yes," inform the client that the NRCS District Conservationist or NRCS State Biologist must consult with NMFS before further action or activity can proceed [MSA, Section 305(b)(2)].**  
**Note:** For specific information regarding consultation for EFH, see NMFS "Essential Fish Habitat Consultation Guidance," April 2004, available online.

**Notes:**

## 610.109 Floodplain Management Evaluation Procedure Guide Sheet

<b>FLOODPLAIN MANAGEMENT</b>	Client/Plan Information:
<b>NECH 610.29</b>	
<b>Evaluation Procedure Guide Sheet</b>	
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

**NOTE: This Guide Sheet is intended for evaluation of "non-project" technical and financial assistance only (individual projects). For "project" assistance criteria (those assisting local sponsoring organizations), consult Title 190, General Manual, Part 410, Subpart B, Section 410.25.**

### STEP 1.

Is the project area in or near a 100-year floodplain?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and go to Step 4.**
- Yes **If "Yes," go to Step 2.**
- Unknown **If "Unknown," review the HUD/FEMA flood insurance maps and other available data such as soils information relating to flood frequency. If still "Unknown", contact the appropriate field or hydraulic engineer. Repeat Step 1.**

### STEP 2.

Is the planning area in the floodplain an agricultural area that has been used to produce food, fiber, feed, forage or oilseed for at least 3 of the last 5 years before the request for assistance?

- No **If "No," go to Step 4.**
- Yes **If "Yes," document the agricultural use history and go to Step 3.**

### STEP 3.

Is the floodplain's agricultural production in accordance with official state or designated area water quality plans?

- No **If "No," advise the client of conservation practices or other measures that will bring the land into accordance with water quality plans and incorporate these into the conservation plan. Go to Step 4.**
- Yes **If "Yes," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and go to Step 4.**

### STEP 4.

Over the short or long term, will the proposed action or alternative likely result in an increased flood hazard, incompatible development, or other adverse effect to the existing natural and beneficial values of the floodplain or lands adjacent or downstream?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," modify the action if possible to avoid adverse effects. Inform landuser of the hazards of locating actions in the floodplain and discuss alternative methods of achieving the objective and/or alternative locations outside the 100-year floodplain. If the action can be modified, describe the modification on the NRCS-CPA-52 and repeat 4. If the action cannot be modified to eliminate adverse effects, go to Step 5.**

## FLOODPLAIN MANAGEMENT (continued)

### STEP 5.

Is one or more of the alternative methods or locations practical?

- No **If "No,"** the District Conservationist will carefully evaluate and document the potential extent of the adverse effects and any increased flood risk before making a determination of whether to continue providing assistance. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and go to Step 6.**
- Yes **If "Yes," and the client agrees** to implement the alternative methods or locations outside the floodplain, **document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," and the client DOES NOT AGREE** to implement the alternative methods or locations, advise the client that NRCS may not continue to provide technical and/or financial assistance where there are practicable alternatives. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and go to Step 6.**

### STEP 6.

Will assistance continue to be provided?

- No **If "No,"** provide written notification of the decision to terminate assistance to the client and the local conservation district, if one exists. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes,"** the district conservationist should **design or modify the proposed action or alternative to minimize the adverse effects to the extent possible. Circulate a written public notice** locally explaining why the action is proposed to be located in the 100-year floodplain. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**

**Notes:**

NRCS-CPA-52, April 2013

### 610.110 Invasive Species Evaluation Procedure Guide Sheet

<b>INVASIVE SPECIES</b> <b>NECH 610.30</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

**NOTE:** Executive Order 13112 states that “a Federal agency shall not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction and spread of invasive species in the U.S. or elsewhere.” Remember that invasive species can include plants, fish, animals, insects, etc.

#### STEP 1.

Is the action(s) in an area where invasive species are known to occur or where risk of an invasion exists?

**NOTE:** Executive Order 13112 (1999) directs Federal agencies to "prevent the introduction of invasive species, provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause."

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes    **If "Yes," go to Step 2.**

#### STEP 2.

Conduct an inventory of the invasive species and identify areas at risk for future invasions (Title 190, General Manual, Part 414, Subpart D, Section 414.30). Delineate these areas on the conservation plan map and document management considerations in the plan or assistance notes. Have all appropriate tools, techniques, management strategies, and risks for invasive species prevention, control, and management been considered in the planning process?

- No    **If "No," you must consider and include all appropriate factors relating to the existing and potential invasive species for the planning area and repeat Step 2.**
- Yes    **If "Yes," describe strategies, techniques, and reasons on NRCS-CPA-52 and go to Step 3.**

#### STEP 3.

Is the action(s) consistent with the Executive Order 13112, the national invasive species management plan, and any applicable State or local invasive species management plan?

- No    **If "No," modify the action and repeat Step 3.** If the client is unwilling to modify the proposed action, NRCS must discontinue assistance. **Document the circumstances on the NRCS-CPA-52, or notes section below, and in the case file.**
- Yes    **If "Yes," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**

#### Notes:



## 610.111 Migratory Birds/Bald and Golden Eagle Protection Act Evaluation Procedure Guide Sheet

<b>MIGRATORY BIRDS, BALD AND GOLDEN EAGLE PROTECTION ACT, NECH 610.31</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

**NOTE: This guide sheet includes evaluation guidance for compliance with both the Migratory Birds Treaty Act, Executive Order 13186 (2001), and the Bald and Golden Eagle Protection Act. Both sections must be completed if eagles are identified within the area of potential effect.**

### SECTION I: MIGRATORY BIRDS TREATY ACT

In the lower 48 states, all species except the house sparrow, rock pigeon, common starling, and non-migratory game birds like pheasants, quail, grouse, and turkeys, are protected.

#### STEP 1.

Could the action(s) result in a take (intentionally or unintentionally) to any migratory bird, nest or egg? The term "**take**" means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (50 CFR Section 10.12).

**NOTE:** The MBTA does not prohibit the destruction of a migratory bird nest alone (without birds or eggs) provided that no possession occurs during the destruction (USFWS, Migratory Bird Memorandum, MBPM-2, April, 2003).

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes    **If "Yes," go to Step 2.**

#### STEP 2.

Is it the purpose of the action(s) to intentionally "take" a migratory bird or any part, nest or egg (such as, but not limited to: controlling depredation by a migratory bird, or removal of occupied nests of nuisance migratory birds)?

**NOTE:** Migratory game birds taken under state and Federal hunting regulations are exempt.

- No    **If "No," go to Step 3.**
- Yes    **If "Yes," document the effects, including the reasons, on the NRCS-CPA-52, or notes section below. Inform the client that they must obtain a permit from USFWS and any required state permit before the action is implemented.**

#### STEP 3.

Have adverse effects on migratory birds been mitigated (avoided, reduced, or minimized) to the maximum practicable extent?

- No    **If "No," modify the action and repeat Step 1. If client is unwilling to modify the action then NRCS must discontinue assistance until issue has been resolved with USFWS.**
- Yes    **If "Yes," document mitigation measures on the NRCS-CPA-52, or notes section below, and in the plan. Go to Step 4.**

NRCS-CPA-52, April 2013

**MIGRATORY BIRDS TREATY ACT / BALD AND GOLDEN EAGLE PROTECTION ACT (continued)**

**STEP 4.**

Will unintentional take of migratory birds, either individually or cumulatively, result in a measurable negative effect on a migratory birds population?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," additional principles, standards and practices shall be developed in coordination with USFWS to further lessen the amount of unintentional take (E.O. 13186(3)(e)(9)). Repeat Step 1 or indicate which of the following options is pursued by the client (pick one). Document the effects, including the reasons, on the NRCS-CPA-52, or notes section below.**
  - The client will obtain a permit from USFWS before the action is implemented; OR
  - NRCS may need to terminate assistance. Contact the NRCS State Environmental Specialist or Wildlife Biologist.

**Notes:**

**SECTION II: BALD & GOLDEN EAGLE PROTECTION ACT**

**STEP 1.**

Will the action(s) result in the take, possession, sale, purchase, barter, or offer to sell, purchase, or barter, export or import "of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit"? (The term "**take**" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" a bald or golden eagle. The term "disturb" under this act means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, injury to an eagle; a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.)

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 2.**

**STEP 2.**

Can the action(s) be modified to avoid the adverse effect? Refer to the National Bald Eagle Management Guidelines for measures that can be taken to avoid disturbing nesting bald eagles and their young.

- No **If "No," document the finding, including the reasons, on the NRCS-CPA-52, or notes section below. Contact the NRCS State Biologist or appropriate NRCS official about working with the client and USFWS to permit the action or finding another alternative action to avoid adverse effects prior to providing final designs or implementing the proposed action or alternative. No permit authorizes the sale, purchase, barter, trade, importation, or exportation of eagles, or their parts or feathers. The regulations governing eagle permits can be found in 50 CFR Part 22.**
- Yes **If "Yes," modify the alternative and repeat Step 1. If the client is unwilling to modify the action then NRCS may need to discontinue assistance. Contact the NRCS State environmental specialist or wildlife biologist for assistance. Document the effects, including the reasons, on the NRCS-CPA-52, or notes section below.**

**Notes:**

## 610.112 Natural Areas Evaluation Procedure Guide Sheet

<b>NATURAL AREAS</b> <b>NECH 610.33</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review:                 Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other <input type="checkbox"/>	

Natural Areas are defined as land and water units where natural conditions are maintained. They may be areas designated on Federal government, non-federal government, or on private land. Designation may be provided under Federal regulations, by foundations or conservation organizations, or by private landowners that specify it as such (GM 190. Part 410.23).

### STEP 1.

Are there any designated natural areas present in or near the planning area?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 2.**

### STEP 2.

Will the action(s) affect the natural area?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 3.**

### STEP 3.

Are the effects consistent with maintaining, protecting, and preserving the integrity of the natural characteristics?

- No **If "No," Inform the client about the effects of the proposed action or alternatives on the identified natural areas. You must also encourage the client to consult with concerned parties to arrive at a mutually satisfactory alternative [GM 190, Part 410.23(c)4]. Document the effects of the action and any communications with the client on the NRCS-CPA-52, or notes section below, and proceed with planning.**
- Yes **If "Yes," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**

### Notes:

### 610.113 Prime and Unique Farmlands Evaluation Procedure Guide Sheet

<b>PRIME AND UNIQUE FARMLANDS NECH 610.33 Evaluation Procedure Guide Sheet</b>	Client/Plan Information:  
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

**STEP 1.**

Using the criteria found in the FPPA Rule (7 CFR Part 658.5), does the action(s) convert farmland to a nonagricultural use? **NOTE:** Conversion does not include construction of on-farm structures necessary for farm operations. Also, form AD-1006 entitled "Farmland Conversion Impact Rating" and form NRCS-CPA-106 entitled "Farmland Conversion Impact Rating for Corridor Type Projects" are used to document effects of proposed projects that may convert farmland. If you are uncertain about the effects on prime and unique farmlands in your planning area, consult the State Soil Scientist.

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 2.**

**STEP 2.**

Are prime or unique farmlands or farmlands of statewide or local importance present in or near the area that will be affected by the action(s)?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 3.**

**STEP 3.**

Can the action(s) be modified to avoid adverse effects or conversion?

- No **If "No," document the adverse effects on the NRCS-CPA-52, or notes section below, and proceed with planning.**
- Yes **If "Yes," modify and repeat Step 1 or contact the State Soil Scientist for further assistance. Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**

**Notes:**

## 610.114 Riparian Area Evaluation Procedure Guide Sheet

<b>RIPARIAN AREA</b> <b>NECH 610.35</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

### STEP 1.

Is a riparian area present in or near the planning area? (Definition can be found in Title 190, General Manual, Part 411.)

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes    **If "Yes," go to Step 2.**

### STEP 2.

Do the action(s) address maintenance or improvement of water quality, water quantity, and fish and wildlife benefits provided by the riparian area?

- No    **If "No," revise the plan to maintain or improve water quality, water quantity, and fish and wildlife benefits. Document the benchmark conditions and effects on the NRCS-CPA-52, or notes section below, go to Step 3.**
- Yes    **If "Yes," go to Step 3.**

### STEP 3.

Do the action(s) conflict with the conservation values/functions of the riparian area?

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes    **If "Yes," inform the client of the values and functions of riparian areas, including their contribution to floodplain function, stream bank stability and integrity, nutrient cycling, pollutant filtering, sediment retention, and biological diversity, and present alternatives that will resolve the conflict. Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**

### Notes:

## 610.115 Scenic Beauty Evaluation Procedure Guide Sheet

<b>SCENIC BEAUTY (visual resources)</b> <b>NECH 610.36</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review:                 Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other <input type="checkbox"/>	

### STEP 1.

Will the action(s) adversely affect the scenic quality of the general landscape or any specifically designated unique or valuable scenic landscape? (Consult Section II of the FOTG for a listing of any identified areas of scenic beauty.)

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," go to Step 2.**

### STEP 2.

Can the action(s) be modified to avoid the adverse effects on the scenic quality of the landscape? NOTE: NRCS must provide technical assistance with full consideration of alternative management and development systems that preserve scenic beauty or improve the landscape (GM 190, Part 410.24).

- No **If "No," consider any state or local requirements. Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes," modify the planned action or activity and repeat Step 1.**

### Notes:

NRCS-CPA-52, April 2013

## 610.116 Wetlands Evaluation Procedure Guide Sheet

<b>WETLANDS</b> <b>NECH 610.36</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:  
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

This guide sheet addresses policy found in Title 190, General Manual, Part 410, Subpart B, Section 410.26. Use the Clean Water Act Guide Sheet for addressing wetland concerns relating to the Clean Water Act.

### STEP 1.

Are wetlands present in or near the planning area?

**NOTE:** This includes **all** wetlands except those artificial wetlands created by irrigation water. Thus, areas determined as prior converted (PC) in accordance with the 1985 Food Security Act and nonirrigation induced artificial wetlands (AW), which retain wetland characteristics, are wetlands as they relate to the wetland protection policy.

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used.** (If the area could qualify as an "other water of the United States" such as lakes, streams, channels, or other impoundment or conveyances, a Clean Water Act Section 404 permit may be required from the Corps of Engineers. Refer to the Clean Water Act Guide sheet.)
- Yes    **If "Yes," document the extent and location of wetlands and go to Step 2.**

### STEP 2.

Will the action(s) impact any wetland areas (this includes changing wetland types when considering wetland restoration projects)?

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes    **If "Yes," assess the wetland functions and describe (on the NRCS-CPA-52) the effects of the proposed activity on the wetland area. If effects are solely beneficial, continue with planning. If adverse effects exist, go to Step 3.**

### STEP 3.

Do practicable alternatives exist that avoid adverse impact to wetlands?

- No    **If "No," go to step 4.**
- Yes    **If "Yes," advise the client of the available alternatives. If the client chooses to implement the alternative that avoids adverse impact (including obtaining all necessary permits), document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.** Otherwise, NRCS shall terminate all assistance for the project.

NRCS-CPA-52, April 2013

## WETLANDS (continued)

### STEP 4.

Do other measures exist that will minimize adverse effects to wetlands?

- No **If "No," go to step 5.**
- Yes **If "Yes,"** advise the client of the minimization measures. If the client chooses to implement the minimization measures (including obtaining all necessary permits), **document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.** Otherwise, NRCS shall terminate all assistance for the project.

### STEP 5.

Does the client wish to pursue an action that will result in adverse impacts to wetlands (where no practicable alternatives or minimization measures exist)?

- No **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes **If "Yes,"** advise that client of the need to compensate for the lost wetland acres and functions. NRCS may assist the client in the development of a mitigation plan. If the client chooses to implement the compensation measures (including obtaining all necessary permits), **document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.** Otherwise, NRCS shall terminate all assistance for the project.

### Notes:

NRCS-CPA-52, April 2013



## 610.117 Wild and Scenic Rivers Evaluation Procedure Guide Sheet

<b>WILD AND SCENIC RIVERS</b> <b>NECH 610.37</b> <b>Evaluation Procedure Guide Sheet</b>	Client/Plan Information:
Check all that apply to this Guide Sheet review: <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Other	

### STEP 1.

Could the action(s) have an effect on the natural, cultural or recreational values of any nearby rivers?

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes    **If "Yes," analyze the potential effects and develop alternatives, as necessary, that would mitigate potential adverse effects, then go to Step 2.**

### STEP 2.

Is there a Federal or State designated Wild, Scenic, or Recreational River segment or a river listed in the Nationwide Rivers Inventory (NRI) in or near the planning area?

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes    **If "Yes," and there is still potential for effect consult your State environmental liaison to assist with determining the nature and significance of the effect. Go to Step 3.**  
**NOTE:** The State Office may request the administering federal or state agency (National Park Service in the case of NRI) to assist you in developing appropriate avoidance and mitigation measures.

### STEP 3.

Could the proposed action or alternative have an adverse effect on the natural, cultural or recreational values of the wild, scenic, or recreational river segment that cannot be avoided or minimized?

- No    **If "No," document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**
- Yes    **If "Yes," go to Step 4.**

### STEP 4.

Is NRCS providing financial assistance or otherwise controlling the action(s)?

- No    **If "No," inform the client that a permit may be required** for their activities and they should consult with the administering federal or state agency. The permit authorization should be reflected in the final plan and documentation. Continue planning, but a permit is required prior to implementation.
- Yes    **If "Yes," consult with the administering federal or state agency** to determine whether the proposed action could foreclose options to classify any portion of the river segment as wild, scenic or recreational and to develop avoidance or mitigation measures. **Document on the NRCS-CPA-52, or notes section below, the finding, rationale, and information sources used and proceed with planning.**

### Notes:

## 610.118 How to Use NRCS's Categorical Exclusions (CEs)

### Q: What is a CE?

**A: A category of actions NRCS has established that do not individually or cumulatively have a significant effect on the human environment.**

The Council on Environmental Quality (CEQ) regulations at 40 CFR 1508.4, define CEs as categories of actions that do not individually or cumulatively have a significant effect on the human environment and that have been found to have no such effect in procedures adopted by a Federal agency in implementation of the regulations, and for which, therefore, neither an environmental assessment (EA) nor an environmental impact statement (EIS) is required. USDA published CEs in its National Environmental Policy Act (NEPA) implementing procedures at 7 CFR Section 1(B)(3), and NRCS did the same in 7 CFR Section 650.6. A complete list of all USDA and NRCS CEs is found in 610.46 of this handbook.

### Q: When can a CE be used?

**A: CEs may be used for any NRCS program activities to which they apply as long as all the connected actions—**

- **Meet the applicable overarching criteria, as well as CE-specific criteria.**
- **Have no extraordinary circumstances that could result in significant adverse (short- or long-term) impacts that cannot be mitigated.**

CEs only apply to compliance with NEPA. They do not negate NRCS's responsibility to comply with any other requirements, including areas of concern denoted on the environmental evaluation (EE), or applicable environmental laws and policies, such as the Endangered Species Act (ESA), the National Historic Preservation Act (NHPA), Clean Water Act (CWA), Executive orders, etc., included in the NRCS list of special environmental concerns and the "Principles, Requirements and Guidelines" (PR&G) for Federal investments in water resources.

In addition, NRCS must conduct EEs as required by regulations for all NRCS planning and financial assistance regardless of whether a CE applies. CEQ and NRCS regulations require that actions falling within a CE be reviewed for extraordinary circumstances in which a normally excluded action may have a significant environmental effect. In determining whether extraordinary circumstances exist, NRCS uses the criteria listed on the Form NRCS-CPA-52, "Environmental Evaluation Worksheet," that are used for determining significance. The list of significance and extraordinary circumstances criteria is also found in 610.46 of this handbook.

### Q. What situations preclude the use of CEs?

- **Mixing Actions.**—If a proposed plan involves actions listed as CEs along with other actions that are not included in this list, NRCS may not categorically exclude the action from review under NEPA.
- **Segmenting.**—NRCS may not look at the actions individually if they are interdependent parts of the plan. This would be construed as segmenting an action into smaller component parts to avoid the requisite and appropriate level of environmental review under NEPA.
- **Adverse Impacts.**—When significant adverse impacts are anticipated and measures cannot be implemented to mitigate the impact, CEs may not be invoked, even if the impacts are short-term or are offset by beneficial impacts. This includes significant

adverse impacts on special environmental concerns such as rare, threatened, and endangered species of plants and animals; floodplain management; wetlands; etc.

**Recommended Protocol for Analysis and Documentation of Project, if Invoking CEs**

- (1) The NRCS-CPA-52 should provide evidence that the proposed action will not have a significant adverse impact on resource concerns. If significant adverse impacts that cannot be mitigated are anticipated, it would mean that there are “extraordinary circumstances” surrounding the action, the term under NEPA that precludes the use of CEs. The same would apply to any of the special environmental concerns, such as ESA, NHPA, CWA, etc., and CEs cannot be used if a violation of law or other requirement for protection of the environment could occur. However, adverse impacts to ESA-listed species, historic properties, etc., does not automatically preclude the use of CEs for NEPA compliance, as long as the proper consultations and required mitigation are completed to comply with other environmental laws.
- (2) Check whether the project fits within the overarching and CE-specific criteria (see examples below). The overarching criteria (or sideboards) are listed in section 610.46 of this handbook, and each individual CE has its own specific criteria contained within its description. If your action fits within those sets of criteria and there are no extraordinary circumstances (significant adverse impacts that cannot be mitigated), and you can provide a rationale, then you may invoke the CE. If not, consider tiering to an existing or preparing a site-specific EA or EIS. The determination of significance requires consideration of the context and intensity of the impacts. Remember that NEPA is all about accountability and public disclosure, and even though we may not share details of our actions with the general public, we are obliged to explain (if challenged) why what we do is not going to cause significant impact on something else.

**Example 1:**

A conservation plan for a wetland easement includes Conservation Practice Standards (CPSs) Wetland Restoration (Code 657), Wetland Wildlife Habitat Management (Code 644), Structure for Water Control (Code 587), and Stream Habitat Improvement and Management (Code 395). The planner has indicated on the EE that no extraordinary circumstances exist. Previously completed ESA consultations for similar projects have resulted in concurrence on a Not Likely to Adversely Affect determination for listed fish species when conservation measures are applied. Can CE #11 be used to meet the requirements of NEPA?

**CE #11:**

“Restoring an ecosystem, fish and wildlife habitat, biotic community, or population of living resources to a determinable preimpact condition.”

**Step 1:** The Responsible Federal Official (RFO) provides rationale that this action meets the overarching criteria as follows:

- Engineering construction specifications provided to the contractor will mitigate soil erosion, sedimentation, and downstream flooding
- Experience with other wetland restoration projects has shown that native and naturalized vegetation will quickly recolonize disturbed wetland areas. Riparian areas will be planted with native species under CPS Stream Habitat Improvement and Management (Code 395).

- Design of CPS Stream Habitat and Improvement and Management (Code395) includes bioengineering techniques based on current Federal principles of natural stream dynamics and processes.
- All practice job sheets incorporate the applicable NRCS conservation practice standards as found in the Field Office Technical Guide (FOTG).
  - The practices involve excavation and placement of fill. Because compliance with Section 404 of the CWA is covered under Nationwide Permit (NWP) 27, the planner concludes the excavation and placement of fill is not “substantial.” The U.S. Army Corps of Engineers (USACE) prepared an EA and Finding of No Significant Impact to cover NEPA compliance for the NWPs. This means USACE has already concluded that all projects implemented under NWP 27, individually and cumulatively, will not have a significant effect.
- Per the hazardous substance records search, the practices do not involve a significant risk of exposure to toxic or hazardous substances.

**Step 2:** The RFO also finds that CE-specific criteria are met, because the objective of the plan is to restore wetland fish and wildlife habitat to conditions that existed before the historic wetlands were converted to agricultural production.

**Step 3:** Because there are no extraordinary circumstances that cannot be mitigated and a rationale is provided for finding that both overarching and CE-specific criteria are met, CE #11 may be used for compliance with NEPA. Finding Box 2 is checked on the NRCS-CPA-52, and CE #11 is chosen from the drop-down list in section R.2.

**Example 2:**

A conservation plan to be funded under the Emergency Watershed Protection (EWP) Program will address excessive bank erosion that occurred during a flood event and includes CPS Streambank and Shoreline Protection (Code 580) as the only practice. The practice design uses riprap alone to stabilize the streambank and reduce erosion. The landowner will not choose an alternative that includes bioengineering or the use of plant materials. The planner has indicated on the EE that no extraordinary circumstances exist. Can CE #8 be used to meet the requirements of NEPA?

**CE #8:**

“Stabilizing stream banks and associated structures to reduce erosion through bioengineering techniques following a natural disaster to restore predisaster conditions to the extent practicable (e.g., utilization of living and nonliving plant materials in combination with natural and synthetic support materials, such as rocks, riprap, and geotextiles for slope stabilization, erosion reduction, and vegetative establishment and establishment of appropriate plant communities (bank shaping and planting, brush mattresses, log, root wad, and boulder stabilization methods.))”

**Step 1:** The RFO determines this action does not meet all of the overarching criteria. Since the project design uses riprap alone and the landowner will not agree to an alternative that includes bioengineering or the use of plant materials, overarching criteria 2 and 3, which require disturbed areas to be revegetated

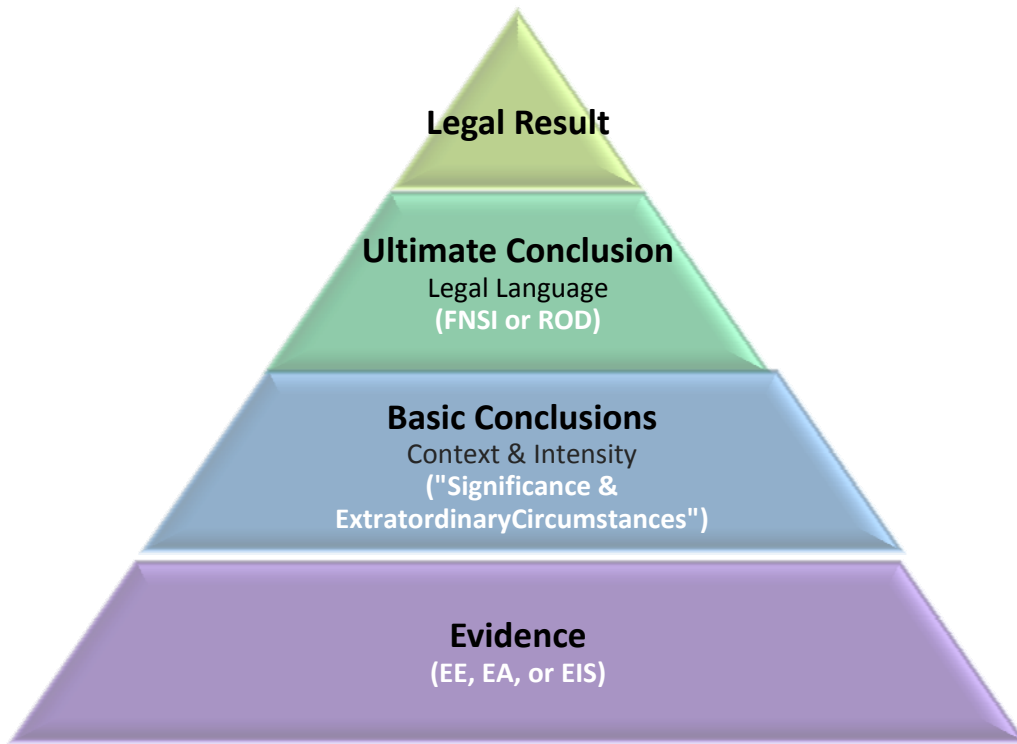
and the proposed action to be based on current Federal principals of natural stream dynamics and processes, cannot be met.

**Step 2:** In addition, the RFO determines that the CE-specific criteria to use bioengineering techniques cannot be met. The CE is not applicable.

**Step 3:** Because no CEs apply to the proposed action and no extraordinary circumstances exist, the RFO decides best way to comply with NEPA is through the programmatic EIS for EWP. The RFO checks Finding Box #3 and chooses the EWP PEIS from the drop-down list in section R.1.

- (3) If you have difficulty determining whether or not an effect is significant, it is recommended that you use the three-column table found in section 610.48 of this handbook, that can be attached to your NRCS-CPA-52. Remember to consider both short- and long-term impacts. You will want to answer the following questions:
- What is the issue?
  - What is the intensity (or how much or how extensive is the issue)?
  - Why is this not significant? This would include any mitigation being planned that would reduce significance.
  - Does the action trigger compliance requirements for any of the other special resource concerns, such as ESA or NHPA, that may require additional mitigation or consultation? If so, you may not be able to make a determination of significance until consultation has been completed with agreed-to terms and conditions, etc.
- (4) **Document your analysis, show your work, and provide reasons why it is so.** It's helpful for planning and also provides defensible rationale in case of a challenge. The RFO completes the finding by signing in section S of the NRCS-CPA-52.

**610.119 Legal Result Pyramid**



## 610.120 Sample Letter of Invitation for Cooperating Agency

Joe Smith  
National Oceanic and Atmospheric Administration  
XXXXX

RE: Formal Request to be a Cooperating Agency on the Justice River Restoration Environmental Assessment

In accordance with the Council on Environmental Quality regulations implementing the National Environmental Policy Act (NEPA) at 40 CFR Section 1501.6, NRCS is formally requesting that your agency become a cooperating agency in the planning and development of the Justice River Restoration Environmental Assessment. Your agency has been identified as having expertise or jurisdiction by law related to this project and that is the reason for this request.

An environmental assessment (EA) is being prepared to fulfill NRCS's NEPA compliance responsibilities pertaining to potential Federal financial assistance through our Wildlife Habitat Incentives Program (WHIP) on this project. As your agency may also have NEPA compliance responsibilities concerning this project or other future projects that may be evaluated in this EA, preparation of this EA should also assist in fulfilling environmental review requirements for your agency and other Federal agencies and meet NEPA's intent of reducing duplication and delay between agencies.

Attached is a memorandum of understanding (MOU) for your agency's consideration and signature. This MOU will formalize our agreement to work together on the proposed project. It identifies NRCS as the lead Federal agency for NEPA compliance with the requirements of this role being understood as encompassing those defined in 40 CFR Section 1501.5. Your agency is identified as a cooperating agency for purposes of NEPA compliance, which also encompasses those requirements of a cooperating agency as defined at 40 CFR Section 1501.6. Please note that other agencies are also listed as cooperating agencies on the MOU; once your responsible Federal official for NEPA compliance has signed and dated this MOU, please return it to the NRCS point of contact listed below so that we can route it to the other cooperating agencies.

If your agency is unable to participate as a cooperating agency, please return the enclosed MOU unsigned along with an explanation of why your agency will not participate. Please note that a copy of the response declining to be a cooperating agency must also be submitted to the Council on Environmental Quality in accordance with 40 CFR Section 1501.6(c).

Thank you for your timely assistance and cooperation with this project. If you have any questions or comments, please contact Jim Smith on my staff at [jim.smith@ab.usda.gov](mailto:jim.smith@ab.usda.gov) or by phone at (xxx) xxx-xxxx.

Sincerely,

Sarah Jones  
State Conservationist

cc:

## **610.121 Typical Elements of a Cooperating Agency MOU**

### I. Introduction

- Describes the planning/National Environmental Policy Act effort, and the major statutory and regulatory requirements it fulfills
- Identifies the government entities assuming cooperating agency status through the MOU, and their qualifications as defined at 40 CFR Sections 1508.15 and 1508.26: jurisdiction, special expertise, or jurisdiction and special expertise

### II. Purpose (describes what will be accomplished by the MOU)

### III. Authorities

- Identifies the principal statutory authorities for the NRCS to enter into the MOU
- Identifies the principal statutory authorities for the cooperating agencies to enter into the MOU

### IV. Roles and Responsibilities

- The roles of each party in the planning process, including contractors if applicable
- Particular interests and areas of the expertise of the cooperating agencies relative to the plan
- Procedures for information sharing and confidentiality
- How the cooperating agencies' comments, recommendations, and data will be used in the planning process
- Resource commitments
- Anticipated schedule
- Any other expectations of the parties

### V. Agency Representatives (usually enumerated in an attachment)

### VI. Administration of the MOU

- How disagreements will be resolved
- How the MOU may be modified or terminated
- Acknowledgement that the authority and responsibilities of the parties under their respective jurisdictions are not altered by the MOU
- Signatures and dates



## **610.122 Sample MOU Between Agencies**

**U.S. DEPARTMENT OF AGRICULTURE'S NATURAL RESOURCES CONSERVATION  
SERVICE  
AS THE LEAD FEDERAL AGENCY  
AND  
UNITED STATES FOREST SERVICE,  
AS COOPERATING AGENCY FOR PREPARATION OF AN ENVIRONMENTAL  
ASSESSMENT FOR THE XXXXXX CONSERVATION PROJECT**

### **I. INTRODUCTION**

This agreement outlines the roles and responsibilities of the above parties with respect to preparation of the Environmental Assessment (EA) for the XXXXXXXX Conservation Project in Granite Reeder, Idaho.

This agreement does not alter any other written agreements between the above parties and the project sponsors or other government agencies, or parties.

### **II. GENERAL PROVISIONS**

1. The Natural Resources Conservation Service (NRCS), as Lead Federal Agency, has primary responsibility for compliance with the requirements of the National Environmental Policy Act (NEPA) and preparation of the Draft and Final EA.
2. The U.S. Forest Service, hereafter to be referred to as the "cooperating agency" in this MOU, and the NRCS will together coordinate under this agreement in order to maximize the use of resources and minimize duplication of effort.
3. Information and evaluation necessary to support permit reviews, authorizations, and/or the decisions of the agencies will be provided to the extent possible in the EA, under the participation of all the parties to this agreement.

### **III. NRCS (LEAD FEDERAL AGENCY) RESPONSIBILITIES**

1. NRCS will provide the cooperating agency with those EA resource characterization studies and technical reports, as determined necessary by the respective cooperator, for review and comment.
2. NRCS will consult with the cooperating agency regarding the alternatives considered and associated mitigation measures to be evaluated in the EA.

3. NRCS will identify the cooperating agency on the draft EA and final EA cover pages and will describe in the introduction sections, as provided by the cooperating agency, the specific roles and authorities of the cooperating agency with respect to the **xxxxx** Conservation Project.

#### **IV. FS RESPONSIBILITIES OF THE COOPERATING AGENCY**

1. The FS as a cooperating agency will provide early input to EPA regarding issues to address in the resource characterization studies, technical reports, and EA, and provide comments or analyses to EPA in those areas where the cooperating agency has regulatory authority, technical expertise, and a need for the EA to support decisions by the cooperating agency.

2. The FS may review, and provide to NRCS, comments on the issued draft EA and final EA.

3. Upon issuance of the final EA and any resulting Finding of No Significant Impact (FNSI) by NRCS, the cooperating agency may be able to then adopt the EA and issue a separate decision notice under the cooperating agency's NEPA implementing regulations.

#### **V. MODIFICATIONS OR TERMINATIONS**

1. This agreement may be modified by the parties hereto by mutual agreement only. Any modification will be in writing.

2. This agreement is terminated when either the NRCS FNSI is signed or when written notice is given by a respective agency.

Signatures-- (to complete):

By: NRCS, Chief

By: U.S. Forest Service, Forest Supervisor

## 610.123 Sample Statement of Financial Interest (SOFI) Disclosure

### **Disclosure Statement on Conflict of Interest Associated with the Preparation of Documents Required by the National Environmental Policy Act or Its Implementing Regulations**

I, the undersigned, am the chairperson of Envision Utah, a nonprofit, Public/Private Partnership that has entered into a contract with the Wasatch Front Regional Council (WFRC) and a Memorandum of Understanding with WFRC, Utah Department of Transportation (UDOT), Mountainland Association of Governments (MAG), and the Utah Transit Authority (UTA) that relate to activities held in conjunction with the preparation of an Environmental Impact Statement (EIS) for the Mountain View Corridor. Envision Utah receives Federal funds. The EIS is being prepared by the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA) in cooperation with UDOT and UTA to comply with the National Environmental Policy Act (NEPA) and its implementing regulations (40 CFR Parts 1500-1508 and 23 CFR Part 771). The NEPA regulations of the Council on Environmental Quality (CEQ) require that contractors involved in the preparation of an EIS execute a disclosure statement on the firm's interest, if any, in the outcome of the NEPA process. (40 CFR §1506.5(c))

Accordingly, Envision Utah states that it has no financial or other interest in the outcome of the NEPA review of the Project. Envision Utah will not acquire nor accept a financial or other interest in the outcome of the NEPA review of the Project until either one of two events has occurred: (1) FTA/FHWA have issued a Record of Decision on the Project in accordance with 40 CFR §1505.2; or (2) the Envision Utah's involvement in preparing NEPA documents for the Project has ended.

Although Envision Utah has no promise of future work or other interest in the outcome of the proposal, the CEQ guidance memorandum entitled Forty Most Asked Questions Concerning CEQ's NEPA Regulations, 23 March 1981, states that the firm may "later bid in competition with others for future work on the project if the proposed action is approved." (Question 17b.)

The CEQ guidance memorandum also indicates that the disclosure statement of a consulting firm that has been involved in developing initial data and plans for a project should "state the scope and extent of the firm's prior involvement to expose any potential conflicts of interest that may exist." (Question 17a.) Prior to the initiation of the NEPA process for the Project, Envision Utah assisted UTA/UDOT in conducting the planning-level Alternatives Analysis or Major Investment Study that is required by FTA regulations for New Starts projects (49 CFR Part 611) and that identified the need for the Project.

Title 190 - National Environmental Compliance Handbook

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Signature

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Date

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Name

---

Title

Envision Utah  
254 South 600 East, Suite 201  
Salt Lake City, Utah

### 610. 124 "Affected Area" Planning Worksheet

The Affected Resource Area (ARA) is a geographic area or areas within which a project, activity, program, or practice may cause changes in the character or use of a resource. The concept of identifying the ARA is to be used when scoping all special environmental concerns in general and then applied to each alternative as they are developed.

The ARA is defined by the temporal and geographic scale of the project. The ARA must include areas directly or indirectly impacted. **Affects may be delayed in time or even displaced in space.** For example, an ARA for a pipeline could include the pipeline trench AND the construction right-of-way, staging areas, access roads, utility lines, and erosion/water quality concerns downstream in an adjacent water course/wetland.

Project: \_\_\_\_\_ Prepared by: \_\_\_\_\_

Alternative(s): \_\_\_\_\_ Date: \_\_\_\_\_

The below list is NOT all inclusive but should be used to help stimulate the thought process in identifying the APE and red flag issues. **Be aware of onsite and offsite effects and both short term construction and irreversible or irretrievable commitments of resources.** "√" if any aspects relate to the project during construction, establishment, or maintenance of project.

- Change to a structure, spillway, access road, etc.: \_\_\_\_\_
- Excavations or fill - width and depth: \_\_\_\_\_
- Borrow areas and other sources of fill material: \_\_\_\_\_
- Grading and contouring: \_\_\_\_\_
- Disposal sites or waste areas: \_\_\_\_\_
- New or upgraded access or haul roads: \_\_\_\_\_
- Staging, storage, and stockpile areas: \_\_\_\_\_
- Drainage diversions: \_\_\_\_\_
- Subsurface impacts - including lateral effects: \_\_\_\_\_
- Vibration impacts (archaeological sites with structural remains): \_\_\_\_\_
- Water Quality - stream, gully erosion: \_\_\_\_\_
  - sediment deposition: \_\_\_\_\_
  - turbidity: \_\_\_\_\_
- Increased visitation/use impacts to ground (erosion) or vegetation (habitats): \_\_\_\_\_
- Increased visitation of collectors (artifacts, vegetation, rocks): \_\_\_\_\_
- Visual, atmospheric or audible elements: \_\_\_\_\_
- Wetland impacted up or downstream (hydrologically, in adjacent upland areas, during construction): \_\_\_\_\_
- Flood damage, streambank erosion: \_\_\_\_\_
- Change in level of permanent pool: \_\_\_\_\_
- Change in level of inundation of flood pool or when filled at capacity/spillway flood stage: \_\_\_\_\_
- Change in duration of inundation, drawdown, or flooding for the previous 2 items: \_\_\_\_\_
- Change in flow depth, duration, or hydrograph downstream: \_\_\_\_\_
- Plant concerns: invasive/noxious weeds: \_\_\_\_\_
- Shoreline/streambed/wildlife corridors impacted: \_\_\_\_\_
- Wildlife/natural habitat: \_\_\_\_\_
- Habitat fragmentation (aquatic or terrestrial): \_\_\_\_\_
- Mineral & energy resources/rights: \_\_\_\_\_
- Contaminants: \_\_\_\_\_

Secondary area effects must also be included in project review: \_\_\_\_\_

- Development of new roads, trails, recreation etc.: \_\_\_\_\_
- Re-routing traffic, field access or landuse patterns during or after construction: \_\_\_\_\_
- Other: \_\_\_\_\_

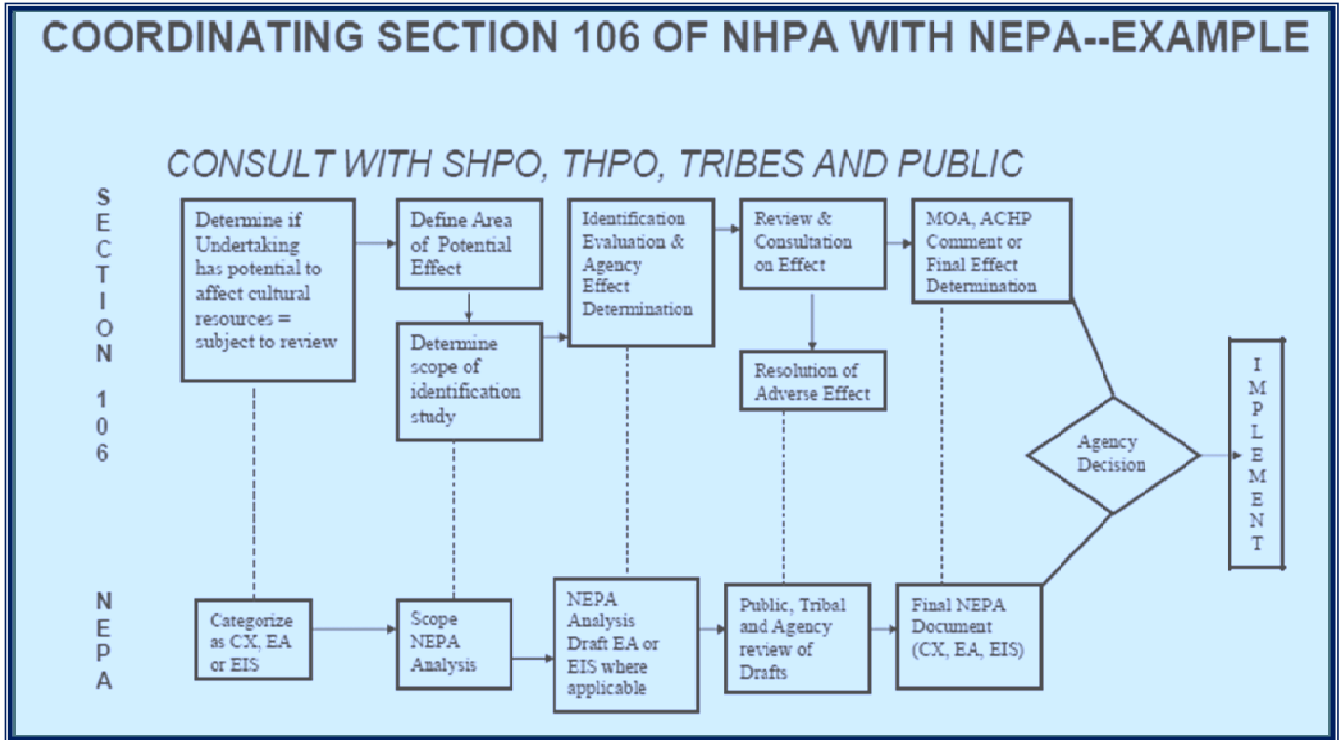
As you proceed with scoping and develop alternatives, you need to create ARA maps that identify physical boundaries and potential general effects for each alternative so that the special environmental concerns can be addressed and potential impacts avoided, minimized, or mitigated. Maps to include for the ARA packet: topographic, aerial, as built (existing structures/disturbance), planned footprint and areas impacted. Use the checklist above to help identify those areas. Distinguish between above and below ground effects.

## 610. 125 Ten-Step Approach to Integrating NEPA with Special Environmental Concerns

### *Ten-Step Approach to Integrating NEPA with Special Environmental Concerns*

1. Conduct preliminary constraint analysis to identify potentially related environmental requirements. **The NRCS environmental evaluation (EE) should provide the necessary information to satisfy this initial step.**
  - a) Develop a project description that is as stable as possible.
  - b) Conduct a preliminary site evaluation and begin any necessary coordination.
  - c) Develop a list of regulatory and permitting requirements.
2. Consult with regulatory agencies to—
  - a) Confirm their jurisdiction over the proposed action and commitment to cooperate in an integrated NEPA process.
  - b) Learn the specific steps in their review process.
  - c) Determine the scope of any necessary technical studies.
  - d) Agree on an integrated processing and review schedule.
3. Develop a comprehensive environmental compliance strategy that—
  - a) Explains the major steps in each federal agency’s review process.
  - b) Identifies parallel steps and common technical study requirements.
  - c) Contains a master schedule for integrated environmental review.
  - d) Identifies responsible individuals within the lead agency/consulting firm staff.
4. Draft and sign any necessary memoranda of understanding. Spell out each agency’s roles and responsibilities, timing, and conflict resolution strategies.
5. Conduct all necessary reviews and technical studies.
  - a) If agencies cannot act collaboratively, each agency should ensure that studies meet the unique protocol requirements of all regulatory agencies.
6. Consolidate results into the draft NEPA document.
  - a) Lead agency reviews and evaluates results for consistency.
  - b) Resolve conflicts through further consultation and negotiation. If no consensus is reached, conflicting views should be presented in the draft.
  - c) Ideally, all consultation activities should be complete before publishing the draft NEPA document, however, NEPA allows consultation (NHPA, ESA, etc.) to “catch up” with the NEPA process before the final document is complete and the decision is made.
7. Conduct coordinated public and interagency review.
  - a) Make draft NEPA document available for public review and interagency consultation.
  - b) Conduct any additional scoping and public participation planning.
8. Incorporate the results of any late studies into the final NEPA document
  - a) Includes completed section 106 consultation for NHPA, concurrence from the Services, requirements of the 404 permit from the Corps, etc.
  - b) If any of this information changes the “significance” conclusions in the NEPA document, a supplement (see subpart F) may need to be prepared and a new public review should be conducted.
9. Adopt the consolidated NEPA document.
10. Ensure that individual Federal agencies use the NEPA document in their regulatory decisions.

610.126 Coordinating Section 106 of NHPA With NEPA Flowchart



## 610.127 Technical Note on “Analyzing Effects of Conservation Practices”



United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service (NRCS)

WATERSHED SCIENCE INSTITUTE REPORT, CED-WSSI-2002-2

# Analyzing Effects of Conservation Practices

A Prototypical Method for Complying with  
National Environmental Policy Act (NEPA)  
Requirements for Farm Bill Implementation

### Overview:

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**Figure 1.** Croplands in Conservation.

The effects of growing food and fiber cause pronounced change to economic systems, hydrology, habitat connectivity, air emissions, and discharges of pollutants to receiving waters. NRCS conservation planning and practice implementation is intended to lead to positive change. But it remains important to analyze and document these effects at an appropriate scale over a relevant time period.



## Title 190 - National Environmental Compliance Handbook

### **For further information concerning this document, please contact:**

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## Purpose

The purpose of the guidance in this document is to provide:

- An approach for identifying and organizing the effects of Farm Bill-emphasized conservation practices that relies on agency expertise and available scientific literature.
- A methodology for making generalized and specific (cited) effects useful at national, regional and statewide levels that clearly illustrates the chain of causation for the effects of the proposed actions.
- Documentation of NRCS's direct, indirect and cumulative effects for environmental compliance and disclosure to clients and the public.

The methodology is intended for use by planners and specialists responsible for developing Environmental Assessments for Farm Bill Programs whether 1) for geographic priority areas or 2) to address issues that arise during or after the implementation of conservation treatments related to the effects of those treatments.

The outcome for using the guidance presented herein is to better achieve the agency's mission "to provide leadership in a partnership effort to help people conserve, improve, and sustain our natural resources and environment" especially as this mission will be advanced through Farm Bill Program implementation. The specific goals are:

1. To thoroughly understand and anticipate issues likely to arise due to Farm Bill Program implementation related to effects.
2. Provide a methodology for developing the effects analysis required for compliance with NEPA and other environmental requirements.
3. To identify gaps in scientific support.
4. To increase NRCS's strength as a technical agency.
5. To enable NRCS to focus its resources to achieve resource goals in a cost-efficient, effective manner.

## Background

The agency's understanding and careful analyses of planned actions and their anticipated effects at the site and landscape levels have become increasingly important to convey how NRCS conservation practices achieve their predicted effects. The methodology presented in this document is one way for the agency to conduct analyses to verify that the intended results will occur and inadvertent adverse impacts will not occur. An integral part of the process is a mindset that on-the-ground implementation must be continually monitored for intended effects with evaluations and improvements promptly fed back to agency and partner decision-makers and the technology transfer system. This follow-through is called "adaptive management."

From the standpoint of environmental requirements, NEPA requires that direct, indirect and cumulative effects be analyzed in the context of actions, alternatives and effects. Cumulative effects are studied concurrently with indirect effects. The alternatives normally considered at a state, geographic priority area, watershed or other areawide level include the resource management systems and pertinent practices that are designed to address identified resource concerns and achieve desired resource goals. In some cases, there may also be a need to consider program alternatives, such as how to prioritize applications for participation within a particular program. These program alternatives will likely affect where and how many of the resource management systems or practices actually get put on the ground. In all cases, the no-action alternative is also examined as a baseline option including all the connected and similar actions that could contribute to effects.

The objective of effects analysis is to make sure decision-makers take into account the full range of consequences of their proposed actions. Conclusions about effects are to be scientifically supported or to identify gaps in science. Analysis will involve assumptions and uncertainties but must be conducted with the best techniques and data available. The need for better techniques and data can be identified, but is not justification for avoiding or delaying analysis of effects. Where substantial uncertainties initially exist, proposed actions and their implementation can be modified over time as new methodologies and data emerge.

## Introduction to the Methodology

The steps that follow explain the effects analysis methodology. The methodology is intended for *initial* use at a national or regional level on a programmatic basis. Subsequently, the results can be used as templates for state and local analyses.

1. **Practices Identification** - The first step in the methodology is to identify the critical or featured practices identified or anticipated for use to achieve Farm Bill Program natural resources goals. Figure 2 depicts the EA or environmental assessment requirements and relationship to practices and environmental impacts. At the national level, the spatial focus is a generalized setting consisting of the expected major land use(s) and typical landscape features. A later section in the guide deals with refining the spatial scale to regional, state and local areas and climates. The temporal or time scale generally encompasses:

- pre-implementation condition (typically a time period that bounds the trends that led to current conditions)

- immediate future during which the majority of the featured practices installation will occur
- time needed for the practices or system to become fully functional in their effects.

When effects analysis supports national and sometimes state programmatic decisions, alternatives will include different program delivery approaches such as varying cost-share rates or financial allocation methods. These alternatives will alter the amount and location of practice implemented. The effects of these alternatives must be analyzed in concert with the effects of the conservation practices used to achieve the particular resource goals. However, this paper focuses on a methodology for analyzing the effects of conservation practices, not policy choices.

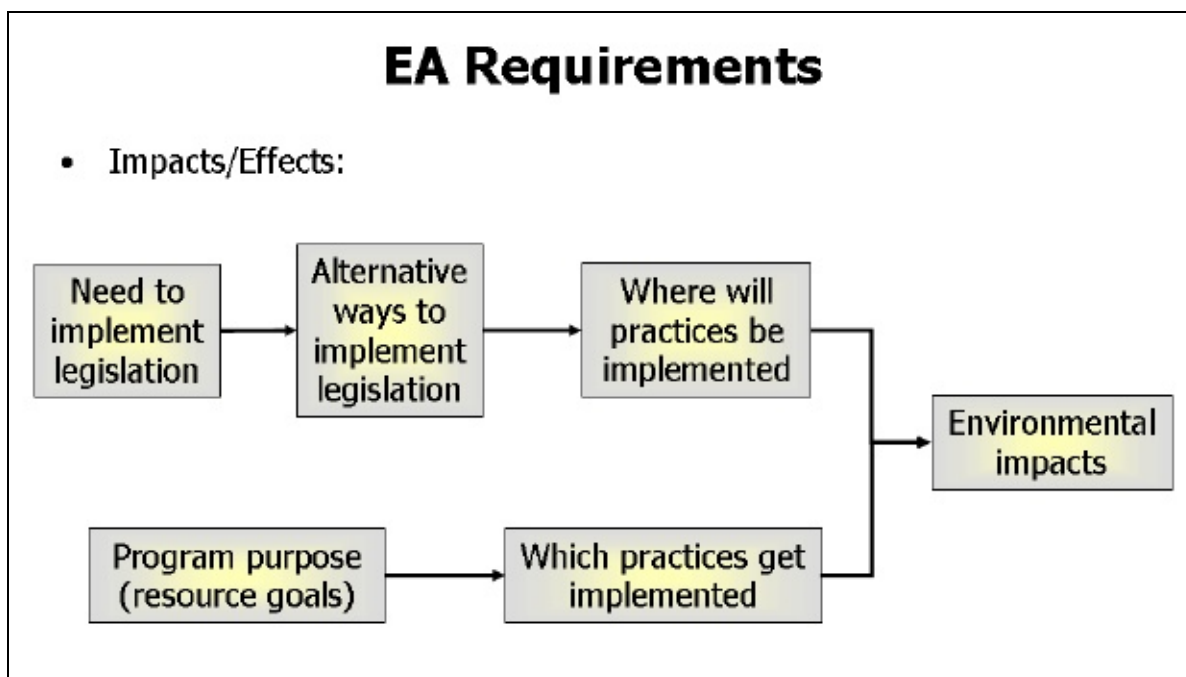


Figure 2. EA (environmental assessment) requirements and relationship to practices and environmental impacts.

2. **Network Diagram of Effects** - A network diagram is prepared for featured practices or a related set of practices that act together to achieve desired purposes. It is essentially a flow chart of direct, indirect and cumulative effects resulting from the practices being installed throughout the landscape. A complete cumulative effects analysis includes consideration of other ongoing and planned activities in the area that affect the same resources. National Practice Standards and Conservation Practice Physical Effects matrix (CPPE) are the main references for identifying direct effects and beginning the effects network diagram. A question approach is used to begin the diagram: 1) What is physically created by the practice or practice set?, 2) After the practices are installed, what are the direct effects?, 3) After direct effects occur, what indirect effects result?, and 4) As the practices are applied throughout the landscape and community at expected levels of participation and takes effect directly and indirectly, what are the cumulative effects? A completed network diagram represents an overview of expert consensus on the kinds and magnitude (i.e., positive or negative) of direct, indirect and cumulative effects of proposed actions which can be used as a reference point for the next step as well as a communication device with partners and the public.

The network diagrams in this document do not depict effects on resources of special environmental concerns such as endangered or threatened species or cultural resources. However, these effects should be included when analyzed at a relevant regional, state or local level.

3. **Literature Review** - A literature review of all network diagram nodes and pathways is conducted. Standard literature searches and services are used and the results are collated. This step of the process may be the most time consuming, but is essential to verify the consensus reached in the preceding step
4. **Attributed Effects** - An attributed listing of specific, quantified effects related to key nodes and pathways are summarized using understandable graphs, tables, charts, etc.
5. **Findings** - Documentation is recorded for:
  - a) effects based on research consistencies,
  - b) inconsistent or contradictory studies, and
  - c) gaps in research.
- 6.

**Effects Analysis** - A summary is prepared and distributed for broader interdisciplinary review. The summary provides: 1) revised network diagrams, 2) highlights of the findings, 3) mitigation recommendations for anticipated adverse impacts. This information will be useful as the foundation for the programmatic or geographic priority area Environmental Assessments or Environmental Impact Statements.

Before reviewing an example of the methodology presented in the next section, it is important to again note the goals of the process: 1) to thoroughly understand and anticipate effects issues likely to arise due to Farm Bill Program implementation, and 2) to comply with NEPA in a cost and time-effective manner. Varying conditions within the nation at regional, state and local levels influence effect outcomes and require additional analyses. However, completing this work at a regional, state or programmatic level will provide a tier that more detailed analysis can be nested within. In some cases, areawide analysis may eliminate the need for additional site specific evaluation. The effort also provides templates that can expedite assessments and statements for specific areas and eliminate repetitive discussions and analyses.

## The Methodology - An Example

An example of one of two primary practices used extensively in the "Continuous Conservation Reserve Program" or CCRP illustrates the effects analysis methodology. As background, continuous sign-up for high priority conservation practices began in 1996 as a provision of the amended Food Security Act of 1985. As this Farm Bill provision was implemented, two practices out of ten "buffer" practices predominated: 1) Filter Strip and 2) Riparian Forest Buffer. During the period October 1, 2000 to September 30, 2001, the NRCS Performance and Results Measurement System (NRCS 2002) indicates about 200,000 acres of filter strip were installed, primarily in the Midwest. During this same period riparian forest buffers were installed on about 100,000 acres, primarily in the Midwest and Southeast regions. The cumulative national extent for the two practices is about 1 million acres.



**Figure 3.** A filter strip (top) and a riparian forest buffer (bottom).

The following pages provide an example of effects analysis for the featured practice, Riparian Forest Buffer. This practice is defined as "an area of predominantly trees and/or shrubs located adjacent to and up-gradient from watercourses or water bodies." Purposes for this practice are quite varied and include the following:

- Reduce excess amounts of sediment, organic material, nutrients and pesticides in surface runoff and reduce excess nutrients and other chemicals in shallow ground water flow.
- Create wildlife habitat and establish wildlife corridors.
- Create shade to lower water temperatures to improve habitat for aquatic organisms.
- Provide a source of detritus and large woody debris for aquatic and terrestrial organisms.
- Provide a harvestable crop of timber, fiber, forage, fruit, or other crops consistent with other intended purposes.
- Provide protection against scour erosion within the floodplain.
- Restore natural riparian plant communities.
- Moderate winter temperatures to reduce freezing of aquatic overwintering habitats.
- To increase carbon storage.

While all purposes are important, the first two in the preceding list were principal goals of the CCRP.

The following example is organized in a slide format so it can be easily incorporated into training packages and other presentations. Slides follow the methodology steps outlined earlier. Note that certain steps are only partially completed or described. There are 9 slides.



**Step 1**  
Practices  
Identification.

**“CCRP” Practices (NRCS Practice Code)**

- Alley cropping, 311
- Contour buffer strip, 332
- Cross wind trap strip, 589C
- Field border, 386
- Filter strip, 393
- Grassed waterway, 412
- Herbaceous wind barrier, 422A
- Riparian forest buffer, 391**
- Vegetative barrier (grass hedge), 601
- Windbreak/shelterbelt/living snow fence, 380

Example Follows



**Slide 1**

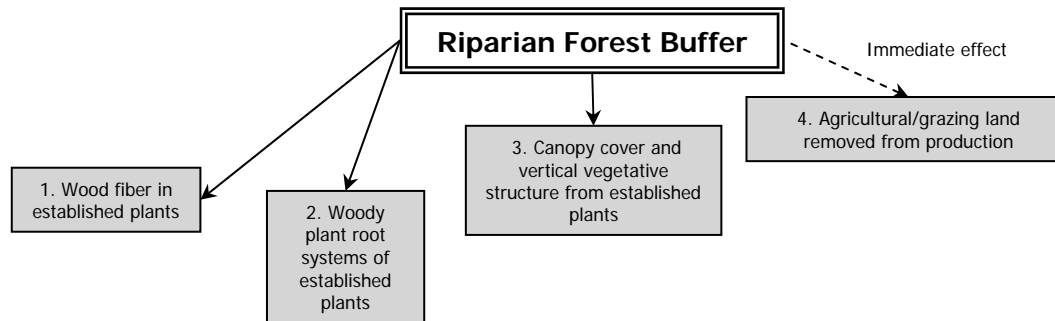
Example ... Riparian Forest Buffer



**Step 2**  
Network Diagram of Effects.



***For the practice, what is physically created\*?***



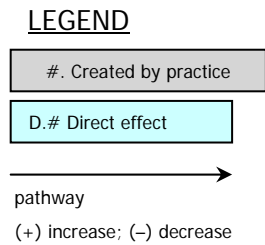
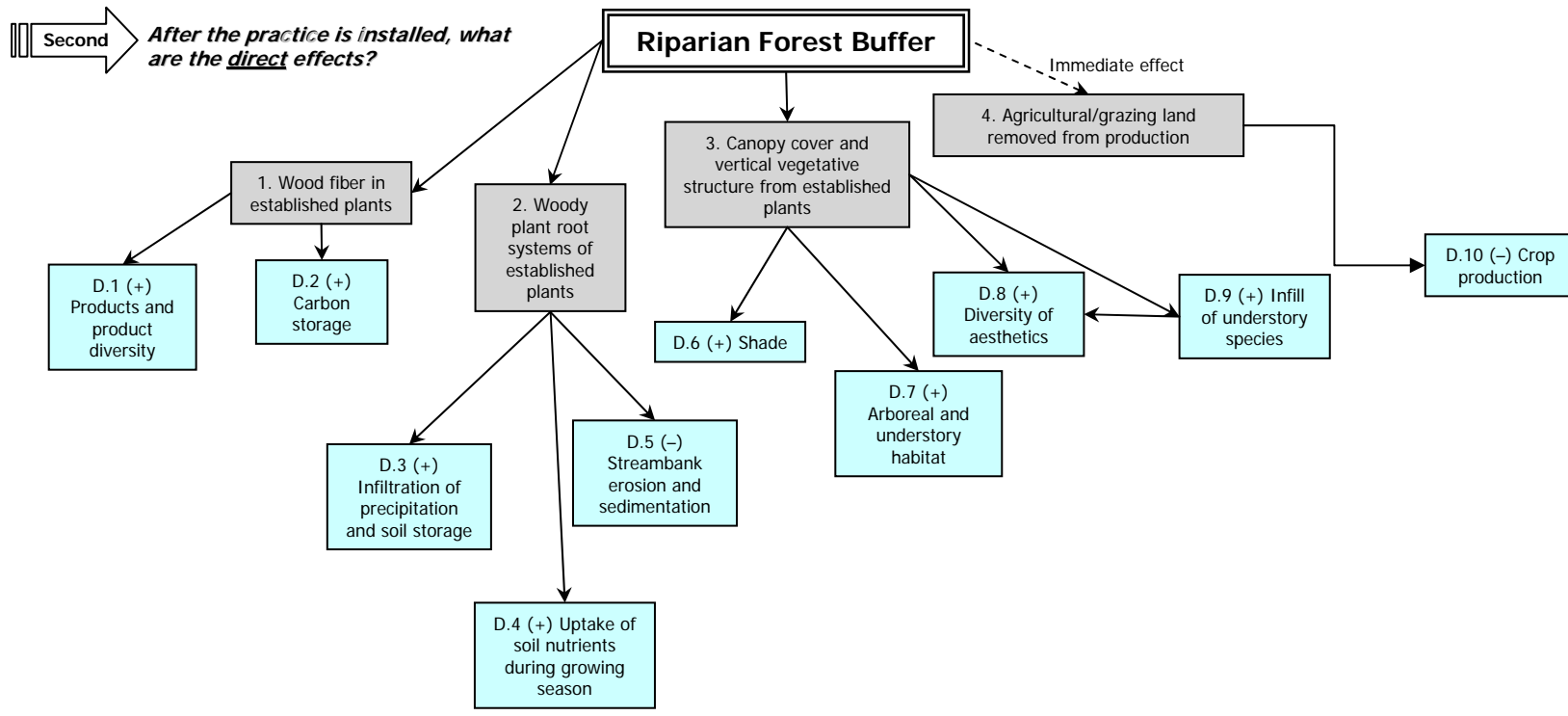
**LEGEND**

#. Created by practice

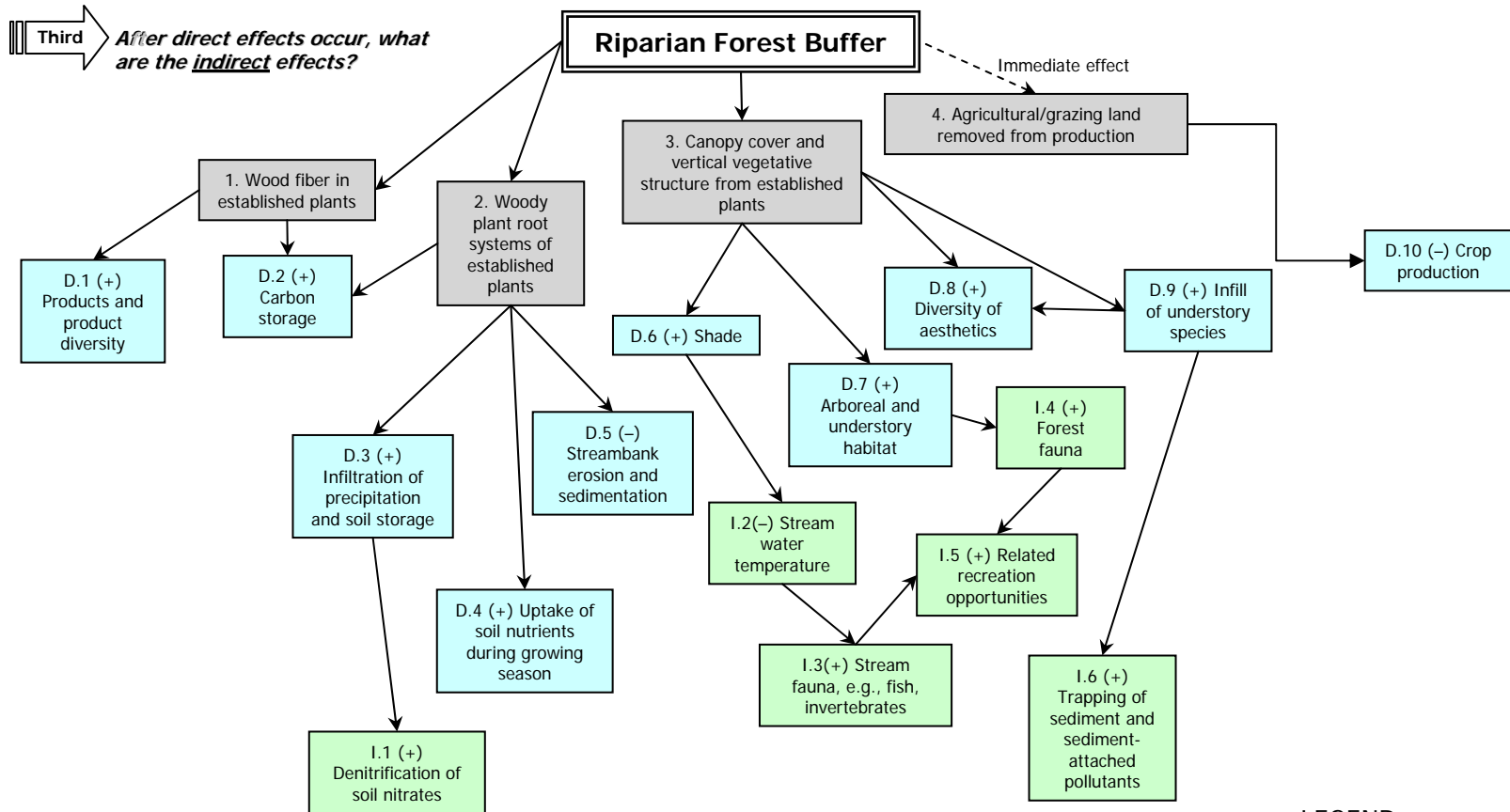
\*The physical state of what's at the site at the conclusion of installation of the practice or shortly after the practice is considered to be established. The national practice standard is the basis for answering this question.

**Slide 2**





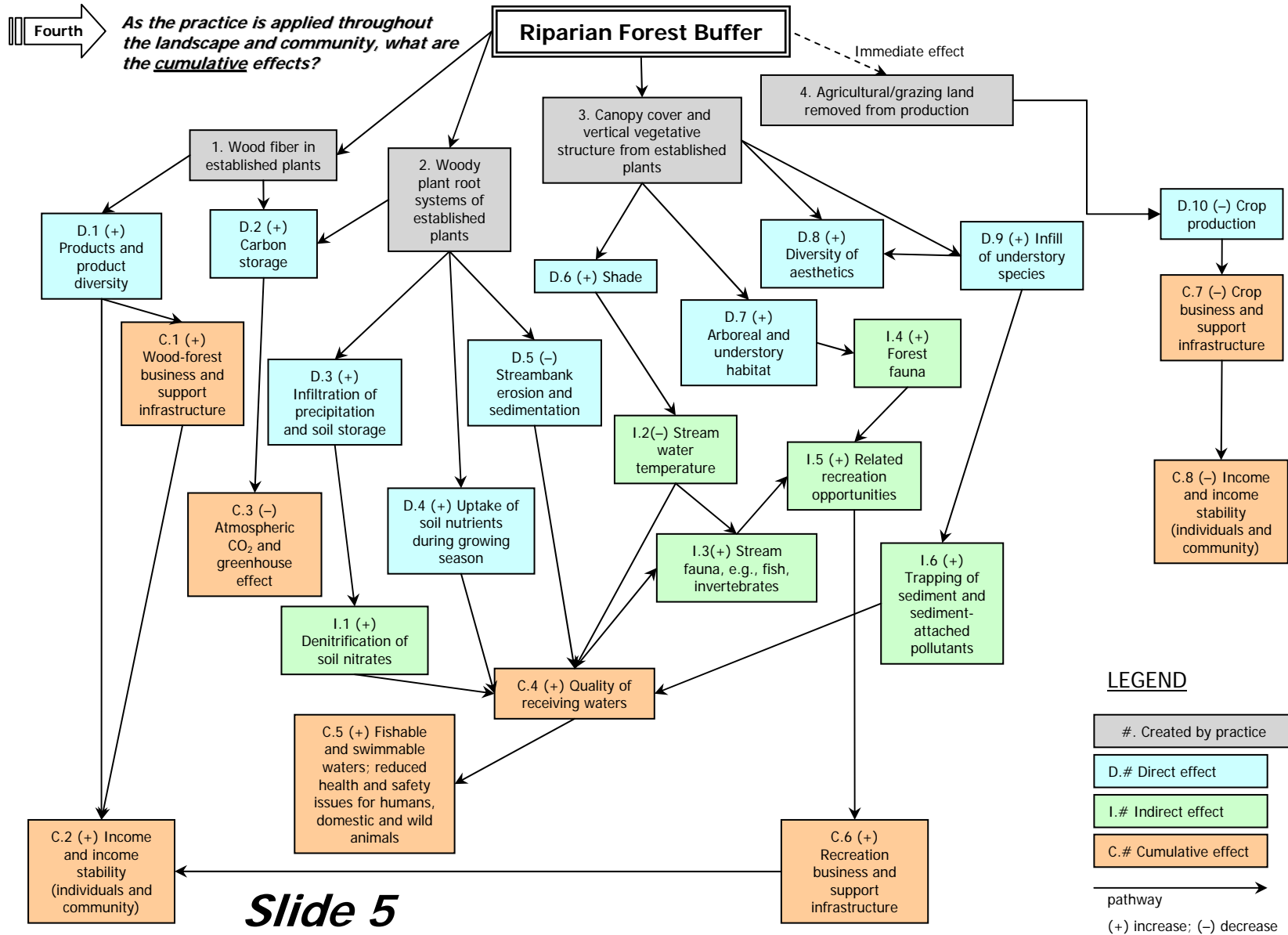
**Slide 3**



**LEGEND**

- #. Created by practice
  - D.# Direct effect
  - I.# Indirect effect
- pathway  
 (+) increase; (-) decrease

**Slide 4**



**Step 3**  
Literature Review.

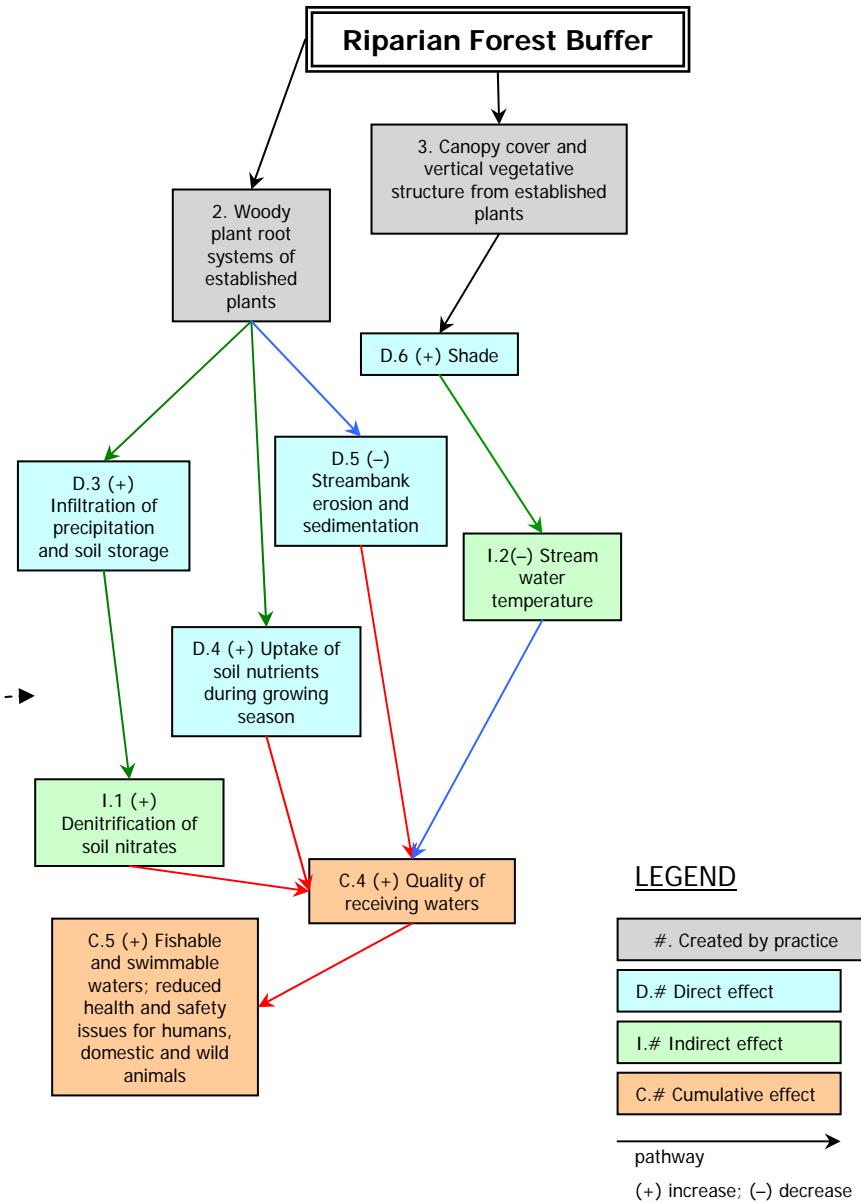


*What effects have been researched? ... green lines*

*What effects are currently being researched? ... blue lines*

*What effects are not yet supported? ... red lines*

*Note: Only part of the network diagram is shown.*



**Slide 6**



**Step 4**  
Attributed  
Effects.

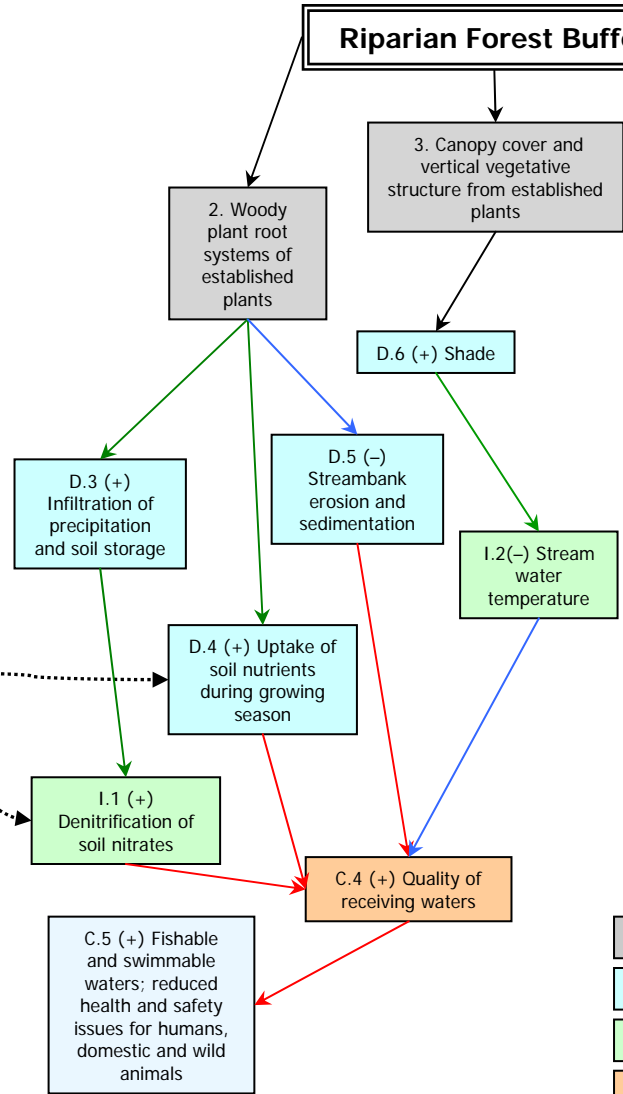
Examples

**PHOSPHORUS – surface runoff removals - 6 studies**  
 • Attributes: Mixed forest and herbaceous buffers; widths 5-28 meters; 18-96% reductions

**NITROGEN – subsurface nitrate removals - 10 studies**  
 • Attributes: Mixed forest and herbaceous buffers; widths 16-60 meters; 78-100% reductions

**SEE FIGURES AND LITERATURE CITATIONS NEXT SLIDE ...**

**Riparian Forest Buffer**



**LEGEND**

- #. Created by practice
- D.# Direct effect
- I.# Indirect effect
- C.# Cumulative effect

→ pathway  
 (+) increase; (-) decrease

**Slide 7**



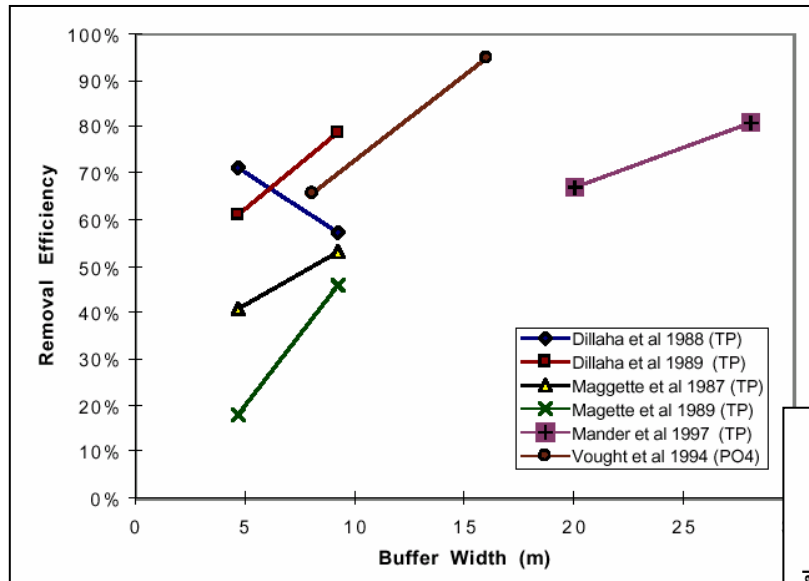
**Step 5**

Findings:

- a) effects based on research consistencies,
- b) inconsistent or contradictory studies, and
- c) gaps in research.

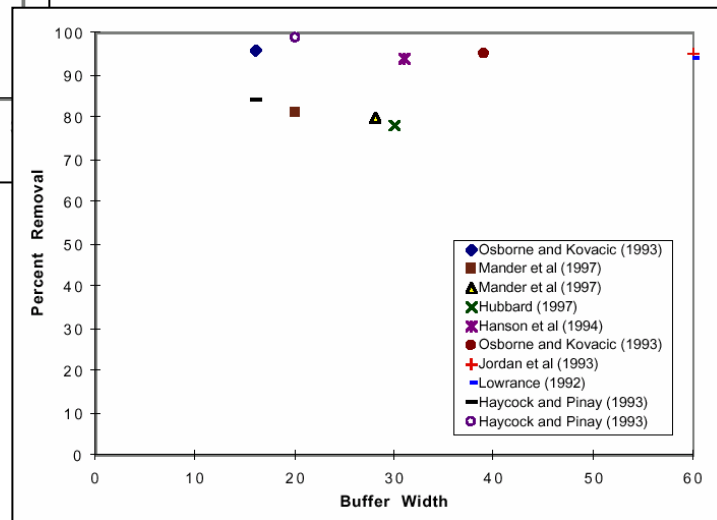
**Effects:**  
*Buffers of 5 meters in width or greater are significantly effective in reducing phosphorus and nitrates for many agricultural settings ...*

- Inconsistencies/Gaps in Research:**
- *Subsurface flows in many settings bypass riparian buffer root systems*
  - *Early studies indicate buffers can remove pesticides, organics, metals*
  - *Limited studies on pathogen removals are inconsistent*



**Phosphorus Removal from Surface Runoff (Wenger 1999\*).**

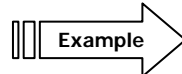
\*Wenger, S. 1999. A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation. Institute of Ecology, University of Georgia, Athens, GA.



**Subsurface Nitrate Removal (Wenger 1999\*).**

**Slide 8**

**Step 6**  
Effects  
Analysis.



*A completed effects analysis can nest within and support required assessments and statements.*

Elements of an *Environmental Assessment* are as follows:

- Purpose and need
- Title of the proposed action
- Alternatives
- Environmental impacts
- Mitigation measures
- Agencies and persons consulted

Elements of an *EIS* are as follows:

- Purpose and need
- Alternatives including proposed action and no action
- Affected environment
- Environmental consequences
- List of preparers
- List of agencies, organizations, and persons to whom copies of the statement are sent

**Summary**

**The NRCS and partner organizations are planning and installing riparian forest buffers throughout all regions of the country under CCRP.**

**Over 140 articles and books were reviewed to establish the effects of riparian forest buffers and provide adequate scientific documentation of the public expenditures for this form of conservation.**

**The network diagrams, findings, and recommended mitigation are presented in this summary ...**

***Slide 9***

## Notes about Conducting a Regional, State or Local Analysis

An effects analysis should ideally be completed first at the national or programmatic level so that a regional, state or local analysis can be tiered to that 'upper' level. But practically, a specific-area evaluation or assessment can be conducted in isolation and still be very effective. The method presented earlier in this document provides a template process useful for a locally defined area to allow analysts to focus on and capture unique characteristics such as state and local environmental issues, climate, cultural diversity in farming techniques, and physiography.

An important aspect in a local analysis is "bounding" the effects of the applicable farm bill program provision spatially and temporally. Important factors in bounding the spatial scale are

- anticipated levels and locations of program participation,
- typical settings where primary practices are installed,
- nonprogrammatic but related activities and effects and their extent,
- areas having a "sense of community,"
- hydrological connectivity, and
- ecological similarity and connectivity.

The temporal bounding will generally encompass

- a fairly short past time period under which current conditions and trends have established (i.e., the baseline or benchmark conditions),
- the immediate future during which the majority of the featured practices installation will occur, and
- a longer yet reasonable future time period needed for the practices to become fully functional in its effects.

Modification of the templates presented should be done carefully with an eye towards truly unique characteristics and issues to reducing repetitive discussion and unnecessary focus on 'micro-scales.' Under most circumstances, the local analysis should proceed rapidly presuming that the major processes and effects are identified and supported by either scientific literature (preferred evidence) or in the case where none exists, best professional judgment.



**Figure 4.** Conservation district members and an NRCS conservationist discuss local conservation issues that will help "bound" spatial and temporal scales during effects analysis.



## References

CEQ (Council on Environmental Quality), 1997. *Considering Cumulative Effects Under the National Environmental Policy Act*. Washington DC

NRCS (Natural Resources Conservation Service, USDA), 1992. Notice 113, *National Handbook of Conservation Practices*. Title 450, Part 406, Washington, DC

NRCS (Natural Resources Conservation Service, USDA), 2000a. *National Planning Procedures Handbook*. Amendment 3, Title 180, Part 600, Washington, DC

NRCS (Natural Resources Conservation Service, USDA), 2001a. *CEQ terminology and index*. Subpart C of the General Manual, Compliance with NEPA, Title 190, Part 410, Washington, DC

NRCS (Natural Resources Conservation Service, USDA), 2002. *Field Office Technical Guide*. General Manual, Title 450, Part 401, Washington, DC

NRCS (Natural Resources Conservation Service, USDA), 2002. *Performance and Results Measurement System*. (at <http://pmproductsvr.nrcs.usda.gov/prmsproducts/buffers.asp>), Washington, DC

U.S. Congress, 1970. *National Environmental Policy Act of 1969*. PL 91-190, 42 USC § 4321-4347 as amended by PL 94-52, 94-83, 97-258, § 4(b), Washington, DC

USF&WS (U.S. Fish and Wildlife Service), 2001. *Endangered Species Glossary*. Southeast Region, <http://es.southeast.fws.gov/glossary.html>, Atlanta, GA

## Appendix

### Useful Definitions

(Footnotes are listed at the end of the appendix.)

**Affected Environment.** The affected environment in a NEPA analysis that addresses direct, indirect and cumulative effects includes all potentially affected resources (soil, water, air, plants, animals), ecosystems, and human communities.<sup>1</sup>

**Areawide Conservation Planning.** The 3-phase, 9-step iterative process used by NRCS to help clients plan and apply conservation treatments for a watershed or other geographical area (referred to as the planning area) defined by the clients and stakeholders. The areawide conservation plan addresses all resource problems identified including effects issues, contains alternative solutions that meet the minimum quality criteria for each resource, and addresses applicable laws and regulations.<sup>2</sup>

**Baseline Conditions.** Conditions of resources, ecosystems and human communities used as the bases or levels of comparison for analyzing effects of proposed actions. These may be established or estimated from historical or current day conditions.<sup>1</sup>

**Biological Assessment.** A document prepared for the Endangered Species Act Section 7 process to determine whether a proposed major construction activity under the authority of a Federal action agency is likely to adversely affect listed species, proposed species, or designated critical habitat.<sup>3</sup>

**Benchmark Condition.** The status or quality of one or more current planning area situations, circumstances, or settings projected over a future specified time period. Status and quality are usually measured and defined by using one or more relevant indicators and target values. The projection of benchmark condition accounts for reasonably foreseeable future actions as well as past and present actions but does not include the effects of alternatives (proposed actions) being contemplated by the planning group. The benchmark condition is used as a point of reference to 1) compare against projected resource conditions anticipated for an alternative, and 2) measure change in resource conditions resulting from applied conservation treatment.<sup>2</sup>

**Bounding.** The process of establishing spatial and temporal boundaries to encompass the consequences of proposed action as well as additional effects on the resources, ecosystems, and human communities of concern during an effect analysis.<sup>1</sup>

**Candidate species.** Plants and animals that have been studied and the US Fish and Wildlife (FWS) or National Marine Fisheries Service (NMFS), as appropriate, has concluded that they should be proposed for addition to the Federal endangered and threatened species list.<sup>3</sup>

**Common Resource Area (CRA).** A geographical area where resource concerns, problems, and treatment needs are similar. Landscape conditions, soil, climate, human considerations, and other natural resource information is used to determine the geographical boundaries of the common resource area.<sup>2</sup>

**Conservation Practice.** A specific treatment, such as a structural or vegetative measure, or management technique, commonly used to meet specific needs in planning and implementing conservation, for which standards and specifications have been developed.<sup>2</sup>

**Conservation Practices Physical Effects (CPPE) matrix.** The matrix in the FOTG, Section V, that gives the physical effects of many conservation practices on soil, water, air, plants, and animals.<sup>2</sup>

**Conservation Practice Standards.** National standards commonly used by NRCS to treat natural resource problems. Each practice standard includes the following components: name, unit of measurement, code number, definition, purpose, condition where practice applies, criteria, considerations, plans and specifications, and operation and maintenance.<sup>4</sup>

**Council on Environmental Quality (CEQ).** A three-member council appointed by the President that reviews and appraises the various programs and activities of the Federal Government to ensure they are in compliance with NEPA.<sup>5</sup>

**Critical habitat.** Specific geographic areas, whether occupied by listed species or not, that are determined to be essential for the conservation and management of listed species, and that have been formally described in the Federal Register.<sup>3</sup>

**Cumulative Effects.** The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other action (40 CFR § 1508.7).<sup>1</sup> See Types of Cumulative Effects.

**Cumulative Effects Analysis.** A procedure with an objective to account for the full range of consequences from proposed actions. The process will involve assumptions and uncertainties but must be conducted with the best techniques and data available.<sup>1</sup>

**Direct effects.** Caused by a proposed action that occurs at the same time and place.<sup>6</sup>

**Ecosystem.** Dynamic and interrelating complex of plant and animal communities and associated nonliving (e.g. physical and chemical) environment.<sup>3</sup>

**Endangered.** The classification provided to an animal or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range.<sup>3</sup>

**Endangered Species Act of 1973, as amended (ESA).** Federal legislation intended to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, and provide programs for the conservation of those species, thus preventing extinction of native plants and animals.<sup>3</sup>

**Environmental Assessment (EA).** A concise public document that briefly provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement or finding of no significant impact.<sup>2</sup>

**Environmental Evaluation (EE).** A concurrent part of the planning process in which the potential long-term and short-term impacts of an action on people, their physical or social surroundings, and nature are evaluated and alternative actions explored.<sup>2</sup>

**Environmental Impact Statement (EIS).** A document detailing the environmental impact of a proposed law, construction project, or other major action that may significantly affect the quality of the environment. EIS's are required by the National Environmental Policy Act (NEPA) and various state environmental laws.<sup>2</sup>

**Field Office Technical Guide (FOTG).** The official NRCS guidelines, criteria, and standards for planning and applying conservation treatments.<sup>2</sup>

**Impacts.** The difference between the anticipated effects of alternative treatment in comparison to existing or benchmark condition effects. Differences may be expressed by narrative, quantitative, visual, or other means. Impacts are used as a basis for making informed conservation decisions.<sup>2</sup>

**Indicator.** The description or measurement of a resource concern that, when observed periodically, indicates or demonstrates trends. Directly linked to indicators are target values which identify a specific quantitative or qualitative estimate for the desired state of the resource concern.

**Indirect effects.** Caused by a proposed action that occurs later in time or is further removed in distance.<sup>6</sup>

**Long-term Impacts.** Impacts that occur during or after an action and may take the form of delayed changes or changes resulting from the cumulative effects of many individual actions.<sup>8</sup>

**Minimizing Significant Cumulative Effects.** Avoiding, altering or mitigating adverse effects by modifying, eliminating or adding alternatives to the proposed actions. Mitigation involves applying treatment to counter significant effects from applied actions.<sup>1</sup>

**National Environmental Policy Act (NEPA).** The 1970 Act that requires federal agencies to consider the effects on the environment of proposed federal actions. This Act established the requirement for conducting environmental evaluations and for the preparation of environmental assessments and environmental impact statements.<sup>2</sup>

**Proposed species.** Any species of fish, wildlife, or plant that is proposed in the Federal Register to be listed under Section 4 of the Endangered Species Act.<sup>3</sup>

**Resource Management System (RMS).** A conservation system that meets or exceeds the quality criteria in the FOTG for resource sustainability for all identified resource concerns for soil, water, air, plants and animals.<sup>2</sup>

**Scoping.** The early, up-front and open process to determine the extent of the significant issues, such as resource problems and concerns, regulatory requirements, etc., to be addressed in the planning process. The process determines 1) whether the resources, ecosystems and human communities have already been affected by past or present activities and 2) whether other agencies or the public have plans that may affect the resources in the future.<sup>2</sup>

**Short-term Impacts.** Temporary changes occurring during or immediately following an action and usually persisting for a short while.<sup>8</sup>

**Target value.** Identifies a specific value to be used in conjunction with an indicator.

**Threatened.** The classification provided to an animal or plant likely to become endangered within the foreseeable future throughout all or a significant portion of its range.<sup>3</sup>

**Threshold.** The status or quality of a condition tied to a spatial and temporal scale where effects from a proposed action are anticipated to have a conspicuous or evident beneficial or adverse impact on a resource, ecosystem or human community. The impact is usually scientifically or legally based. Example: Clearing of riparian vegetation over the next 5 years on a 25,000-acre watershed is anticipated to increase water temperatures above the upper limit for a cold-water fishery (acceptable range is 5 to 18°C).<sup>1</sup>

**Tiering.** Refers to the coverage of general matters in broader environmental impact statements (i.e. national policy statements) with subsequent narrower statements or environmental analysis (i.e. basinwide program statements) incorporating by reference the general discussions and concentrating solely on the issues specific to statement subsequently prepared.<sup>6</sup>

#### **Types of Cumulative Effects (Types 1, 2, 3 and 4).<sup>1</sup>**

- Type 1 - Repeated "additive" effects from a single proposed project, e.g., construction of a new road through a national park resulting in continual draining of road salt onto nearby vegetation.
- Type 2 - Stressors (e.g., substance, compound or material) from a single source that interacts with receiving organisms to have an "interactive" net effect, e.g., toxic compounds that build up disproportionately at higher levels within food chains.
- Type 3 - Effects arising from multiple sources that affect environmental resources additively, e.g., agricultural irrigation throughout a community that draws down a groundwater aquifer.
- Type 4 - Effects arising from multiple sources that affect environmental resources in a countervailing or synergistic fashion, e.g., discharges of nutrients and heated water to a river that cause an algal bloom and subsequent loss of dissolved oxygen that is greater than the additive effects of either pollutant.

<sup>1</sup>CEQ 1997

<sup>2</sup>NRCS 2002

<sup>3</sup>USF&WS 2001

<sup>4</sup>NRCS 1992

<sup>5</sup>U.S. Congress 1970

<sup>6</sup>NRCS 2001a

<sup>7</sup>NRCS 2000b

<sup>8</sup>USPS 1991

610.128 Technical Note on "Considering the Cumulative Effects of NRCS Activities"



United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service (NRCS)

May 13, 2003

WATERSHED SCIENCE INSTITUTE REPORT, CED-WSSI-2003-1

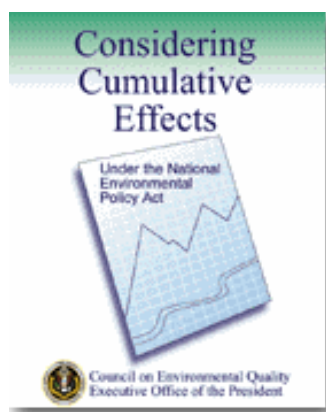
## Considering the Cumulative Effects of NRCS Activities

Analyzing incremental environmental impacts of NRCS actions with other past, present and future actions as required by the National Environmental Policy Act (NEPA)

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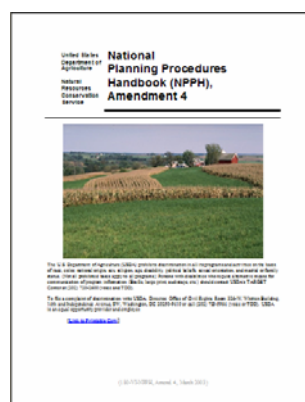


Figure 1. One hundred years ago, the area shown was predominantly natural, unmanaged forest. The cumulative effects of converting natural areas to agriculture, urban and managed forests have made a pronounced change to economic systems, hydrology, habitat connectivity, air emissions, and discharges of pollutants to receiving waters. In general, NRCS conservation planning and implementation leads to positive changes but may have unintended, negative effects if not analyzed properly at an appropriate areawide level over a relevant time period.



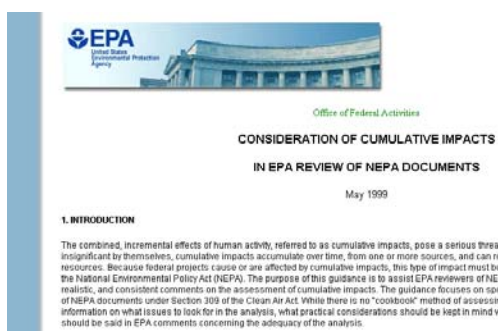
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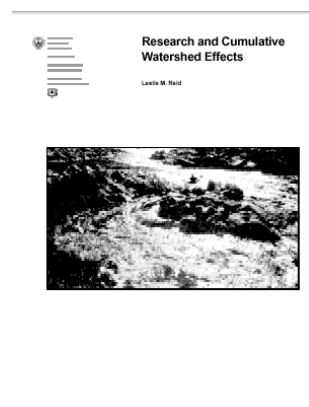
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URL: [http://www.rsl.psw.fs.fed.us/projects/water/reid\\_141.pdf](http://www.rsl.psw.fs.fed.us/projects/water/reid_141.pdf)

Figure 2. A number of documents are useful in explaining requirements and interpreting cumulative effects analysis under NEPA. Some notable publications including NRCS's National Planning Procedures Handbook are shown above. The title and web site (URL - Uniform Resource Locator address) are noted beneath each document.

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## Executive Summary

The National Environmental Policy Act (NEPA) carries the mandate to analyze the cumulative effects of federal actions (Council on Environmental Quality, 1997). However, the attention given to cumulative effects analysis during the environmental impact assessment process has been largely inadequate. Reasons for this include: 1) a lack of clear delineation of both temporal and spatial boundaries to be incorporated in the analysis; 2) the dilemma of dealing with multiple sources of baseline environmental data; 3) impact study constraints relative to time and money; and 4) limited development of policies and methodologies to address cumulative impacts (Canter and Kamath 1995).

"Evidence is increasing that the most devastating environmental effects may result not from the direct effects of a particular action, but from the combination of individually minor effects of multiple actions over time." Analyzing cumulative effects is challenging primarily because of the difficulty of defining the geographic and time boundaries associated with impact issues (CEQ 1997). In general, modern natural resources conservation programs are positive in their effect at the site level. However, treatments may inadvertently have undesirable impacts at larger geographic scales as application progresses.

The primary purposes of the guidance document are to enable conservationists to integrate cumulative

effects analysis into a *forward-thinking process* as part of NRCS areawide conservation planning activities and, when needed, to properly respond in *reactive situations* when new or unforeseen cumulative effects issues are identified during or after implementation of conservation practices and measures.

### *The specific aims are:*

- *To successfully foresee cumulative effects during areawide planning.*
- *To competently react to impact issues brought to the agency's attention during or after conservation application.*

The overall intent for using the guidance presented herein is to better achieve the agency's mission: "To provide leadership in a partnership effort to help people conserve, improve, and sustain our natural resources and environment." The specific aims are:

1. To successfully foresee cumulative effects during areawide planning and properly modify alternatives (proposed actions) to optimize beneficial impacts and eliminate or mitigate adverse significant impacts.
2. To competently react to impact issues brought to the agency's attention during or after conservation application and carefully analyze cumulative effects and mitigate adverse significant impacts by using adaptive management (which, in turn, helps us improve agency policies, standards and future actions).

To best assist agency planners, definitions of terms and descriptions of useful evaluation tools are included. Definitions improve understanding of concepts underlying the processes, tools and techniques used in cumulative effects analysis. Evaluation tools or methodologies for performing cumulative effects analysis of proposed actions are described through narrative and examples. More extensive examples, where applicable, are reproduced in appendices.

Because cumulative effects are best analyzed over large landscape units, this report will be most useful for planners and specialists involved with clients, stakeholders and partners working with community-bounded areas or watersheds. Typically, such units will involve multiple ownerships ranging from a few thousand acres up to 250,000 acres in size.

*... this report will be most useful for planners and specialists involved with clients, stakeholders and partners working with community-bounded areas or watersheds generally less than 250,000 acres ...*

## Purpose

The purpose of the guidance provided in this document is four-fold:

- Provide an understanding of the terminology and concepts associated with cumulative effects analysis under NEPA,
- Outline a *forward-thinking process* to integrate cumulative effects analysis into local NRCS areawide conservation planning,
- Outline how to deal with *reactive situations* when new or unforeseen cumulative effects issues are identified during or after implementation of conservation practices and measures,
- Explain and demonstrate methodology and tools that can be used for conducting a cumulative effects analysis using either process.

The report will be most useful for planners and specialists involved with clients, stakeholders and partners who are: 1) contemplating the use of or developing areawide and watershed plans, or 2) addressing cumulative effects issues during or after the implementation of conservation treatment.

The outcome for using the guidance presented herein is to better achieve the agency's mission "to provide leadership in a partnership effort to help people conserve, improve, and sustain our natural resources and environment." The specific aims are:

1. For conservation activity in the planning stage, to successfully understand and foresee cumulative effects and properly modify alternatives (proposed actions) to optimize beneficial impacts and eliminate or mitigate adverse significant impacts.
2. For conservation activity during or after the implementation stage, to thoroughly understand issues brought to the agency's attention and carefully analyze cumulative effects and mitigate adverse significant impacts by using adaptive management. (Adaptive management is a process that adjusts decisions and subsequent conservation treatment based on the results of monitoring or evaluation. This process helps us improve agency policies, standards and future actions.)

## Background

"Evidence is increasing that the most devastating environmental effects may result not from the direct effects of a particular action, but from the combination of individually minor effects of multiple actions over time." Analyzing cumulative effects is more challenging, primarily because of the difficulty of defining the geographic and time boundaries (CEQ 1997). In general, modern natural resources conservation programs are significantly positive in their effect at the site level. However, treatments may inadvertently have undesirable impacts at larger geographic scales as application progresses. For example:

- Croplands are retired to a point that reduce traditional agribusiness transactions and community viability, and unintentionally allows invasion by undesirable animal and weed species which spread to active cropland,
- Episodic streambank armoring that eventually reaches a point in a stream system where aquatic and terrestrial habitats are degraded with concurrent losses in fish and wildlife populations,
- Building additional retention ponds or basins and further changing flooding patterns which have already altered migratory bird habitat,
- Reliance on modern but costly structural practices can change cash flow and borrowing behavior which, in turn, causes hardship on a community's limited-resource producers.

NEPA and CEQ regulations require federal agencies to study the direct, indirect and cumulative effects of their proposed actions. The objective of cumulative effects analysis is to make sure proposed actions account for the full range of consequences. Analysis will involve assumptions and uncertainties but must be conducted with the best techniques and data available. The need for better techniques and data can be identified, but are not justification for avoiding or delaying cumulative effects analysis. Over time, where substantial uncertainties exist, proposed actions and their implementation can be modified as new methodology and data come on-line.

## Important Definitions for Understanding How Cumulative Effects Analysis Integrates with the Planning Process

Definitions of terms provide the working vocabulary required to understand processes, tools and techniques in analyzing cumulative effects. Some important definitions are included here. Appendix A contains a full listing.

**Affected Environment** - The affected environment in a NEPA analysis that addresses cumulative effects includes all potentially affected resources (soil, water, air, plants, animals), ecosystems, and human communities.

**Areawide Conservation Planning** - The 3-phase, 9-step iterative process used by NRCS to help clients plan and apply conservation treatments for a watershed or other geographical area (referred to as the planning area) defined by the clients and stakeholders. See figure 3, column A. The areawide conservation plan addresses all identified resource problems including cumulative effects issues, contains alternatives that meet the minimum quality criteria for each resource, and addresses applicable laws and regulations.

**Baseline Conditions** - Conditions of resources, ecosystems and human communities used as the bases or levels of comparison for analyzing effects of proposed actions. These may be established or estimated from current day conditions with consideration of historical circumstances.

**Benchmark Conditions** - The status or quality of one or more current planning area situations, circumstances, or settings projected over a future specified time period. Status and quality are usually measured and defined by using one or more relevant indicators and target values. The projection of benchmark condition accounts for reasonably foreseeable future actions as well as past and present actions but does not include the effects of alternatives (proposed actions) being contemplated by the planning group. The benchmark condition is used as a point of reference to: 1) compare against projected resource conditions anticipated for an alternative, and 2) measure change in resource conditions resulting from applied conservation.

**Bounding** - The process of establishing spatial and temporal boundaries to encompass additional effects on the resources, ecosystems, and human communities of concern during a cumulative effects analysis.

**Conservation Practice** - A specific treatment, such as a structural or vegetative measure, or management technique, commonly used to meet specific needs in planning and implementing conservation, for which standards and specifications have been developed.

**Cumulative Effects** - The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other action.

**Cumulative Effects Analysis** - An 11-step procedure with an objective to account for the full range of consequences from proposed actions. See figure 3, column B. The process will involve assumptions and uncertainties but must be conducted with the best techniques and data available.

**Indicator** - The description or measurement of a resource concern that, when observed periodically, indicates or demonstrates trends. Directly linked to indicators are target values which identify a specific quantitative or qualitative estimate for the desired state of the resource concern.

**Resource Management System (RMS)** - A prescribed combination of conservation practices and management identified by land or water uses that, when implemented, prevents resource degradation and permits sustained use by meeting quality criteria established in the Field Office Technical Guide (FOTG) for the treatment of soil, water, air, plant, and animal resources.

**Scoping** - The early, up-front and open process to determine the extent of significant resource problems and issues to be addressed in the planning process.

**Thresholds** - The status or quality of a condition tied to a spatial and temporal scale where effects from a proposed action are anticipated to have a conspicuous or evident beneficial or adverse impact on a resource, ecosystem or human community.

**Target Value** - Identifies a specific value to be used in conjunction with an indicator.

<b>NRCS Areawide Conservation Planning Process</b>  Column A	<i>Iterative Processes</i>	<b>NEPA-CEQ Cumulative Effects Analysis Steps</b>  Column B
<b>Phase I - Collection and Analysis:</b>  1. Identify Problems and Opportunities  2. Determine Objectives		<b>Scoping:</b>  1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.  2. Establish the geographic scope for the analysis.  3. Establish the time frame for the analysis.  4. Identify other actions affecting the resources, ecosystems, and human communities of concern.
3. Inventory Resources		<b>Describing the Affected Environment:</b>  5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stresses.  6. Characterize the stresses affecting these resources, ecosystems, human communities and their relation to regulatory thresholds.
4. Analyze Resource Data		<b>Determining the Environmental Consequences:</b>  7. Define a baseline condition for the resources, ecosystems, and human communities.  8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.
<b>Phase II - Decision Support:</b>  5. Formulate Alternatives  6. Evaluate Alternatives		9. Determine the magnitude and significance of cumulative effects.  10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.
7. Make Decisions		--
<b>Phase III - Application and Evaluation:</b>  8. Implement the Plan		--
9. Evaluate the Plan		11. Monitor the cumulative effects of the selected alternative and adapt management.

**Figure 3. A listing and comparison of the NRCS planning process and CEQ cumulative effects analysis steps.**

Column A - The 9-step iterative process used by NRCS to help clients plan and apply conservation treatments for a watershed or other geographical area defined by clients. Typically, conservation treatments to address particular resource concerns at the site level are known before large-area planning is initiated. These treatments are known as resource management systems (RMS's). Areawide planning establishes the participation level or extent of RMS's (proposed actions) to be applied throughout the landscape and sets forth a strategy on where RMS's need to be applied first for best effect. (NRCS 2000)

Column B - An 11-step iterative procedure developed by CEQ that guides users to study the full range of consequences from proposed actions. The procedure should not be viewed as formal CEQ guidance nor is it intended to be legally binding. (CEQ 1997)

## How Do Cumulative Effects Occur?

There is a broad range of potential cumulative effects, and there are several mechanisms through which they can occur. It is important to understand these mechanisms because they help planners think broadly about ecological interactions (Canadian Environmental Assessment Agency, 1999).

- **Physical-chemical transport.** This occurs when a physical or chemical element moves away from the action undertaken, then interacts with another action. An example of this is: 1) the application of an herbicide or pesticide on a field, 2) the transport of the chemical via surface water into the soil profile, and 3) infiltration of the chemical into the groundwater as a result of irrigation.
- **Nibbling loss.** The gradual disturbance and loss of land and habitat. An example of this is the breaking out of native grasslands for crop production. Many small breakout actions, over time, may significantly affect wildlife species that are dependent on the grasslands for their life cycle requirements.

- **Spatial crowding.** Cumulative effects can occur when too much is happening within too small an area. Actions may be different and small, but with overlap and synergism. A threshold may be exceeded and the environment may not be able to recover to pre-disturbance conditions. This can occur quickly or gradually over a long period of time before the effects become apparent. For example, prescribed burning of certain crop residues to reduce disease in a small geographic area may have little impact. But airborne pollutants from the burn may act synergistically with emissions from automobiles and wood-burning stoves in the same geographic area to create a significant cumulative effect.
- **Temporal crowding and trailing.** Cumulative effects can occur when too much is happening in too brief a period of time (temporal crowding) or may last for many years beyond the life of the action that caused them (temporal trailing). An example of *temporal crowding* might be applying nutrients to pasture or crops too frequently so that appropriate plant uptake is unlikely. A threshold may be exceeded whereby the crop is injured or excess nutrients are carried by surface water to receiving streams. An example of *temporal trailing* is the construction of a floodwater retarding structure in a watershed where, over time, it is likely to accumulate toxic-laden sediments.



Figure 4. Landscapes exhibiting cumulative effects mechanisms. *Above:* Residential development sprawls around a reservoir originally built for flood control. *Right:* Vegetative buffers installed on agricultural lands to reverse a trend of accumulating sediment and nutrients in streams.



## How are Direct, Indirect, and Cumulative Effects Different?

The purpose of effects analysis during an environmental assessment (EA) is to determine if there are any significant direct, indirect, or cumulative effects. Significant effects trigger the need to prepare an environmental impact statement (EIS). See figure 5. In an EIS, the purpose of effects analysis is to identify and analyze significant adverse effects, disclose them to the decision-makers and the public, and mitigate them to the extent possible.

An important concept in preparing EA's and EIS's or completing any environmental evaluation is that there are key differences in *emphases* between identifying and analyzing direct, indirect and cumulative effects. A direct effect is what happens at a site soon after an action (or, in the case of a proposed action, what is anticipated to happen). An indirect effect occurs later on or off-site and is triggered by the action itself or its direct effects. A cumulative effect is the impact on the environment resulting from the incremental consequences of the action when added to other past, present, and reasonably foreseeable future actions regardless of who takes such other action. Typically, a cumulative effect necessitates looking at a longer time period and larger landscape unit to perform a competent analysis.

Some notable emphases include:

Direct and Indirect Effects	Cumulative Effects
Analysis of the effect bounded by the site-level "footprint" and "trail" of the action	Analysis of the effect and connected actions/effects bounded by an ecosystem or landscape
Chain of causation usually linear and straightforward	Chain of causation connective, complex and additive
Effects happen relatively quickly with some lag time for indirect effects	Effects may take decades
Trends of individual effects and causation more detectable	Trends of interacting effects and causation less detectable
Evidence of causation and accuracy of the analysis usually clear and certain	Evidence of causation and accuracy of the analysis usually intricate and less certain

Observance of these differences during effects analysis will help planners identify and distinguish direct, indirect and cumulative effects.

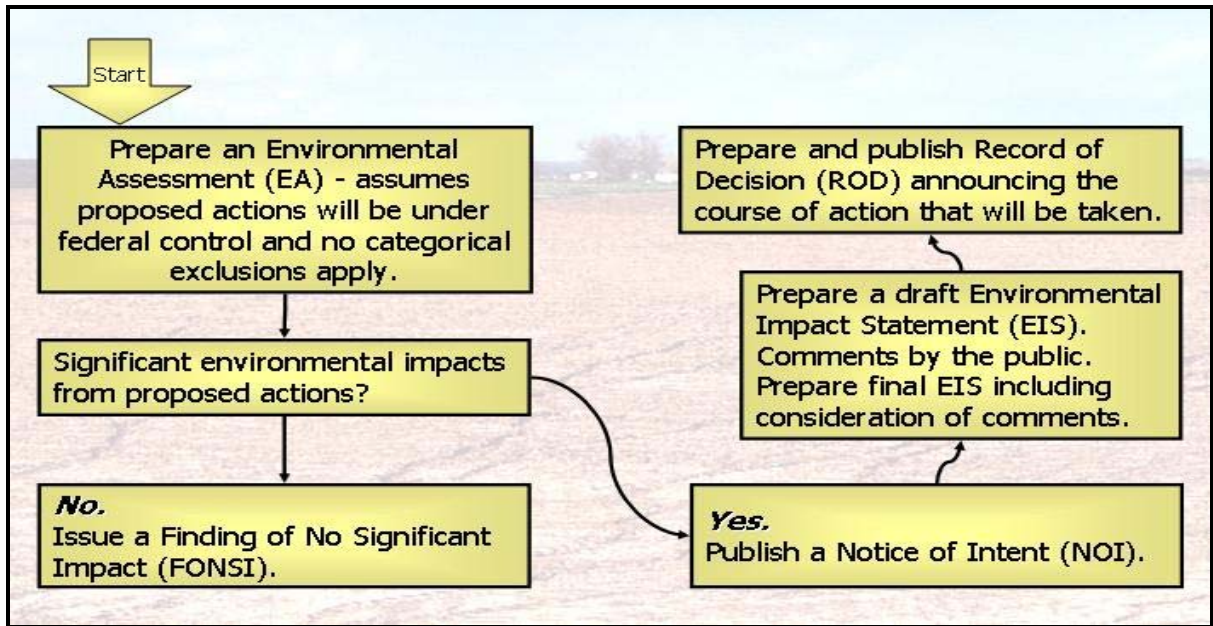


Figure 5. The flow of NEPA activities is the same for all situations. However, the cumulative effects analysis part of an EA or EIS is usually more complex.

## A Forward-Thinking Process

Some authorities contend that all environmental effects are cumulative because every impact that occurs in a natural system is in addition to something that has occurred, is occurring, or will occur. The tendency when conducting environmental impact analysis is to focus primarily on the direct impacts of specific projects. However, NEPA carries the mandate to analyze the cumulative effects of proposed alternatives, as well as the direct and indirect effects (CEQ 1997).

In general, conservation treatments applied on an operating unit or a small group of operating units

*The areawide level ... of analysis and planning is crucial to properly studying incremental impacts of conservation treatments that individually may not be detectable at the site-scale.*

may not cause conspicuous cumulative effects. However, as participation levels in conservation programs increase over time in a large area, cumulative effects may become quite noticeable and measurable. Planning and

analysis at the areawide level (i.e., watersheds or other large areas usually with multiple ownerships) is crucial to studying incremental impacts of conservation treatments that individually may not be detectable at the site-scale. A principal goal would be to use a forward-thinking process to assess whether anticipated effects from planned or accumulating conservation activity will exceed established thresholds.

NRCS's planning process can easily accommodate the 11-step CEA procedure (figure 3). As a *forward-thinking process*, the NRCS Areawide Planning Process can be used to: 1) properly anticipate the direct, indirect, and cumulative effects of proposed actions, 2) help judge the significance of impacts, and 3) modify, eliminate or add alternatives to optimize beneficial effects and mitigate adverse effects. There is no need to follow a second separate process to address the 11 CEA steps. A single process is all that is necessary.

When CEA becomes an integral and concurrent part of the areawide planning process, the stage is set to understand the full impacts of the proposed action. If such a process is not employed, *reactive situations* become more frequent, triggered by individuals or groups who legitimately challenge conservation effects based on missing or poorly understood cause-and-effect relationships. Inattention or failure to thoroughly understand the contribution of NRCS activities to cumulative effects can be costly and in direct conflict with the agency's mission "to provide leadership in a partnership effort to help people conserve, improve, and sustain our natural resources and environment."

### Getting Started

Analyzing cumulative effects is challenging because of its predictive nature as well as a tendency to focus only on NRCS actions. A certain level of variability or risk and uncertainty will be experienced regardless of methods used for prediction. The planning process must be conducted with the best scientific tools, techniques and data available to minimize uncertainty.

Considerations for each of the 9 planning steps to account for cumulative effects are listed in table 1. Information for each step is primarily derived from the National Planning Procedures Handbook (NRCS 2003), Considering Cumulative Effects (CEQ 1997) and a variety of plans under development or already existing that have purposefully included cumulative effects analysis. For descriptions and examples of methodologies, refer to the *Evaluation Methods and Tools* section.

*As a forward-thinking process, the NRCS Areawide Planning Process can be used to: 1) properly anticipate effects of proposed actions, 2) help judge the significance of impacts, and 3) modify, eliminate or add alternatives to optimize beneficial effects and mitigate adverse effects.*

Table 1. Overview of cumulative effects analysis elements and tools used during the NRCS planning process.

NRCS Areawide Conservation Planning Process	Key Elements and Activities	Evaluation Methods and Tools
1. Identify Problems and Opportunities	<p>Recruit local and regional organizations and specialists aware of cumulative effects issues as stakeholders and planning team members. This is important regardless of the individual, group or agency implementing action(s).</p> <p>Incorporate and reach agreement on the initial identification of significant cumulative effects issues and boundary(ies) of the planning area (geographic scope) related to the general application of land use/setting Resource Management Systems (RMS's)<sup>1</sup>. See appendix C for a watershed-scale RMS-Effects formulation process example.</p> <p>Identify other influencing actions that have occurred, are occurring, or are likely to occur in the foreseeable future.</p> <p>Based on the list of problems and opportunities, prepare an explanation of why there is a "need for action."</p>	<ul style="list-style-type: none"> <li>• Questionnaires, interviews, panels</li> <li>• Checklists</li> <li>• Overlay maps and GIS</li> </ul>
2. Determine Objectives	<p>Objectives are largely a translation of <i>problem statements</i> to <i>objective statements</i>. Development of statements may further narrow the scope of proposed actions. The "purpose for action" can be formulated by documenting the objectives and associated desired future conditions. The "purpose for action" should also explain how the anticipated use of applicable RMS's would meet the "need for action."</p>	
3. Inventory Resources 4. Analyze Resource Data	<p>The inventory and analysis strategy is based on those problems or issues related to objectives. Use the question "What are the origins of the problem/issue?" repeatedly to develop a chain or network of possible causes for each issue.</p> <p>Each "chain" or "network" of answers should help planners identify the types of inventories needed. The degrees of detail for the inventories should be sufficient to address these critical questions:</p> <ul style="list-style-type: none"> <li>• How and at what rate have resources conditions tied to scoped issues changed? (e.g., total SOIL-erosion and WATER-quality-sediment in the urban transition zone have increased 5 percent annually over the last 5 years)</li> <li>• What stress factors are likely tied to the changes and are they anticipated to increase or diminish? (e.g., sprawl-type development is causing erosion and sediment and is expected to double in 10 years)</li> <li>• How have relevant regulatory controls affected stress factors? (e.g., the local Urban Growth Plan was established to regulate the rate of development but it is routinely revised to allow more and faster expansion)</li> </ul> <p><i>Indicators</i> of resource conditions, stress factors and regulatory controls are selected at this time and use conventional and understandable units of measure. They are focal points of the inventories. As indicator data are compared to applicable <i>thresholds</i> or <i>target values</i> for each problem or issue, document: 1) the time frames used, 2) the benchmark conditions (baselines), and 3) key cause-and-effect relationships. Note that the collection of indicator data begins the monitoring process described in step 9 below.</p>	<ul style="list-style-type: none"> <li>• Checklists</li> <li>• Network and system diagrams</li> <li>• Overlay maps and GIS</li> <li>• Trend analyses</li> <li>• Questionnaires, interviews, panels</li> </ul>



Table 1. Continued.

NRCS Areawide Conservation Planning Process	Key Elements and Activities	Evaluation Methods and Tools
<p>5. Formulate Alternatives</p> <p>6. Evaluate Alternatives</p>	<p>Proposed actions<sup>1</sup> are reexamined, a range of alternatives are formulated (e.g., 3-5 scenarios of major practice/measure combinations including the no-action alternative), and estimates of participation rates and extent of future application are determined.</p> <p>To begin the evaluation, ask the question "What happens when an alternative is applied?" The answers will generate a list of effects (usually direct effects) that typically lead to off-site or later effects (indirect effects). Many of the effects will be intended and some will be unintended. As the network of direct and indirect effects accumulate based on anticipated participation rates for the alternative, are other effects generated (cumulative effects)? How do all effects react with other past, present and reasonably foreseeable future actions? Will key indicators reach target values or thresholds of acceptability? Are unintentional direct, indirect and cumulative effects tolerable? These questions and evaluation are pursued equally for each alternative.</p> <p>The qualitative and quantitative evaluations estimate the context and intensity of cumulative effects of the proposed actions and can be used to modify alternatives to optimize beneficial effects and eliminate or mitigate adverse effects. Planning step 6 concludes with a set of evaluated alternatives<sup>2</sup>.</p>	<ul style="list-style-type: none"> <li>• Network and system diagrams</li> <li>• Models</li> <li>• Questionnaires, interviews, panels</li> <li>• Tables and matrices</li> <li>• Overlay maps and GIS</li> <li>• Trend Analyses</li> </ul>
<p>7. Make Decisions</p>	<p>Alternatives are carefully examined and a particular course of action is selected by decision-makers. Decisions are typically representational, i.e., individual landowners and public decision-makers still need to make decisions at the site level that conform with areawide decisions. Decisions that are appreciably different than any of the evaluated alternatives will force a reiteration back to at least step 6.</p>	<ul style="list-style-type: none"> <li>• Questionnaires, interviews, panels</li> </ul>
<p>8. Implement the Plan</p>	<p>The implementation strategy and application of decisions within the planning area are completed in conformance with the EA or EIS.</p>	
<p>9. Evaluate the Plan</p>	<p>Monitoring actually begins when indicator data in step 3 is collected to determine baseline conditions. It continues concurrently with plan implementation to validate benchmark or baseline conditions and assumptions and, over time, to determine if actions were applied properly and if they achieved desired conditions (<i>thresholds</i> or <i>target values</i>) as described in the EA or EIS. Monitoring results are used to adapt management to further optimize beneficial impacts and deal with unforeseen adverse environmental impacts.</p> <p>Monitoring continues during the plan "life span" using the same <i>indicators</i> employed during steps 3, 4 and 6 so that all data are comparable over time.</p>	<ul style="list-style-type: none"> <li>• Tables and matrices</li> <li>• Models</li> <li>• Overlay maps and GIS</li> <li>• Trend Analyses</li> </ul>

<sup>1</sup>Most often consist of applicable Resource Management Systems (RMS's) located in Section III of the Field Office Technical Guide and are applied, under ideal conditions, to all land uses and settings within the planning area boundary. Realistically, the combinations of practices and measures into a reasonable number of alternatives with estimates of participation rates and extent of future application will be more precisely determined during planning steps 5 and 6.

<sup>2</sup>The information and analyses from planning steps 1-6 are used to formulate the cumulative effects part of the Environmental Assessment (EA) and Environmental Impact Statement (EIS). Steps 1-6 provide the evidence for making findings of significance and determining what mitigation is necessary. Note that an EA or EIS can be physically included in an areawide plan if their elements are clearly identified and self-supporting. However, identify no alternative as "selected" within the context of planning steps 5 and 6.

## Reactive Situations

The preferred way to carry out environmental evaluation of NRCS proposed actions is to use the 9-step planning "forward-thinking" process as a way to anticipate the magnitude and duration of cumulative effects. However, some of the agency's past planning has been dominated by analysis at the site level. This has generated concerns whether additional actions in the same geographic area will "tip the scales" of seemingly benign individual actions to an accumulation of actions that, in total, could cause harm. A much-referenced example of cumulative effects is the practice of installing rip-rap for stream bank and shoreline stabilization (see figure 6). Use of rip-rap on a site scale arguably has minimal effects on a stream's ecology. However, numerous site scale projects may accumulate to the stream reach scale generating adverse effects.



Figure 6. Rock rip-rap on a previously eroding streambank.

Challenges to the accumulation of the agency's past actions can limit opportunities to conduct forward-thinking planning. Planners may be faced with obstacles such as time constraints imposed by data gathering and analysis, resource limitations, lack of understanding or credibility with permitting agencies, or pending litigation. Increasingly it is simply more efficient to consider a focused reaction to specific challenges and claims. This requires objectively analyzing the impacts of NRCS actions in context with other actions in an area and, if necessary, a willingness to stop or change damaging actions.

Analysis of reactive situations is similar to the forward-thinking process in several ways:

- It relies on the same principles,
- Includes past, present and future actions,

- Includes all federal, nonfederal and private actions,
- Focuses on each affected resource, ecosystem, and human community,
- Focuses on truly meaningful effects,
- It uses the same sequence of steps (refer to pages 6 through 8),
- It may rely on the same analysis methods.

Reactive situations may, however, differ in specific fundamental ways:

1. The scope of a reactive analysis may be determined by a challenging or inquiring entity and it is usually very narrow and focused. Forward thinking is based on consideration of conservation RMS's; reactive situations generally occur because of the perceived effect of one or more individual conservation practices. A RMS is a prescribed combination of conservation practices and management that, when implemented, prevents resource degradation. Reactive challenges or inquiries are more often targeted to a single practice such as brush management, streambank and shoreline stabilization, dike, stream channel stabilization, or structure for water control. These practices, especially when used outside of the context of a RMS, have a greater potential for unintentional adverse environmental effects in certain resource settings.
2. The time frame for the analysis may be more heavily historical in nature so that the planner's greatest challenge is to determine how far back in time is appropriate for the analysis. An environmental organization might challenge the future installation of a single structure in a watershed where numerous stream channel stabilization structures have historically been installed. This challenge may be valid, for example, if the cumulative effect of the agency's work and the work of others on a population of an endangered fish species was never evaluated. The relevant issues become a) how to define a baseline ecological condition at some point in the past and then b) determining whether it is likely or not likely that one more structure would push the threshold of the impact to or above a level of adverse 'significance.'

3. Analysis techniques are extremely critical since reactive situations may require a "higher" standard of evidence as it pertains to environmental consequence. Because reactive situations are sometimes litigious in nature, all aspects of science and technology may be called into question. Data collected and analyzed must be done so according to accepted scientific protocols and where protocols do not exist, expert opinions and related case studies should be solicited and carefully documented.
4. Formal monitoring programs may be necessary to judge the adequacy of the analysis used and predictions made. Very often models or trend analyses are the basis for predicting cumulative effects. In a reactive situation, it is prudent to monitor the resource concerns in question to determine whether the predictions were within an acceptable range or actual measured conditions. Such monitoring provides an opportunity to include other agencies and organizations.

**Generic Procedure for Dealing with Reactive Situations**

A generic procedure with key elements tailored to reactive situations is provided in figure 7. This procedure or roadmap relies on narrowing the scope of the issues, using accepted science-based methods, peer review and appropriate mitigation activities and monitoring.

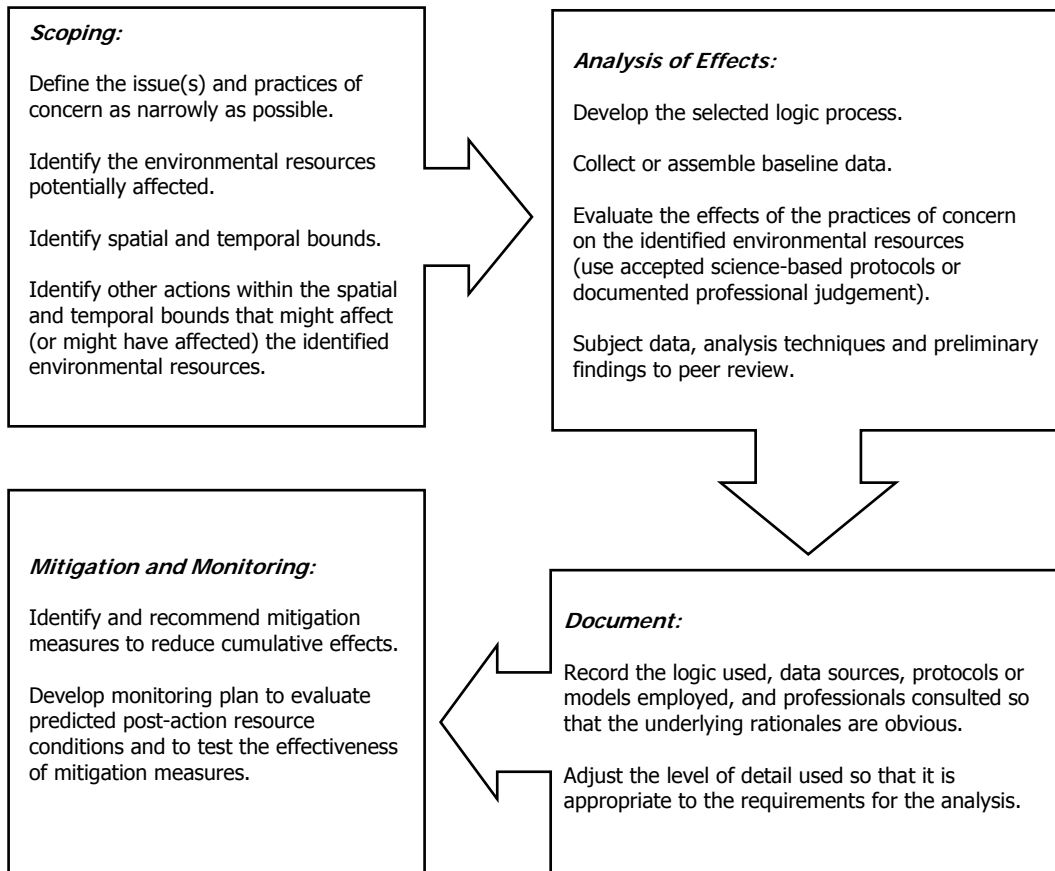


Figure 7. Generic procedure for dealing with reactive situations.

## Cumulative Effects Analysis Methods: Examples

Methodologies for performing cumulative effects analysis of proposed actions range from a simple checklist to a complex, multiple-algorithm model tied to a Geographic Information System. Most methods developed for analyzing cumulative effects are adequate at describing problems but may be inadequate at quantifying cumulative effects (Council on Environmental Quality, 1997).

This section provides a description and examples of methods that have been used in the cumulative effects analysis process. More extensive examples, where applicable, will be noted and reproduced in an appendix. While no one method or tool will be appropriate for every situation, the tools presented in this section have been used to document cumulative effects on prior projects.

Primary methods include:

### **Questionnaires, Interviews, and Panels** (page \_\_\_)

These are useful for gathering a wide range of information on multiple actions, resources, and effects issues. They are flexible and can deal with subjective information but cannot quantify or definitively compare alternatives. They also can help with predicting how individuals will react to preliminary findings, alternative scenarios, etc.

### **Checklists** (page \_\_\_)

These are helpful in identifying a list of common or likely effects and juxtaposing multiple actions and resources. Checklists are systematic and concise but can be inflexible and do not address interactions or cause-effect relationships. They can be particularly useful as a reminder list during analysis.

### **Matrices** (page \_\_\_)

These provide a tabular format to organize and quantify the interactions between human activities and resources of concern. Matrices are useful for comparison of alternatives but do not address space or time, can be cumbersome and do not address interactions or cause-effect relationships.

### **Network and System Diagrams** (page \_\_\_)

These are more visual methods for delineating the cause-and-effect relationships resulting in cumulative effects. The diagrams facilitate conceptualization by visually linking proposed actions to direct, indirect and cumulative effects. The diagrams can become confusing as complexity

is added and they typically do not address space or time considerations.

### **Modeling** (page \_\_\_)

These quantify cause-and-effect relationships leading to cumulative effects. Generally models give quantified and unequivocal results, address cause-and-effect relationships, and can integrate space and time considerations. However, models are data intensive, have intrinsic assumptions, can be expensive, and may be difficult to understand as the number of variables and algorithms increase and interact. Underlying assumptions in a model must be fully understood and assessed for applicability to the local analysis.

### **Trends Analysis** (page \_\_\_)

These evaluations assess the status of a resource, ecosystem, and human community over time and usually result in a graphical projection of past or future conditions. They are quite helpful in addressing accumulation over time, identifying problems and setting baseline conditions. However, trends analyses are data intensive and may be difficult to extrapolate beyond known data.

### **Overlay Mapping and Geographic Information Systems-GIS** (page \_\_\_)

These methods address spatial pattern and proximity of effects and provide an effective visual presentation of no-action and proposed alternatives. However, they do not easily address indirect effects or the magnitude of effects.

*... no one method or tool will be appropriate for every situation ...*

*The description of each evaluation method contains important attributes, strengths, weaknesses ...*

### **Getting Started**

The remainder of this section provides an overview and example of each evaluation tool and, as referenced, continues with more extensive examples in the Appendices section.

The description of each evaluation method contains important attributes, strengths, weaknesses, and examples.

**Questionnaires, Interviews, and Panels**

These methods can range from informal to highly structured such as documented interviews, focus groups and questionnaire surveys of community leaders, indigenous people, or multi-discipline teams of experts. Structured brainstorming (e.g., nominal group technique or Delphi method) with technical specialists and key stakeholders can be an effective approach during areawide planning for:

- identifying cumulative effects issues (step 1),
- thinking through the origins of problems (step 4),
- formulating alternatives (step 5),
- reaching consensus on effects of actions (step 6),
- making representational decisions (step 7).

In reactive situations, interviews can help validate and focus issues brought before the agency. For some cumulative effects issues lacking definitive scientific models or monitoring evidence, convening a panel of experts to formulate a judgment may be the most effective and acceptable approach.

All techniques in this section have been used repeatedly by various organizations and have supporting protocols to optimize the focus of questions and minimize bias. Some notable citations include the National Association of Conservation Districts, 1996 (overview of information gathering techniques); Center for Rural Studies, 1996 (nominal group process and brainstorming); Linstone and Turoff, 1975 (Delphi method); Morgan, 1998 (focus groups); and Salant and Dillman, 1994 (surveys and questionnaires).

Two examples help demonstrate the use of questionnaires, interviews and panels: 1) the Public Questionnaire for the Tillamook Bay National Estuary Project, and 2) the Sustainability Indicators Report Card for the City of Hamilton, Ontario, Canada. Both efforts focused on affected stakeholders with an objective of identifying and prioritizing environmental issues.

Example 1 - "Public Questionnaire, Tillamook Bay National Estuary Project" (TBNEP 1999)

As part of the National Estuary Project to determine public attitude and opinions on local environmental issues, 2,400 questionnaires were sent to landowners who were randomly chosen. The estuary watershed is 338,000 acres in area and falls predominantly in Tillamook County which had a 2000 census population of just over 24,000. A total of 465 questionnaires were completed and

returned. Based on applying a research standard of 90 percent confidence level, the estimated margin of error was ±5 percent. Full results of the 27-item questionnaire are available from the project staff (TBNEP, 2000). Of most interest to cumulative effects analysis are summaries of replies for several questions:

- What aspects of the Tillamook Bay [area] have changed for the worse?

*Summary (% responding)*

<i>%</i>	<i>Aspect</i>
65	<i>Crowding</i>
61	<i>Abundance of fish and wildlife</i>
42	<i>Water quality</i>
35	<i>Job opportunities</i>
18	<i>Scenery</i>
4	<i>Overdevelopment</i>
3	<i>Other</i>

- How important are estuary project priority issues?

*Summary (% responding)*

<i>Scale</i>	<i>Bacterial Contamination</i>	<i>Sedimentation</i>	<i>Loss of fish and wildlife habitat</i>
<i>Extremely important</i>	70	61	82
<i>Somewhat important</i>	20	26	14
<i>Neutral</i>	4	7	2
<i>Somewhat unimportant</i>	3	3	1
<i>Extremely unimportant</i>	2	1	1
<i>Don't know</i>	1	2	1

*Note: 10 other issues were identified but no more than 12% of respondents perceived them as important.*

The summaries and interpretation for these two questions are straightforward: 1) stakeholders are primarily concerned about aspects of crowding, abundance of fish and wildlife, water quality, and job opportunities, and 2) the three project issues were validated as important. So, a set of aspects and issues have been scoped or identified by stakeholders. However, what are their attitudes about the cumulative effects of applied and proposed actions?

To answer this, an important item was asked near the end of the survey was:

- Please indicate your agreement or disagreement with the following statements by checking the appropriate box for each.

*Summary (% responding)*

<i>Statements</i>	<i>Agree</i>	<i>Disagree</i>	<i>Don't know</i>
<i>a. Water quality in the bay has improved as a result of efforts to reduce dairy wastes in streams, upgrade sewage treatment plants, and repair failing septic systems.</i>	51	15	34
<i>b. All of the sources of bacterial pollution could be managed so the bay could be open to shellfish harvest all the time.</i>	42	28	30
<i>c. Estuaries naturally accumulate sediment.</i>	77	9	14
<i>d. Restoring the bay to higher productivity for fish and wildlife will require dredging.</i>	37	17	47
<i>e. Slowing the rate at which the bay is filling in will require work on forest roads to reduce erosion.</i>	54	18	28
<i>f. Harbor seal and cormorant predation on salmon must be controlled in Tillamook Bay before salmon numbers will rebound.</i>	63	20	16
<i>g. Efforts to improve salmon habitat in Tillamook streams is necessary even though poor ocean conditions can greatly reduce salmon survival.</i>	82	8	10
<i>h. Past human activities in Tillamook Bay and Watershed are continuing to negatively affect fish and wildlife habitat.</i>	68	12	20
<i>i. Current land use practices in Tillamook County are negatively impacting fish and wildlife habitat.</i>	48	23	30
<i>j. Landowners should take an active role in improving water quality.</i>	88	4	8
<i>k. Landowners should take an active role in improving fish and wildlife habitat.</i>	79	9	12

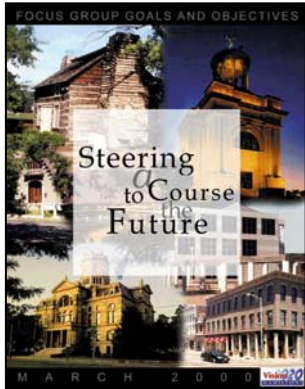
This questionnaire item and its summarization are actually quite complex. Arguably, without access to scientific study and statistical analysis for each item, the "don't know" column should have approached 90-100 percent. Nonetheless, many stakeholders felt confident enough to agree or disagree with the statements. Statements "g, j, and k" were the most known (most stakeholders agreed) and "d" was the biggest unknown.

Continuing, an analyst looking at the summary of this item could presume: 1) the stakeholders were well informed through various media, and 2) scientific studies contrary to items with a heavy weighting to "agree" or "disagree" will likely be scrutinized closely. For example, if an inventory or model shows predation of salmon to be of little consequence (see statement "f") to salmon population recovery, about two-thirds of the stakeholders will need to reassess their individual understanding and attitude about predation. This has implications for the intensity and accuracy of cause-effect predation analysis and, perhaps more importantly, how and when such divergent information is communicated to stakeholders. Part of the communication should clearly discuss the degree of uncertainty of analysis findings.



**Figure 8.** Tillamook County is on the northern coast of Oregon. It is noted for producing timber, salmon and dairy products. Primary issues associated with Tillamook Bay and connected streams and riparian areas are contamination of oysters, sedimentation, and lost of fish and wildlife habitat (TBNEP, 1999).

*Example 2 - "Sustainability Indicators, City of Hamilton, Ontario, Canada" (VISION2020 1998)*



In 1993, the Regional Council representing the City of Hamilton adopted *VISION 2020* (1998), a description of an economically vibrant, socially equitable and environmentally responsible community.

Numerous goals and strategic actions were developed and tied to *VISION 2020*. A crucial part of the process was the identification of "sustainability indicators" to serve three functions: 1) recognition of sustainability issues, 2) ways to assess them, and 3) tracking of applied actions. During the period 1994 to 1999, over one hundred individuals from a variety of organizations and different sectors in the community worked in small groups and, assisted by a project team, chose the suite of sustainability indicators. Essentially, the small groups acted as *focus groups* or *panels* to determine the most important issues and indicators linking to major strategy areas in *VISION 2020*.

In brief, the figures and captions that follow discuss three examples of indicators chosen by the panels. Each shows the specific sustainability issue, the unit of measure, and trend results of implemented actions.

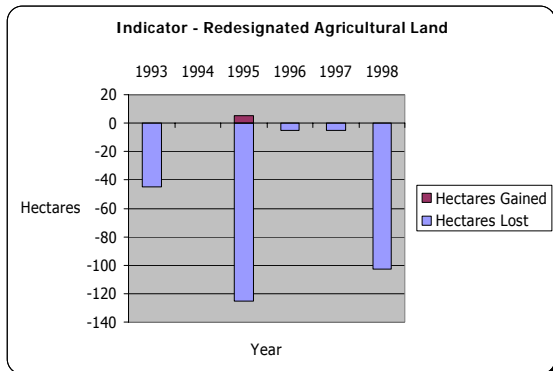


Figure 9. Preservation of agricultural land surrounding the City of Hamilton is a strategy of *VISION 2020*. The indicator tracks the amount of land redesignated from agriculture to other uses. A target value for this issue/indicator is no loss of land. Land "gained" is considered a positive step.

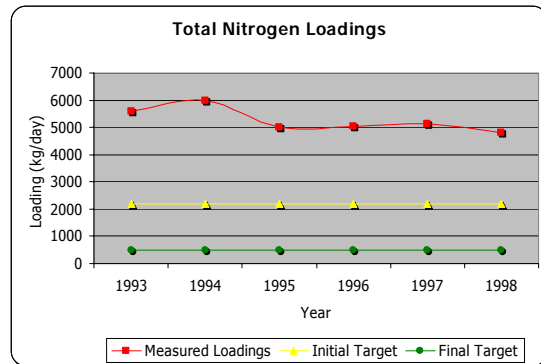
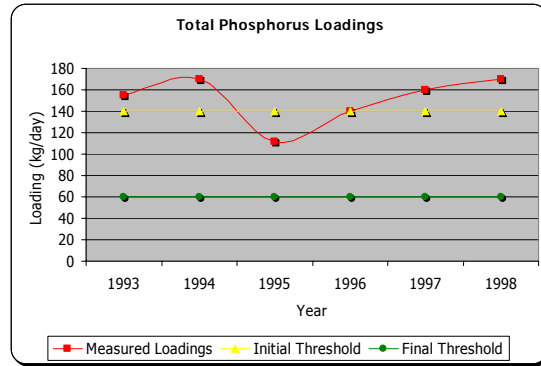


Figure 10. Phosphorus and nitrogen levels entering Hamilton Harbour come primarily from municipal sewage treatment plants, industries and area streams that drain the landscape. The water is sampled coming out of the Woodward Sewage Treatment Plant and therefore reflects the amounts coming into the plant as well as efficiency of the treatment process. By 1998, measurements remained above initial target values.

For the City of Hamilton, the value of the focus-group/panel methodology was establishing a consensus on the cumulative effects that were relevant. Because of the large number and careful selection of individuals, a reasonable level of representation of stakeholders was achieved. Moreover, with close access to and direction by the project team staff and specialists, the scientific basis of determinations were upheld.

Focus group/panel methodologies are a viable way to identify important effects, evaluate the significance of effects, and, in the case of Hamilton, quantify the trends of key indicators of desired or regulatory target values. Their approach combined the identification of effects issues related to strategies (planning steps 1 and 2) with the selection and use of indicators (steps 3 and 4), and set the stage for alternatives evaluation (step 6) and plan evaluation (step 9).

**Checklists**

The appeal of using checklists is that they offer the user a simple and relatively quick approach in thinking about and identifying the range of issues related to cumulative effects, including common and not so common effects of actions related to cumulative effects issues. They structure the analysis and reduce the chance that important effects are overlooked. Checklists should be comprehensive enough to offer a wide-ranging perspective to soil, water, air, plant, animal and human resource issues. A more comprehensive checklist can be used for both the preliminary identification of potential cumulative impacts and later as additional past, present and prognostic information is gathered relating to baseline conditions, proposed actions, and related foreseeable actions.

Drawbacks of checklists include: 1) being incomplete, 2) being too comprehensive in the sense that the same effect may be double counted, 3) not addressing interactions or cause-effect relationships, and 4) not quantifying impacts. Disadvantages can be minimized to some degree by developing lists for specific kinds of actions or using threshold-level qualitative terms like "no effect," "beneficial effect," or "adverse effect" that are precursors to quantification.

The generic but comprehensive checklist in Appendix \_ was developed by Canter and Kamath

(1995) in a study conducted to delineate the types of cumulative impact methods being used in scientific studies and environmental impact statements. The study revealed that a checklist approach consistently provided a good beginning for systematically addressing cumulative impacts. Canter and Kamath's checklist would not be applicable to all projects but serves as an excellent base from which a project or action-specific checklist could be developed.

Three examples help demonstrate the use of checklists: 1) Checklist - Hypothetical Cumulative Effects of Prescribed Burns on Rangeland Watersheds, 2) Checklist for Addressing the Cumulative Effects of Stream Restoration Projects, and 3) Checklist for Documenting Environmental Baseline and Effects of Proposed Action(s) on Relevant Indicators (Anadromous Salmonids).

Example 1 - Checklist - Hypothetical Cumulative Effects of Prescribed Burns for Brush Management on Rangeland Watersheds

A checklist of potential impacts was modified to include qualitative rankings of effects from past, present, proposed and foreseeable activities. In this example of a more complex checklist, the cumulative impacts *column g* reflects the magnitude of cumulative effect identified for the each specific potential impact in *column a*.

Table 2. Checklist - Hypothetical Cumulative Effects of Prescribed Burns for Brush Management on a Small Rangeland Watershed.

(Note: Burning is the proposed action to be done each year on a contiguous block that is 5 percent of the watershed area of which 5 percent is left in brush habitat patches and corridors. Successive burns are not adjacent to one another. The 25-year analysis period examines 5 years of past rangeland chaining and 20 years of "future" burning and post-burn conditions.)

a. Potential Impacts	b. Proposed Action <sup>1</sup>	c. Future condition from proposed action	d. Past Actions <sup>2</sup>	e. Other Present Actions <sup>3</sup>	f. Future Condition (c+e)	g. Cumulative Impacts (b+ f)
Soil Erosion	*	+	**	o	+	+
Sedimentation	*	+	*	+	+	+
Water Quality	o	o	*	+	+	+
Air Quality	*/** (smoke)	*/** (smoke)	* (dust)	o	*/** (smoke)	*/** (smoke)
Wildlife Habitat	*	+	***	+	+	+
Fisheries Habitat	o	o	*	+	+	+
Cultural Resources	o	o	***	o	o	o
Aesthetics	*	+	***	+	*/+	o
Forage	*	+	+	*	+	+

Key: \* - low adverse effect; \*\* - moderate adverse effect; \*\*\* - high adverse effect; + - beneficial effect; o - no effect

<sup>1</sup>Intermittent/perennial stream corridors and cultural resource sites are located and protected by firebreaks and backburns.

<sup>2</sup>Past brush management consisted of large-block "chaining," a mechanical uprooting and wind-rowing of unwanted brush.

<sup>3</sup>Installation of fish stream improvement structures and expanded and ungrazed riparian buffers.



Example 2 - Checklist for Cumulative Effects of Streambank Stabilization Projects

This checklist contains items from the comprehensive checklist in Appendix B (Cantor and Kamath 1995) that are relevant to stream stabilization projects. The checklist has been left blank deliberately with the intention that it would be completed by an interdisciplinary team knowledgeable of local and regional issues and conditions. It is designed for an initial identification of both cumulative and site-specific effects issues.

The *project level* columns are spatially and temporally restricted to the confines of the stabilization work and the immediate downstream

and adjacent areas for a time equal to the construction period plus vegetation establishment (e.g., 5 years). This allows a focus on a single project and, for the most part, its direct and indirect effects. The *cumulative impacts* columns allows assessment of the entire watershed encompassing the same kinds of stabilization projects for a minimum period equaling the life expectancy of the applicable structures or the time until expected full functionality of vegetation (e.g., creation of large woody debris, shading), whichever is longer. Unless the checklist is further modified, a basic assumption is that present-day management and activities continue at the same level during the analysis period.

Table 3. Checklist for Cumulative Effects of Stream Stabilization Projects.

Environmental Category	Project Level			Cumulative Impacts of Projects		
	Yes	Maybe	No	Yes	Maybe	No
Will the project result in:						
Physical environment landform:						
• compacting and settling?						
• deposition (sedimentation, precipitation)?						
• erosion of soils due to increased wind, floods, removal of vegetation?						
• impact to unique physical features?						
• impact to land classified as prime or unique farmland?						
• change to existing topography (ground contours, shorelines, river banks)?						
• disposal of construction debris?						
• changes in hydrology (water table, gradient, infiltration)?						
Water:						
• changes in the quality and quantity of surface drinking water?						
• alteration of flows due to construction?						
• increased tendency to flooding?						
• eutrophication?						
• increases in temperature and turbidity due to impoundment?						
• effects on conventional water quality parameters?						
• alteration the rate or direction of ground water flow?						
• impact to recharge area or recharge rate?						
Noise/Aesthetics:						
• increased existing noise levels?						
• vibrations?						
• impact to scenic views and vistas?						
Biological environment:						
• changes to diversity/productivity of upland, riparian or aquatic vegetation?						
• impact to rare or endangered plant species?						
• new species or disruption of replenishment/movement of existing species?						
• reduction of acreage or damage to agricultural, forest, other lands?						
• reduction to the habitat or numbers of unique, rare, or endangered fauna?						
• attraction, entrapment or impingement of fauna?						
• impact to existing fish, wildlife habitat, and nesting areas?						
• emigration resulting in human-wildlife interaction problems?						
• an affect on the food chain?						
Socioeconomic environment/land use/archaeological sites:						
• substantial alteration of existing or proposed land use of an area?						
• impact to wilderness or open-space qualities or Special Management Areas?						
• impact historical, archaeological, cultural and paleontological sites or objects?						
• impact to recreational pursuits (e.g., hunting, fishing, boating, swimming)						

Example 3 - Checklist for Documenting Environmental Baseline and Effects of Proposed Action(s) on Relevant Indicators (Anadromous Salmonids) (NMFS 1996)

The checklist consisting of 7 columns is designed to be used in conjunction with 6 resource conditions and 18 indicators (see bulleted items in first column) important to the sustainability of anadromous salmon and their habitat. The *Environmental Baseline* columns describe the condition of each indicator which, when taken together, encompass the environmental baseline. The specific criteria used for each indicator to delimit *Properly Functioning*, *At Risk*, and *Not Properly Functioning* are contained in the source

document (NMFS 1996). The *Effects of Action(s)* columns describe the effects of the proposed action(s) on each indicator.

To demonstrate the use of the checklist, it was completed using information from the Tillamook Watershed Plan of northwest Oregon (NRCS 2001b). The underlying checklist was designed to be applied to a wide range of environmental conditions. When the ranges of criteria or descriptions in the matrix do not apply to a specific watershed or basin, professional evaluators need to provide more biologically appropriate values and documentation.

Table 4. Checklist for Documenting Environmental Baseline and Effects of Proposed Action(s) on Relevant Indicators (Anadromous Salmonids).

Resource Conditions • Indicators	Environmental Baseline			Predicted Effects of the Action(s)		
	Properly <sup>1</sup> functioning	At Risk <sup>1</sup>	Not Properly <sup>1</sup> Functioning	Restore <sup>2</sup>	Maintain <sup>3</sup>	Degrade <sup>4</sup>
<b>Water Quality</b>						
• Temperature	Forest land		Ag land	Ag land		
• Sediment	Forest land		Ag land	Ag land		
• Chemical Contaminants/Nutrients	Forest land		Ag land	Ag land		
<b>Habitat Access</b>						
• Physical Barriers	Forest land		Ag land	Ag land		
<b>Habitat Elements</b>						
• Substrate		Forest land	Ag land	Forest, Ag		
• Large Woody Debris		Forest land	Ag land	Forest, Ag		
• Pool Frequency		Forest land	Ag land	Forest, Ag		
• Pool Quality		Forest land	Ag land	Forest, Ag		
• Off-channel Habitat		n/a	Ag land	Ag land		
• Refugia		Forest land	Ag land	Forest, Ag		
<b>Channel Condition &amp; Dynamics</b>						
• Width/Depth Ratio		Forest land	Ag land	Ag land	Forest land	
• Streambank Condition	Forest land	Ag land		Ag land	Forest land	
• Floodplain Connectivity	Forest land	Ag land		Ag land	Forest land	
<b>Flow/Hydrology</b>						
• Peak/Base Flows		Forest, Ag			Forest, Ag	
• Drainage Network Increase		Forest, Ag			Forest, Ag	
<b>Watershed Conditions</b>						
• Road Density & Location		Forest, Ag				
• Disturbance History		Forest land	Ag land	Ag land	Forest land	
• Riparian Reserves		Forest land	Ag land	Ag land	Forest land	

Watershed Name: TILLAMOOK

Location: Northern Coast, Oregon

<sup>1</sup>These three categories of function are defined for each indicator in Table 1 in NMFS 1996. For example, the *Temperature* indicator has ranges of criteria for "properly functioning," "at risk," and "not properly functioning" of 50-57°F, 57-64°F, and >60°F, respectively.

<sup>2</sup>For the purposes of this checklist, "restore" means to change the value of an "at risk" indicator to "properly functioning", or to change the value of a "not properly functioning" indicator to "at risk" or "properly functioning." It does not apply to "properly functioning" indicators.

<sup>3</sup>For the purposes of this checklist, "maintain" means that the value of an indicator does not change.

<sup>4</sup>For the purposes of this checklist, "degrade" means to change the value of an indicator for the worse. In some cases, a "not properly functioning" indicator may be further worsened, and this should be noted.

## Matrices

Basically, matrices are checklists set in a tabular format to quantify the interactions between human activities and the resources of concern. Originally designed to assess the magnitude and importance of individual interactions between activities and resources (Leopold et al. 1971), they have since been developed to consider the cumulative effects of multiple actions on resources (Bain et al 1986; Stull et al 1987; LaGory et al 1993).

Matrices range from the simple, where a "+, -, 0, or 1" documents the presence or absence of an effect to the more complex, where effects are scored on the bases of duration of impact, magnitude, past occurrences, etc. Simple matrices are easy to understand but they do not identify the size or extent of the effects. "Although complex weighting schemes allow the user to rank resource effects, the results may be difficult for others to understand, and the weighting schemes can be highly subjective" (CEQ, 1997).

One example is provided: *Salmon Habitat Suitability Index - Coho Salmon - Tillamook Watershed (NRCS 2001b)*

The matrix, table 5, was constructed by an interdisciplinary team familiar with local and regional habitat related to anadromous salmonid spawning, rearing, and migration. A spreadsheet format was used to organize and record the deliberations of the experts as they valued the "influencing factors" that were stratified by physiographic settings and major functions associated with salmonid population sustainability. The specialists used local habitat data, anecdotal accounts, and personal judgment to make the ratings. During this phase, the table or matrix consisted only of the items and values in boldface.

The numbers in the right 3 columns of table 5 display the index values on a scale of 0 to 1 for the influencing factors that correlate to the current and proposed action conditions. After all values were completed, various formulae were added to the spreadsheet (indicated by text and numbers in *italics*) which culminated in the calculation of a single composite, weighted index for each scenario at the bottom of the table. The summary values were:

- *BM = 0.39* - Benchmark condition,
- *RMS = 0.58* - Resource Management Systems applied on agricultural sector lands and waters,
- *CCMP = 0.67* - actions specified in the Comprehensive and Conservation Management Plan for the Tillamook Bay Estuary (TBNEP 1999).

The index values are defined as: 1.0=Optimum, 0.8=High, 0.6=Minimum, 0.4=Impaired, 0.2=Very Impaired, 0=Little or none. In this analysis, the RMS and CCMP scenarios bring "impaired" BM conditions to a "minimum" threshold.

Further explanatory details are given at the end of the table. Figures 11 and 12 display several of the matrix factors that influence salmonid populations in the Tillamook Bay basin.



Figure 11. Riparian vegetation along this stream has been largely removed on the South side (right). Intact, natural vegetation provides shade, large woody debris and detritus which influences water temperature, dissolved oxygen, pools and the dynamics of substrate replenishment.



Figure 12. A flood event in 1996 inundated large areas of lowland pastures in the Tillamook Bay watershed. As flood waters receded near a mainstem river (left edge) and adjacent to a small stream (middle), two "influencing" factors are illustrated: "riparian vegetation" and "% back-water unmodified." Most underwater areas depicted here are used for livestock forage production.

Table 5. Cumulative Effects Issue: COHO - SUSTAINABLE POPULATION (INDEX).

Cumulative Effects Issue: COHO - SUSTAINABLE POPULATION (INDEX)							
Analysis Area: TILLAMOOK WATERSHED; STREAM/AQUATIC AND NEAR-STREAM HABITATS							
(1) Function-Process  (life stage)	(2) Physiographic Setting			(3) Influencing Factor  (wq = water quality; temp = water temperature; do = dissolved oxygen)	(4) Scenario (see legend)		
	Scenario =	Weight x COMBINED Index Value	Weight		BM	RMS	CCMP
Index Value							
<b>Spawning</b>  <i>Sum from col. 2</i> $\Sigma BM = 0.49$ $\Sigma RMS = 0.65$ $\Sigma CCMP = 0.67$	<b>Lowland-nontidal</b>  <i>BM = 0.13</i> <i>RMS = 0.23</i> <i>CCMP = 0.23</i>	35%	substrate adequacy	0.30	0.60	0.60	
			wq (temp, do, nutrients)	0.60	0.80	0.80	
			riparian vegetation	0.30	0.60	0.60	
			<i>COMBINED =</i>	<i>0.38</i>	<i>0.66</i>	<i>0.66</i>	
	<b>Mainstem</b>  <i>BM = 0.04</i> <i>RMS = 0.07</i> <i>CCMP = 0.07</i>	15%	substrate adequacy	0.25	0.30	0.35	
			wq (temp, do, nutrients)	0.35	0.50	0.50	
			riparian vegetation	0.20	0.60	0.60	
			<i>COMBINED =</i>	<i>0.26</i>	<i>0.45</i>	<i>0.47</i>	
	<b>Upland-forest</b>  <i>BM = 0.32</i> <i>RMS = 0.35</i> <i>CCMP = 0.36</i>	50%	substrate adequacy	0.60	0.65	0.65	
			wq (temp, do, nutrients)	0.75	0.80	0.85	
			riparian vegetation	0.60	0.65	0.70	
			<i>COMBINED =</i>	<i>0.65</i>	<i>0.70</i>	<i>0.73</i>	
<b>Rearing</b>  <i>Sum from col. 2</i> $\Sigma BM = 0.29$ $\Sigma RMS = 0.51$ $\Sigma CCMP = 0.65$	<b>Lowland-tidal</b>  <i>BM = 0.01</i> <i>RMS = 0.02</i> <i>CCMP = 0.03</i>	5%	wq (temp, do, nutrients)	0.25	0.60	0.70	
			%backwater unmodified	0.20	0.50	0.55	
			large woody debris	0.10	0.40	0.45	
			emergent vegetation	0.05	0.35	0.35	
			riparian vegetation	0.20	0.60	0.70	
			<i>COMBINED =</i>	<i>0.14</i>	<i>0.48</i>	<i>0.53</i>	
	<b>Lowland-nontidal</b>  <i>BM = 0.06</i> <i>RMS = 0.19</i> <i>CCMP = 0.22</i>	35%	wq (temp, do, nutrients)	0.20	0.55	0.60	
			%backwater unmodified	0.20	0.30	0.40	
			large woody debris	0.10	0.50	0.70	
			pools	0.20	0.50	0.60	
			screens	0.05	0.80	0.80	
			riparian vegetation	0.30	0.60	0.75	
			substrate/riffle	0.20	0.60	0.70	
			<i>COMBINED =</i>	<i>0.16</i>	<i>0.53</i>	<i>0.64</i>	
	<b>Mainstem</b>  <i>BM = 0.04</i> <i>RMS = 0.09</i> <i>CCMP = 0.11</i>	20%	wq (temp, do, nutrients)	0.20	0.50	0.60	
			%backwater unmodified	0.20	0.25	0.30	
			large woody debris	0.20	0.40	0.50	
			pools	0.30	0.50	0.55	
			screens	0.05	0.80	0.80	
			substrate/riffle	0.30	0.50	0.55	
			riparian vegetation	0.20	0.50	0.55	
			<i>COMBINED =</i>	<i>0.18</i>	<i>0.47</i>	<i>0.53</i>	
	<b>Upland-forest</b>  <i>BM = 0.19</i> <i>RMS = 0.21</i> <i>CCMP = 0.30</i>	40%	wq (temp, do, nutrients)	0.60	0.65	0.80	
			large woody debris	0.40	0.45	0.70	
pools			0.40	0.45	0.70		
riparian vegetation			0.60	0.65	0.80		
substrate,riffles			0.40	0.45	0.70		
<i>COMBINED =</i>			<i>0.47</i>	<i>0.52</i>	<i>0.74</i>		

Table 5. Continued.

Cumulative Effects Issue: COHO - SUSTAINABLE POPULATION (INDEX)							
Analysis Area: TILLAMOOK WATERSHED; STREAM/AQUATIC AND NEAR-STREAM HABITATS							
(1) Function-Process  (life stage)	(2) Physiographic Setting			(3) Influencing Factor  (wq = water quality; temp = water temperature; do = dissolved oxygen)	(4) Scenario (see legend)		
	Scenario =	Weight x COMBINED Index Value	Weight		BM	RMS	CCMP
					Index Value		
<b>Migration</b>  <i>Sum from col. 2</i>  $\Sigma BM = 0.40$ $\Sigma RMS = 0.60$ $\Sigma CCMP = 0.71$	BM = 0.02 RMS = 0.03 CCMP = 0.03	<b>Lowland-tidal</b>  5%		wq (temp, do, nutrients)	0.40	0.70	0.75
				barriers	0.50	0.60	0.75
				riparian vegetation	0.20	0.60	0.60
				COMBINED =	0.34	0.63	0.70
	BM = 0.10 RMS = 0.20 CCMP = 0.24	<b>Lowland-nontidal</b>  35%		wq (temp, do, nutrients)	0.40	0.70	0.75
				barriers	0.30	0.60	0.75
				pools	0.20	0.40	0.60
				riparian vegetation	0.25	0.60	0.70
	BM = 0.10 RMS = 0.14 CCMP = 0.15	<b>Mainstem</b>  20%		wq (temp, do, nutrients)	0.50	0.60	0.70
				barriers	0.90	0.90	0.90
				pools	0.60	0.70	0.75
				riparian vegetation	0.20	0.60	0.60
	BM = 0.19 RMS = 0.23 CCMP = 0.28	<b>Upland-forest</b>  40%		wq (temp, do, nutrients)	0.75	0.80	0.85
				barriers	0.30	0.45	0.65
				pools	0.40	0.50	0.65
				riparian vegetation	0.60	0.65	0.70
<i>(Note: All italic numbers on sheet are calculated.)</i>	Scenario	Grand Total Index (based on values of column 1)	LEGEND	Index Values: 1.0=Optimum, 0.8=High, 0.6=Minimum, 0.4=Impaired, 0.2=Very Impaired, 0=Little or none			
$\Sigma$	BM =	0.39	BM:	Benchmark condition			
	RMS =	0.58	RMS:	Proposed Ag. Land Resource Management Systems			
	CCMP =	0.67	CCMP:	Proposed Comprehensive Conservation Mgt. Plan			

Explanatory Notes:

- The *function-process* categories are chosen based on the cumulative effects issue, in this case, a Coho - Sustainable Population (Index). If all three processes or functions are not happening at some level, a sustainable population of Coho will be unlikely. The use of the term *index* was used because definitive Coho populations tied to different influencing factors were not known. Thus, the index is a conceptually based surrogate for population.
- The *physiographic settings* represent a local stratification of the overall landscape into more or less homogeneous units. If conditions were different within a setting, additional divisions would have been used.
- *Influencing factors* represent the elements within the *physiographic setting* that most affect the *index*. In this case, various reference materials about Coho salmon were consulted including the "Habitat Suitability Index Models: Coho Salmon" (McMahon 1983).
- Formulae: Calculations are performed as shown in the table. Totals use computed values rather than rounded values. The *COMBINED* and *Grand Total Index* values are special cases. The *COMBINED* product includes the values in the column segment immediately above it and equals  $(V_1 * V_2 * V_3 * \dots * V_n)^{(1/n)}$ . The *Grand Total Index* products use *scenario values* (BM, RMS and CCMP) from the first column and equal  $(\text{Scenario}_{\text{spawning}} * \text{Scenario}_{\text{rearing}} * \text{Scenario}_{\text{migration}})^{1/3}$ .

**Network and System Diagrams**

The strength of network and system diagrams used for cumulative effects analysis is the visualization of relationships of actions and their direct and indirect effects. As these effects accrue in time or space, *threshold* or *target values* established for key *indicators* help analysts judge the cumulative magnitude and significance of consequences. Diagrams are most useful during planning process step 3, Inventory Resources, step 4, Analyze Resource Data, and step 5, Formulate Alternatives.

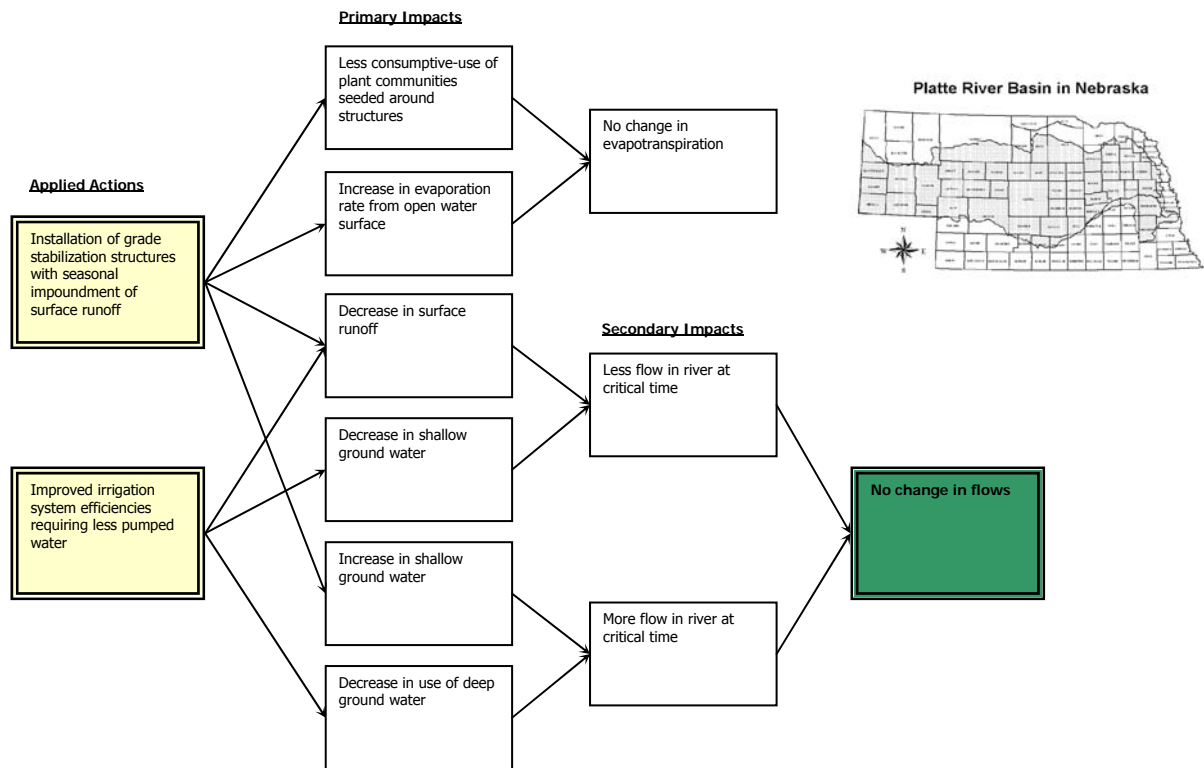
Some weaknesses of network and system diagrams are: 1) they become more difficult to create and understand when depicting secondary and tertiary effects, and 2) they do not easily address elements of time or space (extent) associated with the effects. Limitations can be overcome by connecting additional diagrams for specific secondary and tertiary effects and/or combining diagrams with other methods such as modeling, GIS, or trends analysis.

Two examples are provided to illustrate network and system diagrams: 1) the NRCS Assessment of Agency Actions within the Platte River Watershed,

and 2) The Cumulative Watershed Effects Assessment Project - Final Report. Additional examples of network diagrams used for assessing effects of practices planned for use in the 2002 Farm Bill are shown in Appendix D.

*Example 1 - "NRCS Assessment of Agency Actions within the Platte River Watershed" (NRCS 2001d)*

In 1995, a concern was expressed to the NRCS about application of conservation practices in the Platte River drainage cumulatively contributing to a change in the amount and timing of river flows. These flows, in turn, could affect recovery efforts for listed Threatened and Endangered (T&E) species. To assess this "reactive situation," the NRCS in Nebraska prepared a special analysis of consumptive water use of influencing practices. Using a water-balance budget approach, the NRCS concluded that there were no net adverse impacts on flows and T&E species. The thought process behind the finding is shown in figure 13. In this example, the original concern did not identify a flow level/timing *threshold* or *target value*.



**Figure 13. A simple network diagram depicts the primary and secondary impacts of applied conservation practices in the Platte River Basin. Note that the scope of the study was narrowly focused with only specific practices being evaluated. The diagram expedites the visualization of key actions-effects by agency personnel and concerned stakeholders. The diagram went through several iterations during its development.**

Example 2 - "The Cumulative Watershed Effects Assessment Project - Final Report" (Citizens for Better Forestry 2000)

The cumulative effects of human activities have significantly degraded terrestrial and aquatic ecosystems throughout the Pacific Northwest (Meehan 1991; FEMAT 1993; Mount 1995; NRC 1996; Spence et al. 1996; Gregory and Bisson 1997; Lee et al. 1997; Naiman et al. 1998). Progressive land-use changes over the last 150 years have caused increasing impacts on water quality, watershed hydrology, channel morphology, and aquatic habitat. The recent listing and potential additional listing of numerous fish species stock under the federal Endangered Species Act (ESA) and the listing of numerous watersheds as impaired

water bodies under Section 303(d) of the Clean Water Act (CWA) illustrate the extent and severity of this system-wide degradation.

The primary objective of the assessment project was to identify the interacting effects of multiple human activities on resource values or beneficial uses of concern. A detailed system diagram showing some of the potential interacting effects of past and present human activities on salmonid populations is shown in Figure 14. Note that some of the effects listed are likely to be more important based on intensity and/or extent. Again, other methods may be used in tandem with the system diagram to display the magnitude and trends of consequences.

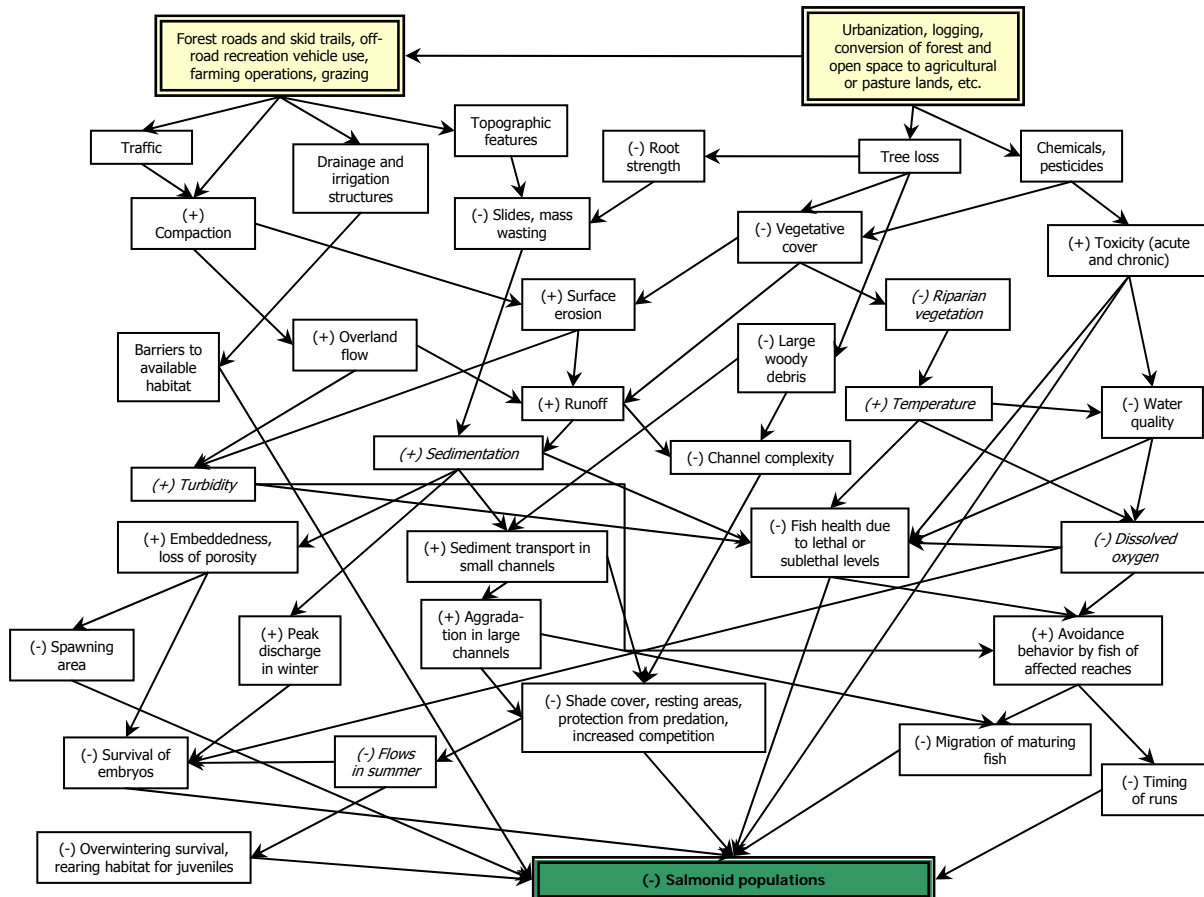


Figure 14. A detailed system diagram depicting direct and indirect effects of human activities in the Pacific Northwest (adapted and redrawn from figure 39, Citizens for Better Forestry, 2000). Effects in *italics* denote those typically exceeding ESA/CWA thresholds or target values of concern. Values in parentheses indicate an increase (+) or decrease (-) in the stated effect.

**Modeling**

Modeling is a powerful method for quantifying action-effects relationships leading to detection of cumulative effects. This method can range from algorithms or equations with multiple variables to expert systems that compute interconnected conditions under changing scenarios of proposed actions. Models are most useful during planning process steps 4, Analyze Resource Data, and 6, Evaluate Alternatives. Step 9, Plan Evaluation, can be used to good advantage to fine-tune or modify models as needed.

Models give clear results but may be disputable if local validation and parameterization are not carefully considered and integrated. As with other methods, models usually focus on a single effect in the context of environmental conditions within the analysis boundary and time period.

Two examples illustrate the use of modeling: 1) A Method for Developing Best Management Practices for Riparian Areas Using the Water Erosion Prediction Project (WEPP) Model, and 2) Dynamic Simulation Modeling of Phosphorus Exports to the Inland Bays, Delaware. The first ties to small watersheds and the second addresses land use sectors of a large ecosystem.

*Example 1 - "A Method for Developing BMP's for Riparian Areas Using WEPP®" (CEASA 1998)*

To contend with cropland-source sediment entering surface waters in Canada's central Alberta, proposed actions were formulated by specialists of the Soil Quality Program, Canada-Alberta Environmentally Sustainable Agriculture Agreement (CAESA). Using the WEPP model (ARS 2001), some representative scenarios were analyzed and compared for a 150-acre headwater watershed. WEPP was used because it links hillslope profile erosion and sediment production to channels and impoundments within small watersheds up to 640 acres in which the sediment yield at the outlet is significantly influenced by hillslope and channel processes. The model simulates channel detachment and sediment transport, deposition, and removals due to impoundments such as terraces, filter fences, buffers and check dams. Figure 15 displays the results of the analysis. Extending the output to higher-order and larger watersheds exceeds the capacity of WEPP. However, the analysis of this small, representative watershed gives a clear comparison of agricultural alternatives that contribute to the larger, more complex drainage.

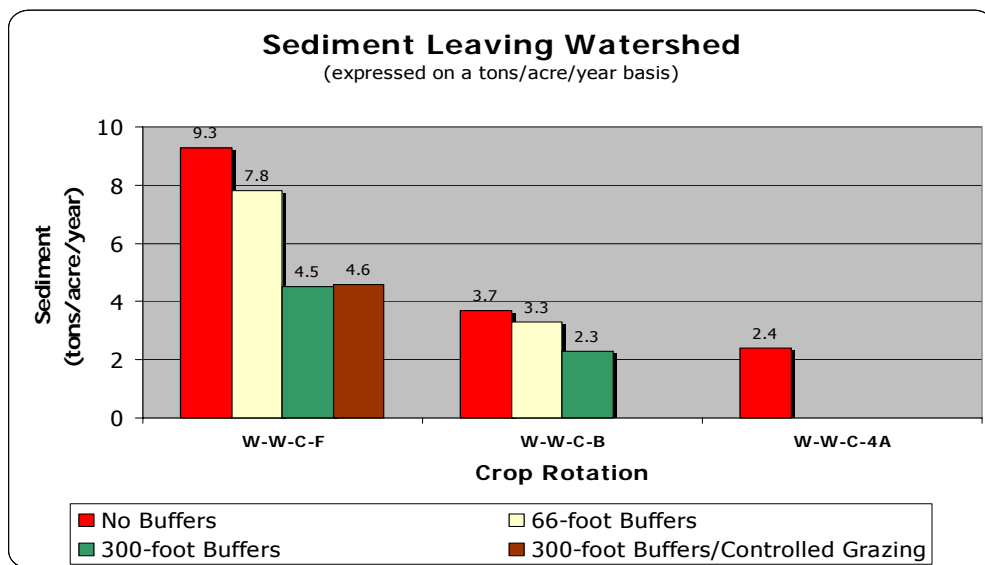


Figure 15. Crop rotations using conventional tillage include wheat-wheat-canola-fallow (W-W-C-F), wheat-wheat-canola-barley (W-W-C-B) and wheat-wheat-canola-alfalfa 4 years (W-W-C-4A). The red bar for each crop rotation represents scenarios without buffers. Scenarios for buffers 66 feet (yellow) and 300 feet (green) wide were computed only for the W-W-C-F and W-W-C-B rotations. The effect of controlled grazing (brown) is shown only for W-W-C-F. If an annual average soil loss of 2.7 tons/acre/year was set as the soil loss tolerance, only two of the eight computed scenarios (two bars furthest right) would meet *thresholds or target values*.



Example 2 - "Dynamic Simulation Modeling of Phosphorus Exports to the Inland Bays, Delaware" (Cassell and Meals 1999)

Watershed ecosystem nutrient dynamics (WEND) modeling is a strategic, long-term approach in analyzing how watersheds process phosphorus (P). Underlying WEND-P is STELLA® (High Performance Systems, Inc., 2001), a process mapping-simulation software program.

Using WEND-P, complex watersheds are modeled as ecosystems which import, export, and process P according to an infrastructure that includes all major pathways through which P moves. In WEND models, the P infrastructure can vary over time to reflect how change in urban development activities, natural processes, and resource management decision-making interact to influence the export of P from the watershed.

In this project, the model assessed how P is processed through the Inland Bays Watershed (IBW) of southeast Delaware (see Figure 16). The explicit goal was to track the export of P to the Inland Bays over the long-term as influenced by proposed actions for the management of P.

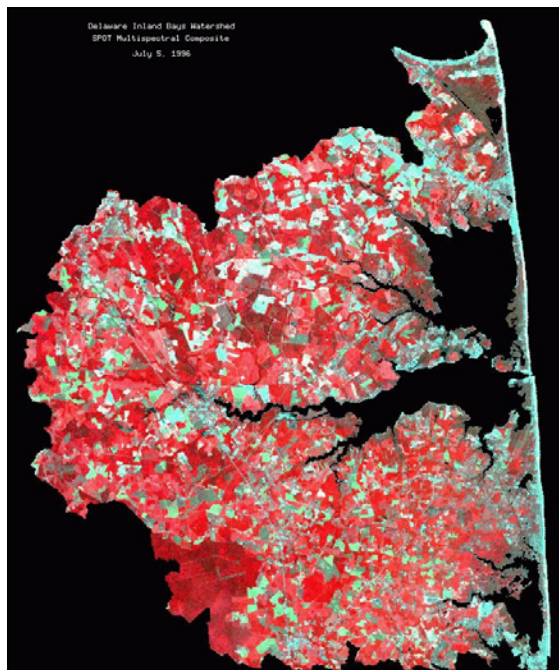


Figure 16. Inland Bays Watershed, southeast Delaware. (from SPOT satellite imagery July 5, 1996). IBW has a 137,300-acre land base with approximately 50 percent and 16 percent in agriculture and urban development, respectively.

The diagram in figure 17 on the next page provides an overview of the WEND-P-IBW model. It depicts

P imports, exports, movement and storage in the IBW at a watershed-scale level. It shows the major pathways for the import and export of P and the internal cycling of P that link three primary activity sectors and two accumulation "stocks." The three activity sectors in the IBW P diagram are urban, agriculture, and natural areas. Storage or accumulation of P are accounted for in two stocks: 1) Long Term Storage and 2) Drainage Network. Each activity sector and stock processes P uniquely in accordance with the many anthropogenic and natural functions that occur. More explanation is given in the caption under the figure.

Figure 17 is essentially a network or system diagram. However, the various connecting arrows represent model algorithms with outputs that vary based on changing conditions in the 190,000-acre IBW ecosystem. The crucial outcome from the model (depicted in the lower right corner of the diagram) is the "P discharge from the watershed" that enters the Inland Bays in southeast Delaware.

After model developers parameterized WEND-P-IBW for local use on the IBW, various proposed action scenarios were discussed with key stakeholders and established as follows:

Scenario	Conditions
1. Baseline	1996-1998 situation with projections for agricultural and urban management and growth into the future
2. Phytase	Add Phytase to poultry feed to reduce P assay of feed by 17%
3. Comprehensive Agriculture	Phytase scenario + export 20% of litter production + implement stringent agriculture management practices
4. Comprehensive Urban	Enhance P removal by waste treatment plants + implement stringent urban land management practices
5. Comprehensive Watershed	Comprehensive agriculture + comprehensive urban
6. Growth Management	Comprehensive agriculture + comprehensive urban + reduced urban growth rate + 10% reduction in poultry production capacity by year 10

These scenarios, in turn, had applicable inputs entered into the WEND-P-IBW simulation and, except for the baseline scenario, were implemented between years 5 and 10. The baseline was started in year 0 of the simulation and resulted in imports of about 3,000 tons of P/year and exports of 1,100 tons of P/year. With imports exceeding export, P is accumulating in agricultural soils of the watershed. Of the exports, about 64 tons P/year enters the Inland Bays initially in year 0.

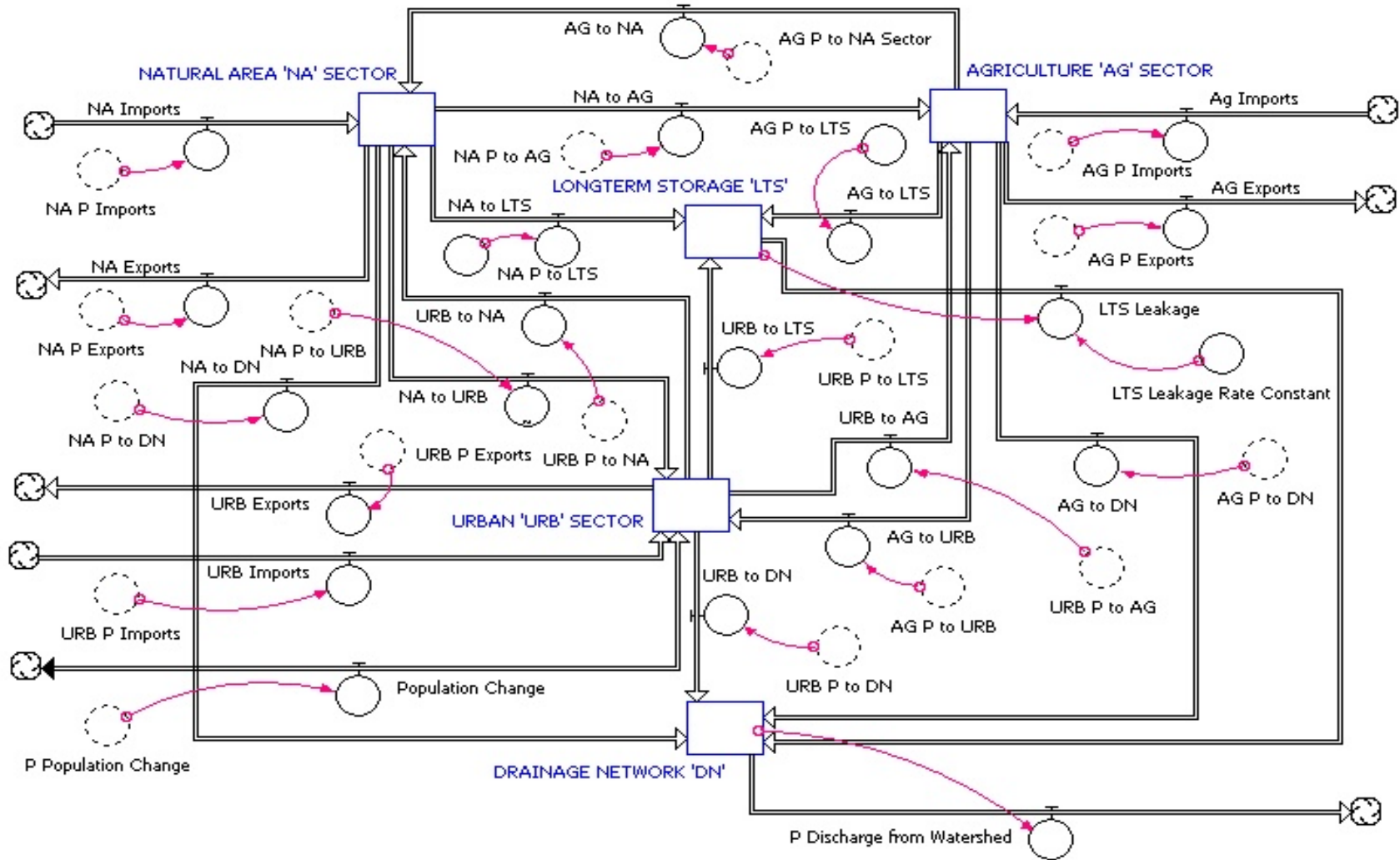
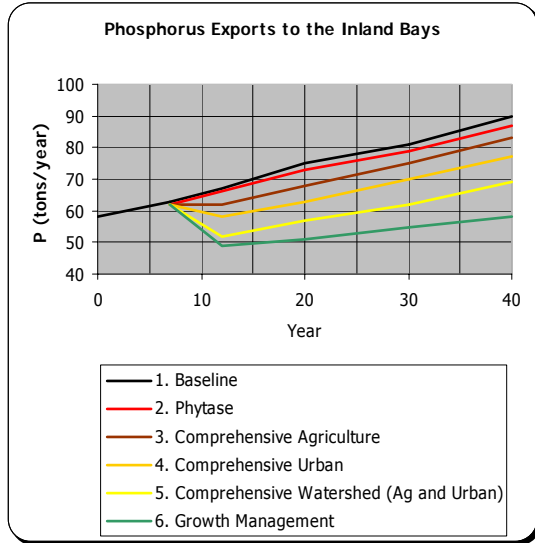


Figure 17. Phosphorus (P) processes and relationships used in WEND-P-IBW are displayed. Boxes denote current "sectors/stocks" or accumulations of P at any one time: NA=Natural Areas, AG=Agriculture, URB=Urban, LTS=Longterm Storage, and DN=Drainage Network. Pipelines (⇒) show the direction of the flow of P between sectors, stocks, into the watershed (imports) and out of the watershed (exports). Imports and exports comes from sources and sinks of P represented by small clouds on the edges of the diagram. The regulation of a flow is accounted for by underlying algorithms denoted by circles and single line (→) arrows. The small "T" at the top of each circle is a flow "spigot" controlled by algorithms. The crucial output flow from the model (see lower right corner) is the "P discharge from the watershed" that enters the Inland Bays in southeast Delaware.

The long-term patterns of P export to the Inland Bays predicted by WEND-P-IBW for the 6 scenarios are shown in figure 18. Presently, about 53 percent and 36 percent of the export to the Inland Bays is derived from agricultural and urban activities, respectively.



**Figure 18. Phosphorus export to the Inland Bays predicted by the WEND-P-IBW model for 6 P management scenarios. "Action" alternatives were considered to be implemented in years 5 to 10 of the simulation.**

The model suggests that rates of import, export and accumulation of P in the IBW will increase if residential populations, agriculture, tourism and industry continue to grow. If present-day growth continues, the baseline export of P to the Inland Bays is estimated to increase by 24 percent in 20 years and 50 percent in 40 years.

The "Phytase" scenario (scenario 2) is very similar to the baseline predictions. Adding Phytase to animal feeds does little to reduce the export of P over the long-term. Scenarios 3 through 6 controlled or decreased P export dramatically at least initially. However, all scenarios except one show a greater export of P to the Inland Bays than at present. If the: 1) 1996-98 level of P exports is used as the threshold or target value, and 2) the "Growth Management" scenario is adopted by decision-makers, the proposed actions would bring P exports to desired levels at least out to a 40-year period.

For the WEND-P-IBW simulation, it is important to note that the model aggregates all data parameters so that the identity of individual soil parcels, farms, and communities are unknown and specific effects of individual practices cannot be isolated. Additionally, the model carries out all computation in annual time steps. Thus, there is no capability to assess seasonal variations nor individual runoff events.

The model's strengths include: 1) a reasonable but detailed representation of the P infrastructure (imports, production, storage, exports and movements) satisfactory to regional and local experts, and 2) the capability of being fine-tuned or modified as P infrastructure behavior becomes better understood through research and monitoring. A major weakness, of course, is verifying the long-term predictions for each scenario. This weakness points out the importance of forming a credible team to develop the model.

**Trends Analysis**

A critical influence on cumulative effects analysis is the trend or direction of change in conditions or condition indicators chosen to evaluate past, current and projected resource circumstances. The results are usually displayed graphically and are bounded by sensible past and future times. Knowing trends is particularly important during NRCS planning process steps 4, *Analyze Resource Data*, and 6, *Evaluate Alternatives*, to insure that thresholds or target values set to measure effects of proposed actions are reasonable and doable. Of course, step 9, *Evaluate the Plan*, is largely comprised of trend analysis of pertinent indicators into the future after the proposed actions are applied.

Trend analyses are data intensive and may be difficult to extrapolate beyond known data. Extrapolation must be clearly identified during analysis and uncertainty explained using scientifically based rationale and references.

Two examples are provided: 1) Stream Water Temperature Conceptualization, and 2) Soil Erosion in the Palouse River Basin: Indications of Improvement (Ebbert and Roe 1998).

Example 1 - Stream Water Temperature Conceptualization - Cold Water Fishery.

Figure 19 displays proposed action scenarios of water temperature for a cold water fishery over an 85-year time period. The conceptualization is based, in large part, on West coast conditions and analysis for salmonid recovery. In this example, the riparian vegetation is removed from the stream corridor during the period 1965 to 1995 to accommodate additional agricultural, home sites and urban development. Scenarios include various levels of restoring shade-producing vegetation all beginning in the headwaters and progressing downstream.

Several important notes about the graph include: 1) the black line is the trend for 1965 to 2000, 2) the red line is the no-action projection, 3) the oscillation of all lines represents the influence of year-to-year variations of climate and hydrology on water temperature, and 4) the typical level of proposed actions are anticipated to be at the "75% of area and some channel improvement" level (see the dark green line that crosses the 64°F threshold line at year 2030).

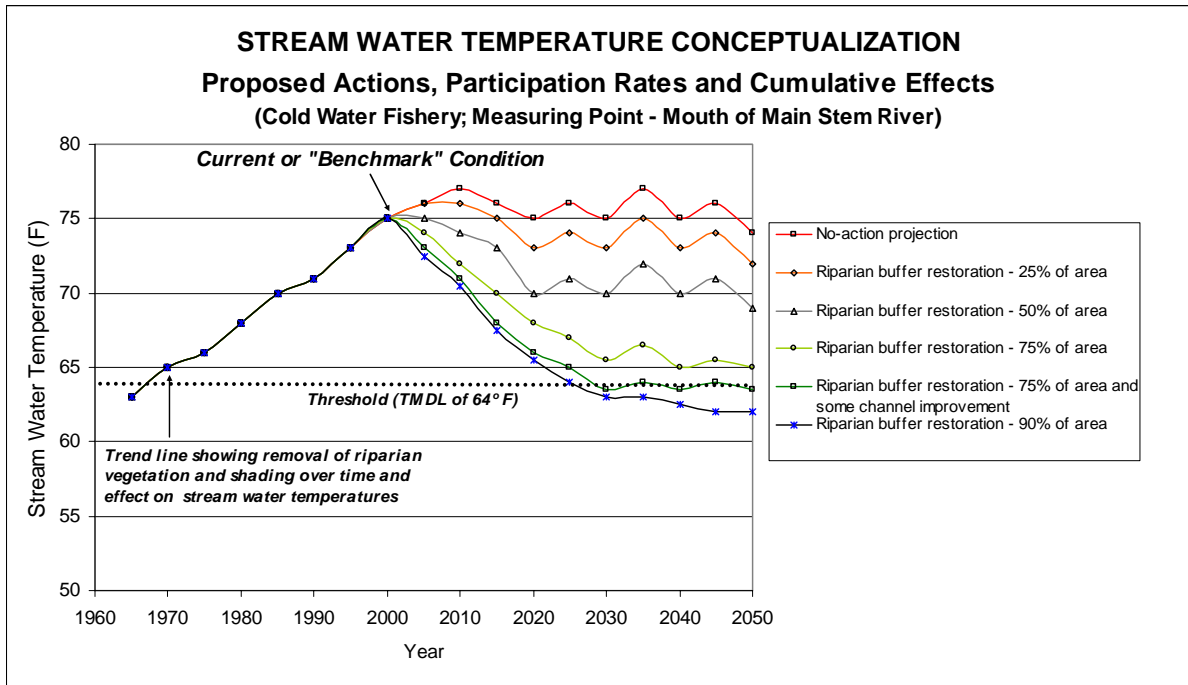


Figure 19. Conceptualized trend of stream water temperatures for historical, current and proposed action scenario conditions. Temperatures above the 64°F threshold are considered sub-lethal and stressful for cold water fish species. Measurements of temperature are typically a 7-day moving average made during summer low stream flow periods.

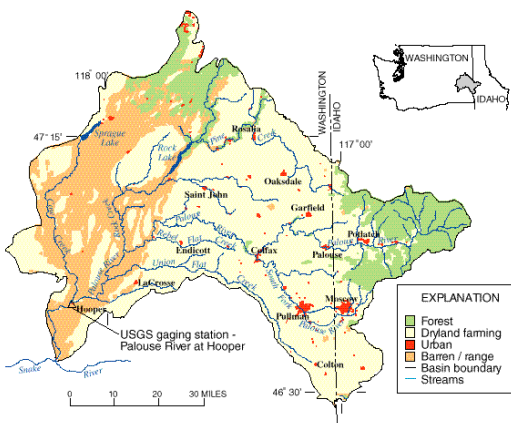
*Example 2 - Soil Erosion in the Palouse River Basin: Indications of Improvement (Ebbert and Roe 1998).*

Land use in the Palouse River Basin is predominately "dryland" agriculture. See figures 20 and 21. Farming in the basin began in the late 1800's. Steep lands, first used for hay and pasture, were converted to grain production in the early 1900's.



**Figure 20.** Loessial materials created the dune-like hills that dominate the Palouse farming region.

Because of the growing concern of soil erosion from rainfall impact and rainfall/snowmelt runoff, the first soil conservation district in the state of Washington was organized by a group of farmers in the Palouse in 1940. In 1972, concern for water quality from dryland Palouse farming was addressed by Public Law 92-500 (Clean Water Act) that mandated a water-quality management plan. By 1979, a final plan was adopted by the state that consisted of recommended "best management practices" to control erosion and reduce runoff of nutrients and agricultural chemicals.



**Figure 21.** The Palouse River Basin is approximately 2 million acres in size.

Trend analysis for this example takes two forms: 1) A *table*, table 6, showing 1979 and 1994 application statistics for conservation treatment and the corresponding, predicted reduction in annual

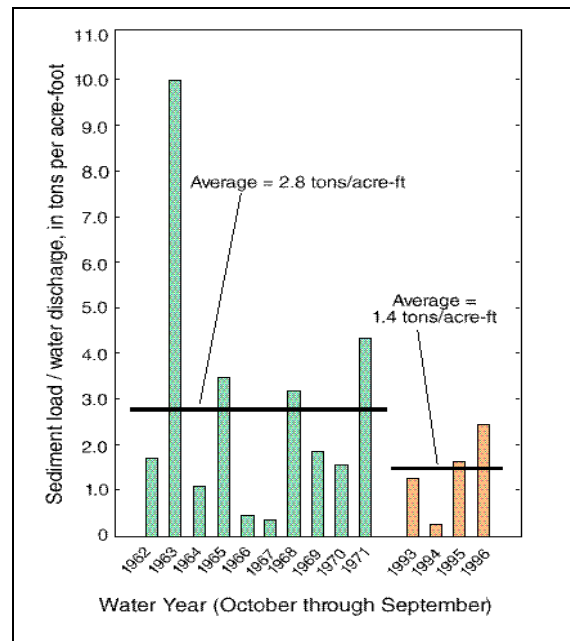
average soil erosion, and 2) a *bar chart*, figure 22, displaying recorded sediment load per unit of water discharge for the periods 1962-71 and 1993-96.

Table 6. Conservation treatment in the Palouse River Basin and predicted annual erosion reduction.

Conservation Treatment	Treated Acres		Annual Erosion Reduction	
	1979	1994	Tons/ Acre	Tons/ Year
No-till seeding	600	56,000	9	500,000
CRP	6,400	60,600	5	270,000
Strip cropping	0	239,000	1	240,000
Terraces	680	4,500	2	7,600
Tree planting	0	3,670	10	37,000
Cons. tillage	0	81,000	8	650,000
<b>TOTAL =</b>	<b>7,680</b>	<b>444,770</b>	<b>--</b>	<b>1,704,600</b>

Note: Basis for values contained in Ebbert and Roe 1998.

Annual erosion reduction was primarily attributed to voluntary implementation of conservation treatments by basin farmers. The predicted values of erosion reduction in the table generally correlate with suspended sediment amounts displayed in figure 22. However, a large storm in February 1963 skewed or elevated the 1962-71 average and points out a maxim in determining statistical significance during any trend analysis: related variables (in this case, storm frequencies and water discharge) must be carefully studied and accounted for in any comparison analyses to draw definitive findings.



**Figure 22.** Comparison of historical records of suspended sediment in the Palouse River at the Hooper USGS gauging station.

### Overlay Mapping and Geographic Information Systems

Overlay mapping and geographic information systems (GIS) are excellent for visualizing "layers" of resource conditions and proposed action impacts (figure 23). They are particularly well suited for:

- bounding of multiple effects each with a different size and shape "footprint" in the landscape,
- displaying spatial proximity or overlaps of individual effects,
- viewing baseline and current connectivity or fragmentation of the land uses and conditions being studied (see figure 24), and
- using various data sets of conditions that can be mathematically related for likely degree of impact and spatially displayed at a desired map scale.

Manual construction of overlay maps and the tedious chore of calculating size or extent of various map units have, of course, given way to powerful GIS applications. Modern GIS systems can perform these tasks in seconds using underlying, spatially correlated databases, e.g., ArcGIS developed by ESRI, Environmental Systems Research Institute (<http://www.esri.com/>). A growing trend is the development of uncomplicated interfaces of GIS with the Internet or World Wide Web to allow users to choose desired layers of data and construct needed maps. In many situations, the display of an underlying, ortho-corrected digital aerial photograph can orient and improve understanding of project reviewers.

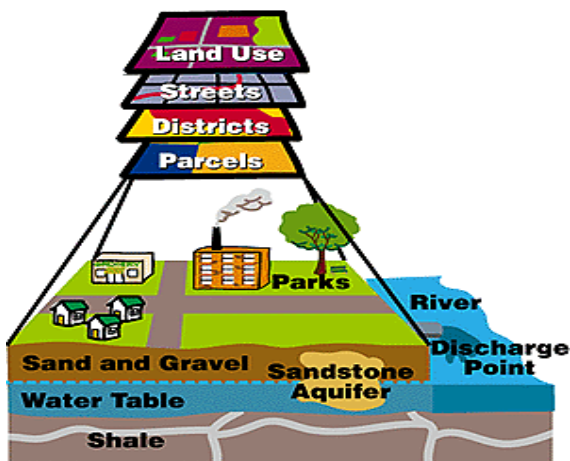


Figure 23. GIS systems link to underlying databases that are tied to spatial coordinates. GIS users can produce 2 and 3-dimensional maps of selected features, conditions, and effects that can be viewed or printed using a variety of visual media.

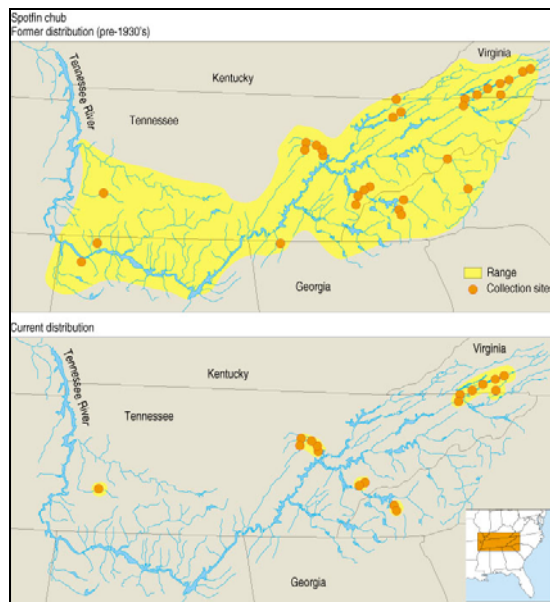


Figure 24. An example of habitat fragmentation, decline, and isolation of populations of a southeastern freshwater fish, the endangered spotfin chub, *Cyprinella monacha* (USDI 1995). Former (pre-1930's) and present range in yellow. Proposed actions in and near current populations will receive a higher degree of scrutiny.

GIS can also be tied with analytical models in combination with other software. For example, the "Heat Source" model (DEQ 1996) is used in Oregon to calculate water temperatures in stream networks for *current* conditions as well as *future* conditions based on improvements in riparian vegetation (e.g., more shade) and stream stability (e.g., more pools). The model's algorithms work against data contained in a Microsoft<sup>®</sup> Excel spreadsheet that is populated by stream corridor conditions measured using GIS-sampling (figure 25a) and ground sampling. The figure displays a GIS generated view of a stream reach, sampling points, and *current* stream corridor conditions. After the data is transferred from the GIS to the spreadsheet, the model is activated and water temperature calculations are made for the stream network. Figure 25b shows the result of the modeling for a northwest Oregon river. In addition to the current or baseline condition (red line), data can be manipulated in the GIS and spreadsheet for "potential" changes based on improvement projects. Improvement scenarios are the lines shown beneath the red line.

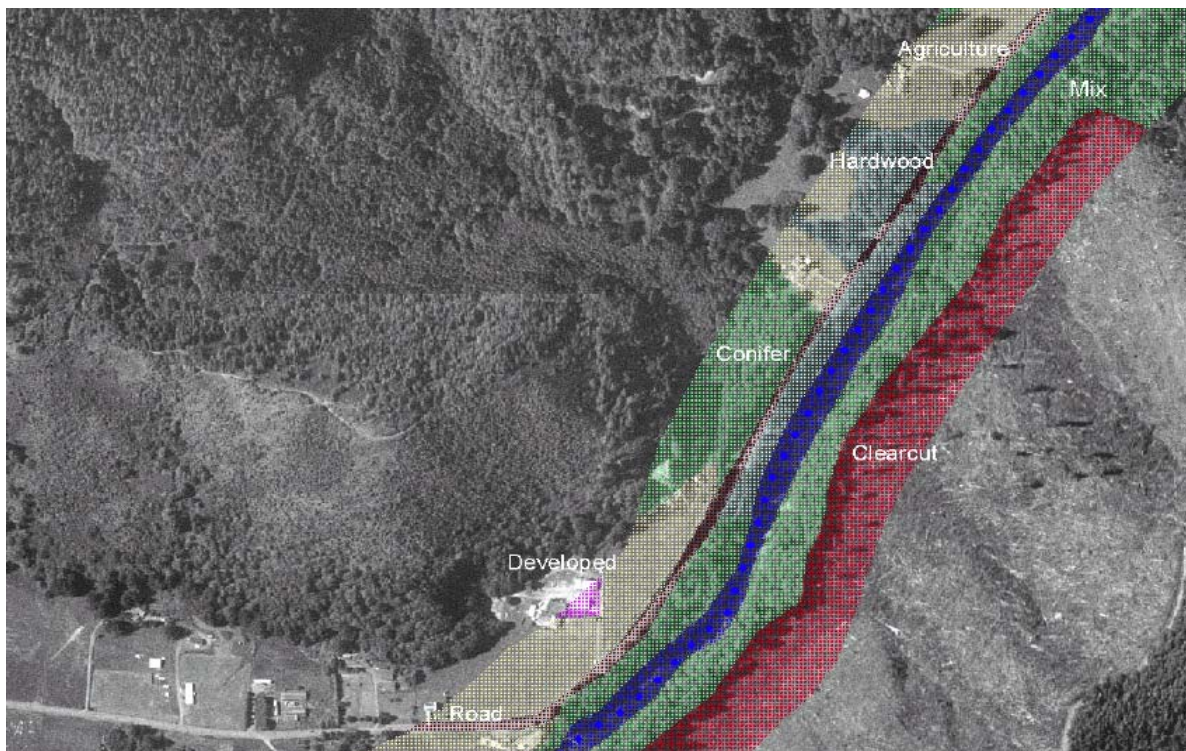


Figure 25a. An example of stream reaches digitized from orthophotos at a 1:5,000 scale. (A digital orthophoto is a digital image of an aerial photograph with displacements caused by camera angle and terrain removed.) Reaches were then segmented into data points at 100-foot intervals. The point data form the basis for automated sampling at each point of vegetation at 15-foot intervals out to 120 feet from the channel edge for both stream banks. A total of 18 vegetation samples are taken at each stream distance node.

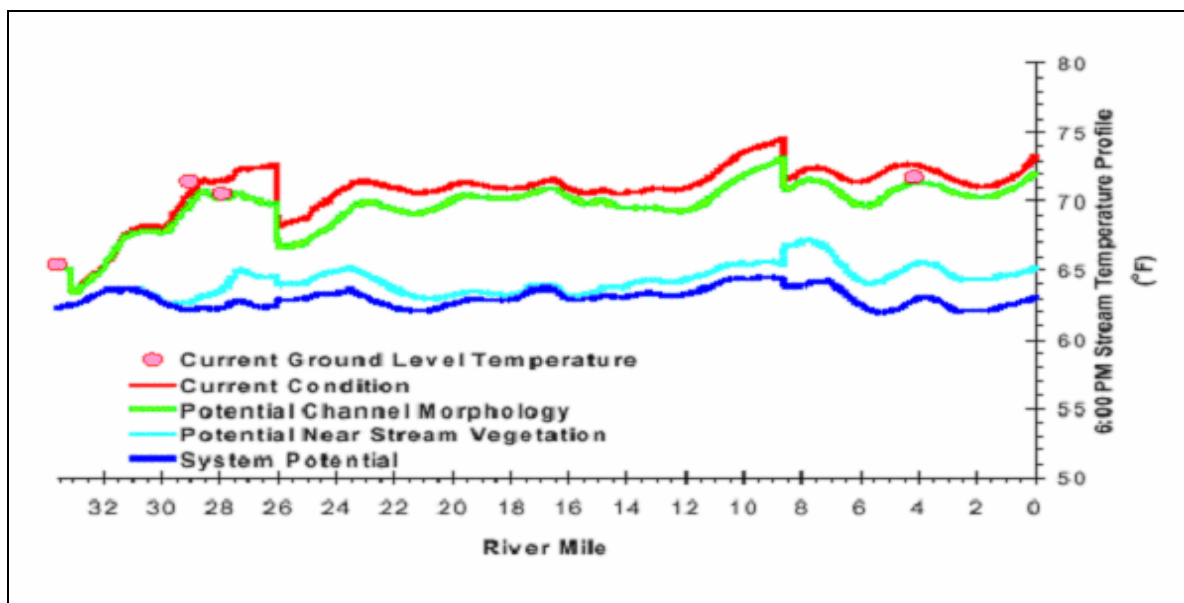


Figure 25b. The results of the analysis using GIS and Heat Source expressed as temperature (°F) by river mile (0 denotes the mouth of the river; river mile 32 is near the headwaters). In contrast to the current or baseline condition (red line), data can be manipulated in the GIS and spreadsheet for "potential" changes based on improvement projects. Improvement scenarios include stability projects which recreate the pools (green line), reestablishment of natural riparian vegetation (light blue line), and a combination of both (dark blue line). The desired "threshold" temperature is 64°F.

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## Appendices

- **Appendix A - Definitions**
- **Appendix B - Generic Questionnaire Checklist or Addressing and/or Summarizing the Cumulative Environmental Impacts of Projects**
- **Appendix C - Example: Watershed-scale RMS/Effects Formulation**
- **Appendix D. Practice Effects Diagrams**

## Appendix A - Definitions

(Footnotes are listed at the end of the appendix.)

**Affected Environment** - All potentially affected resources (soil, water, air, plants, animals), ecosystems, and human communities.<sup>1</sup>

**Areawide Conservation Planning** - The 3-phase, 9-step iterative process (figure 3, column A, and figure 4) used by NRCS to help clients plan and apply conservation treatments for a watershed or other geographical area (referred to as the planning area) defined by the clients and stakeholders. The areawide conservation plan addresses all identified resource problems including cumulative effects issues, contains alternatives that meet the minimum quality criteria for each resource, and addresses applicable laws and regulations.<sup>2</sup>

**Baseline Conditions** - Conditions of resources, ecosystems and human communities used as the bases or levels of comparison for analyzing effects of proposed actions. These may be established or estimated from historical or current day conditions.<sup>1</sup>

**Biological Assessment** - A document prepared for the Section 7 (Endangered Species Act) consultation process to determine whether a proposed major construction activity under the authority of a Federal action agency is likely to adversely affect listed species, proposed species, or designated critical habitat.<sup>3</sup>

**Benchmark Condition** - The status or quality of one or more current planning area situations, circumstances, or settings projected over a future specified time period. Status and quality are usually measured and defined by using one or more relevant indicators and target values. The projection of benchmark condition accounts for reasonably foreseeable future actions as well as past and present actions but does not include the effects of alternatives (proposed actions) being contemplated by the planning group. The benchmark condition is used as a point of reference to: 1) compare against projected resource conditions anticipated for an alternative, and 2) measure change in resource conditions resulting from applied conservation treatment.<sup>2</sup>

**Bounding** - The process of establishing spatial and temporal boundaries to encompass all the effects on the resources, ecosystems, and human communities of concern during a cumulative effects analysis.<sup>1</sup>

**Candidate Species** - Any species being considered by the U.S. Fish and Wildlife Service or National Marine Fisheries Service for listing as an endangered or threatened species under the Endangered Species Act but not yet the subject of a proposed rule.<sup>3</sup>

**Common Resource Area (CRA)** - A geographical area where resource concerns, problems, and treatment needs are similar. Landscape conditions, soil, climate, human considerations, and other natural resource information is used to determine the geographical boundaries of the common resource area.<sup>2</sup>

**Conservation Practice** - A specific treatment, such as a structural or vegetative measure, or management technique, commonly used to meet specific needs in planning and implementing conservation, for which standards and specifications have been developed.<sup>2</sup>

**Conservation Practice Standards** - National standards commonly used by NRCS to treat natural resource problems. Each practice standard includes the following components: name, unit of measurement, code number, definition, purpose, condition where practice applies, criteria, considerations, plans and specifications, and operation and maintenance.<sup>4</sup>

**Council on Environmental Quality (CEQ)** - A three member council appointed by the President that is responsible for the implementation of NEPA throughout the Federal Government.<sup>5</sup>

**Critical Habitat** - Specific geographic areas, whether occupied by listed species or not, that are determined to be essential for the conservation and management of listed species, and that have been formally described in the Federal Register.<sup>3</sup>

**Cumulative Effects** - The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR § 1508.7).<sup>6</sup> See *Types of Cumulative Effects*.

**Cumulative Effects Analysis** - A procedure with an objective to account for the full range of consequences from proposed actions. The process will involve assumptions and uncertainties but must be conducted with the best techniques and data available.<sup>1</sup>

**Direct Effects** - Caused by the action and occurs at the same time and place (40 CFR § 1508.8).<sup>6</sup>

**Ecosystem** - Dynamic and interrelating complex of plant and animal communities and associated nonliving (e.g. physical and chemical) environment.<sup>3</sup>

**Endangered** - The classification provided to an animal or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range.<sup>3</sup>

**Endangered Species Act of 1973, as amended (ESA)** - Federal legislation intended to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, and provide programs for the conservation of those species, thus preventing extinction of native plants and animals.<sup>3</sup>

**Environmental Assessment (EA)** - A concise public document that briefly provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement or finding of no significant impact.<sup>2</sup>

**Environmental Evaluation (EE)** - The part of planning that inventories and estimates the potential effects on the human environment of alternative solutions to resource problems. A wide range of environmental data together with social and economic information is considered in determining whether a proposed action is a major Federal action significantly affecting the human environment. The environmental evaluation for a program, regulation, or individual action is used to determine the need for an environmental assessment or an environmental impact statement. It also aids in the consideration of alternatives and in the identification of available resources (7 CFR § 650.4).<sup>6</sup>

**Environmental Impact Statement (EIS)** - A document detailing the impacts on the quality of the human environment of proposed programs, policies, construction projects, and other major Federal actions that may significantly affect the quality of the environment. EIS's are required by the National Environmental Policy Act (NEPA) and environmental laws in some states.<sup>2</sup>

**Fecal Coliform** - A grouping of bacteria that originate from the intestinal tract of warm-blooded animals. This group is the most commonly used indicator of bacterial pollution in watersheds.<sup>7</sup>

**Field Office Technical Guide (FOTG)** - The official NRCS guidelines, criteria, and standards for planning and applying conservation treatments.<sup>2</sup>

**Impacts** - The difference between the anticipated effects of alternative treatment in comparison to existing or benchmark condition effects. Differences may be expressed by narrative, quantitative, visual, or other means. Impacts are used as a basis for making informed conservation decisions.<sup>2</sup>

**Indicator** - The description or measurement of a resource concern that, when observed periodically, indicates or demonstrates trends.<sup>2</sup> See related definition, *Target Value*.

**Indirect Effects** - Caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (40 CFR § 1508.8).<sup>6</sup>

**Long-term Impacts** - Impacts that occur during or after an action and may take the form of delayed changes or changes resulting from the cumulative effects of many individual actions.<sup>8</sup>

**Minimizing Significant Cumulative Effects** - Avoiding, altering or mitigating adverse effects by modifying, eliminating or adding alternatives to the proposed actions.<sup>1</sup>

**Mitigation** - (a) Avoiding an impact altogether by not taking a certain action or parts of an action; (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; (e) Compensating for the impact by replacing or providing substitute resources or environments. Mitigation may be used to alter significant adverse effects so an EIS need not be prepared and a finding may be made of no significant impact (40 CFR § 1508.20).<sup>6</sup>

**National Environmental Policy Act (NEPA)** - This Act established a Federal policy of using all practicable means to create and maintain conditions under which humans and nature can exist in productive harmony, fulfilling the social, economic, and other requirements of present and future generations. It also requires a detailed report

for all major Federal actions significantly affecting the quality of the human environment. CEQ was required by the Act to prepare NEPA implementing regulations. These regulations require Federal agencies to prepare environmental impact statements and environmental assessments as the means of ensuring the National environmental policy is carried out.

**Proposed Species** - Any species of fish, wildlife, or plant that is proposed in the Federal Register to be listed under Section 4 of the Endangered Species Act.<sup>3</sup>

**Resource Management System (RMS)** - A combination of conservation practices and resource management, for the treatment of all identified resource concerns for soil, water, air, plants, and animals, that meets or exceeds the quality criteria in the FOTG for resource sustainability.<sup>2</sup>

**Scoping** - an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action (40 CFR § 1501.7).<sup>6</sup>

**Short-term Impacts** - Temporary changes occurring during or immediately following an action and usually persisting for a short while.<sup>8</sup>

**Target Value** - Identifies a specific value to be used in conjunction with an indicator.<sup>2</sup>

**Threatened** - The classification provided to an animal or plant likely to become endangered within the foreseeable future throughout all or a significant portion of its range.<sup>3</sup>

**Threshold** - The specific measure or quality of a condition of the resource, ecosystem, and human community beyond which adverse or beneficial change would cause significant degradation or enhancement of the resource, respectively. The impact is usually scientifically or legally based.<sup>1</sup>

**Tiering** - The coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statements subsequently prepared (40 CFR § 1508.28).<sup>6</sup>

#### **Types of Cumulative Effects (Types 1, 2, 3 and 4)<sup>1</sup>**

- Type 1 - Repeated "additive" effects from a single proposed project, e.g., construction of a new road through a national park resulting in continual draining of road salt onto nearby vegetation.
- Type 2 - Stressors (e.g., substance, compound or material) from a single source that interacts with receiving organisms to have an "interactive" net effect, e.g., toxic compounds that build up disproportionately at higher levels within food chains.
- Type 3 - Effects arising from multiple sources that affect environmental resources additively, e.g., agricultural irrigation throughout a community that draws down a groundwater aquifer.
- Type 4 - Effects arising from multiple sources that affect environmental resources in a countervailing or synergistic fashion, e.g., discharges of nutrients and heated water to a river that cause an algal bloom and subsequent loss of dissolved oxygen that is greater than the additive effects of either pollutant.

<sup>1</sup>CEQ 1997

<sup>2</sup>NRCS 2003

<sup>3</sup>USF&WS 2001

<sup>4</sup>NRCS 1992

<sup>5</sup>U.S. Congress 1970

<sup>6</sup>NARA 2002

<sup>7</sup>NRCS 2000

<sup>8</sup>USPS 1991

**Appendix B- Generic Questionnaire Checklist for Addressing and/or Summarizing the Cumulative Environmental Impacts of Projects (Canter 1995).**

Environmental Category	Will the Project Result in:				Will the Cumulative Impacts of Projects Result in:			
	Yes	Maybe	No	Comments	Yes	Maybe	No	Comments
Physical environment landform:								
• fractures on geologic strata?								
• landslides and land subsidence?								
• seismic activity?								
• compacting and settling?								
• deposition (sedimentation, precipitation)?								
• erosion of soils due to increased wind, floods, removal of vegetation?								
• impact to unique physical features (due to destruction, modification, or covering)?								
• impact to land classified as prime or unique farmland?								
• change existing topography (ground contours, shorelines, river banks)?								
• extensive use of existing mineral resources (mining, oil and gas)?								
• disposal of construction debris?								
• excessive fields and radiation (magnetic fields electromagnetic radiation)?								
• Changes in hydrology (water table, gradient, Infiltration)?								
Air/Climatology:								
• impact on air quality due to gases, particulates and fugitive dust)?								
• air pollutant emissions that will exceed federal or state standards or cause deterioration of ambient air quality								
• objectionable odors?								
• changes in climate due to alteration in humidity, air movement, or temperature?								
• emissions of hazardous air pollutants ( VOCs, SOCs, and other toxins regulated under the Clean Air Act?								
• acid rain?								
Water:								
• changes in the quality and quantity of surface drinking water?								
• discharge of wastewater to potable drinking water systems?								
• alter flows due to construction?								
• increase tendency to flooding?								
• salinate water bodies?								
• unsightly appearance of water bodies?								
• eutrophication								
• increase in temperature and turbidity due to impoundment?								
• destruction of streams?								
• considerable effects on conventional water quality parameters (that is, DO, fecal coliforms, pH, BOD <sub>5</sub> , NO <sub>3</sub> , PO <sub>4</sub> , temperature deviation, turbidity, total solids)?								
• alter the rate or direction of ground water flow?								
• introduce pollutants to ground water due to land application of wastes?								

(continued)

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Environmental Category	Will the Project Result in:				Will the Cumulative Impacts of Projects Result in:			
	Yes	Maybe	No	Comments	Yes	Maybe	No	Comments
<ul style="list-style-type: none"> <li>contamination of public water supplies?</li> <li>impact to recharge area or recharge rate?</li> </ul>								
<ul style="list-style-type: none"> <li>make ground water vulnerable to contamination (due to wells, boreholes, cracks, etc.)?</li> <li>impact on or construction in a wetland or floodplain?</li> <li>thawing snow, ice, and permafrost?</li> <li>impact to a wellhead protection zone?</li> </ul>								
<ul style="list-style-type: none"> <li>Impact on fisheries?</li> </ul>								
Solid waste:								
<ul style="list-style-type: none"> <li>generation of significant solid waste?</li> <li>impact existing landfill capacity?</li> </ul>								
Noise:								
<ul style="list-style-type: none"> <li>increase existing noise levels?</li> <li>expose people or wildlife to excessive noise?</li> <li>vibrations?</li> </ul>								
Hazardous waste:								
<ul style="list-style-type: none"> <li>generation, transport, storage, or disposal of regulated hazardous wastes?</li> </ul>								
Biological environment flora:								
<ul style="list-style-type: none"> <li>change to the diversity or productivity of vegetation (namely trees, shrubs, grass, crops, microflora, and aquatic plants)</li> <li>impact to riparian habitat?</li> <li>impact to rare or endangered plant species?</li> <li>introduce new plant species into the area or create a barrier to the normal replenishment of existing species?</li> <li>reduce acreage or create damage to any agricultural crop?</li> <li>impact forests?</li> </ul>								
Fauna:								
<ul style="list-style-type: none"> <li>reduce the habitat or numbers of unique, rare, or endangered species of birds or animals?</li> <li>affect to land animals, benthic organisms, insects, and microfauna?</li> <li>Attraction, entrapment or impingement of animal life?</li> <li>impact to existing fish, wildlife habitat, and nesting areas?</li> <li>introduction of new species of animals into an area or create a barrier to the migration or movement of animals or fish?</li> <li>cause emigration resulting in human-wildlife interaction problems?</li> <li>affect to food chain?</li> </ul>								
Socioeconomic environment landuse:								
<ul style="list-style-type: none"> <li>substantially altering existing or proposed land use of an area?</li> <li>impact to wilderness qualities and open-space qualities?</li> <li>impact to or destruction of wetlands?</li> <li>impact to Special Management Areas (SMAs)?</li> </ul>								
Recreation:								
<ul style="list-style-type: none"> <li>impact to hunting, fishing, boating, swimming, camping and hiking, picnicking and holiday resorts?</li> </ul>								

(continued)



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Environmental Category	Will the Project Result in:				Will the Cumulative Impacts of Projects Result in:			
	Yes	Maybe	No	Comments	Yes	Maybe	No	Comments
<b>Aesthetics:</b>								
• impact to scenic views and vistas?								
• impact to landscape design?								
• impact to unique physical features?								
• impact to parklands and reserves?								
• impact to monuments?								
• presence of misfits (out of place)?								
<b>Archaeological sites:</b>								
• impact to or destruction of historical, archaeological, cultural and paleontological sites or objects?								
<b>Health and safety:</b>								
• health hazard or potential health hazard?								
• exposure of people to potential health hazards?								
• risk of accidents due to explosion, release of oil, radioactive materials, toxic substances, etc.?								
<b>Cultural patters:</b>								
• change existing cultural patterns (or life style)?								
<b>Local services:</b>								
Need for new or altered services in any of the following areas:								
• health care?								
• police?								
• fire protection?								
• education?								
• churches?								
• child care?								
• other services?								
<b>Public utilities:</b>								
Need for a new or alterations to the following utilities:								
• electricity?								
• natural gas?								
• Potable water?								
• wastewater treatment and disposal?								
• stormwater control?								
• solid waste collection and disposal?								
• communications systems?								
• Transmission pipelines?								
• Other utilities?								
<b>Population:</b>								
• alteration of location or distribution of human populations in the area?								
• change to demographic characteristics in the area?								
• change to housing and household?								
<b>Economic:</b>								
• adverse effect on local or regional economy?								
• changes in per capita income?								
• changes in the standard of living?								
• employment?								
<b>Transportation:</b>								
• change to existing rail, road, waterway and/or air traffic?								
• increase in movement?								
• increase in accident and traffic hazards?								

(continued)

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Environmental Category	Will the Project Result in:				Will the Cumulative Impacts of Projects Result in:			
	Yes	Maybe	No	Comments	Yes	Maybe	No	Comments
• affect to transportation network?								
• construction of new roads?								
• change in existing patterns of movement of men and materials?								
Natural resources:								
• deplete natural resources?								
• destruction of natural resources?								
Energy:								
• substantial use of fuel or energy?								
• increase in demand for existing sources of energy?								

*Notes:* Due consideration has to be given to the time and space scales. The projects may have short-term or long-term impacts, and the geographical extent of the impacts may be either in the vicinity of the project or considerable distances away.

## Appendix C - Example: Watershed-Scale RMS/Effects Formulation

NRCS (2001a) policy calls for the formulation of sample Resource Management Systems (RMS) that treat resource concerns common to the field office service area. These RMS's are maintained in Section III of the local FOTG. The RMS's consist of conservation systems that achieve the quality criteria that are also listed in Section III of the local FOTG for soil, water, air, plants and animals. The quality criteria are characteristics or the condition a resource has when it is considered to be sustainable. These criteria can be stated in either qualitative or quantitative terms.

Section V of the FOTG contains data illustrating the effects of typical systems applicable at the field office; appropriate procedures and methods for collecting, analyzing, and displaying conservation effects data; and case studies for the most important resource concerns.

Currently, the majority of materials in Sections III and V of the FOTG are prepared from a site-level (farm, ranch or equivalent ownership) perspective. The example below provides a stepwise procedure for aggregating information and data to the watershed scale.

### Watershed-Scale RMS/Effects Formulation Process Steps (NRCS, 2001b) *Example Information in Italics (Source: NRCS, Portland State Office, Oregon)*

1. Develop sample RMS guide sheets for each land use/setting in the watershed.

Headquarters

*AFO, Confined*

*Benchmark + RMS Alternatives 1, 2, and 3*

*AFO, Non-Confined*

*Benchmark + RMS Alternatives 1, 2, and 3*

Pasture

*Floodplain*

*Benchmark + RMS Alternatives 1, 2, and 3*

*Wetland*

*Benchmark + RMS Alternatives 1, 2, and 3*

*Terrace*

*Benchmark + RMS Alternatives 1, 2, and 3*

Pasture/Hay

*Floodplain, Grazed*

*Benchmark + RMS Alternatives 1, 2, and 3*

Hay

*Terrace, Aftermath Grazing*

*Benchmark + RMS Alternatives 1, 2, and 3*

*Terrace, Not Grazed*

*Benchmark + RMS Alternatives 1, 2, and 3*

*Floodplain, Not Grazed*

*Benchmark + RMS Alternatives 1, 2, and 3*

Wildlife

*Riparian*

*Benchmark + RMS Alternatives 1, 2, and 3*

*Wetland*

*Benchmark + RMS Alternatives 1, 2, and 3*

*Upland*

*Benchmark + RMS Alternatives 1, 2, and 3*

Forest

*Overstocked – Commercial*

*Benchmark + RMS Alternatives 1, 2, and 3*

*Overstocked – Pre-Commercial*

*Benchmark + RMS Alternatives 1 and 2*

*Understocked/Non-Stocked*

*Benchmark + RMS Alternatives 1 and 2*

2. Identify acres of land use in the watershed.

*Headquarters*

*80 acres*

*Pasture – Low Land*

*2,000 acres*

*Pasture – Upland*

*18,000 acres*

*Wildlife*

*90 acres*

*Forestland*

*4,000 acres*

*Total*

*24,170 acres*

3. Identify the number of landowners in the watershed.

<i>Headquarters</i>	<i>80</i>
<i>Pasture – Low Land</i>	<i>10</i>
<i>Pasture – Upland</i>	<i>30</i>
<i>Wildlife</i>	<i>5</i>
<i>Forestland</i>	<i>20</i>

4. Link each guide sheet to each land use in the watershed.

*Reference step 1.*

5. Estimate the landowner participation rate for each land use.

<i>Headquarters</i>	<i>75%</i>
<i>Pasture – Low Land</i>	<i>60%</i>
<i>Pasture – Upland</i>	<i>80%</i>
<i>Wildlife</i>	<i>95%</i>
<i>Forestland</i>	<i>20%</i>

6. Estimate the acres of land use participating in the watershed program.

<i>Headquarters</i>	<i>75%</i>
<i>Pasture – Low Land</i>	<i>65%</i>
<i>Pasture – Upland</i>	<i>80%</i>
<i>Wildlife</i>	<i>95%</i>
<i>Forestland</i>	<i>25%</i>

7. Estimate the participating acres for each RMS guidesheet alternative.

*Headquarters*

<i>AFO, Confined</i>	
<i>RMS Alternative #1</i>	<i>30 Acres</i>
<i>RMS Alternative #3</i>	<i>20 Acres</i>
<i>AFO, Non-Confined</i>	
<i>RMS Alternative #2</i>	<i>10 Acres</i>

*Pasture – Low Land*

<i>Floodplain, Grazed</i>	
<i>RMS Alternative #1</i>	<i>100 Acres</i>
<i>RMS Alternative #2</i>	<i>400 Acres</i>
<i>RMS Alternative #3</i>	<i>30 Acres</i>

*Pasture – Upland*

<i>Terrace</i>	
<i>RMS Alternative #1</i>	<i>12,000 Acres</i>
<i>RMS Alternative #2</i>	<i>2,400 Acres</i>

*Wildlife*

<i>Riparian - RMS Alternative #2</i>	<i>700 acres</i>
<i>Wetland - RMS Alternative #1</i>	<i>70 acres</i>

*Forestland*

<i>Overstocked – Pre-Commercial</i>	
<i>RMS Alternative #1</i>	<i>1000 Acres</i>

8. Identify individual system/practice conservation effects and impacts for each land use using guide sheets.

*Land Uses: Headquarters and Pasture (letters correlate across columns).*

<i>RESOURCE CONCERNS</i>	<i>SYSTEM/EFFECTS</i>	<i>IMPACTS</i>
<i>a) Soil Deposition – Onsite Damage</i>	<i>a) Frequent sediment deposition during high water events.</i>	<i>a) Some sediment deposition during high water events</i>
<i>b) Water Quantity – Pond/Flooding</i>	<i>b) Ponding may occur during storm events.</i>	<i>b) Reduced ponding during sever storm events</i>
<i>c) Water Quantity – Water Outlets</i>	<i>c) Ponded water slowly discharged</i>	<i>c) Ponded water discharged</i>
<i>d) Water Quality – Groundwater – Nutrient and Organic Waste</i>	<i>d) No leaching of nitrates.</i>	<i>d) Significant reduction in nitrate leaching</i>
<i>e) Water Quality – Surface Water – Pesticides</i>	<i>e) Negligible surface runoff of pesticides</i>	<i>e) Significant reduction in pesticide runoff</i>
<i>f) Water Quality – Surface – Nutrient and Organic Waste</i>	<i>f) Negligible surface runoff of nutrients</i>	<i>f) Significant reduction in nutrient runoff</i>
<i>g) Water Quality – Surface Water – Low Dissolved Oxygen</i>	<i>g) Negligible runoff of nutrients and organics creating conditions for low DO</i>	<i>g) Negligible contribution to low DO</i>
<i>h) Water Quality – Surface Water – Pathogens</i>	<i>h) Negligible runoff of pathogens</i>	<i>h) Negligible runoff of pathogens</i>
<i>i) Water Quality – Surface – Aquatic Habitat Suitability</i>	<i>i) Improved water quality and habitat</i>	<i>i) Improved water quality and habitat</i>
<i>j) Air Quality – Undesirable Odors from Agricultural Sources</i>	<i>j) Objectionable odors minimized</i>	<i>j) Objectionable odors minimized</i>
<i>k) Plants – Plant Condition – Productivity – Pasture and Hayland</i>	<i>k) Plant production can meet soil capability and target yields</i>	<i>k) Plant production can meet soil capability and target yields</i>
<i>l) Plants – Management – Nutrient Management</i>	<i>l) Nutrients balanced with plant needs</i>	<i>l) Nutrients balanced with plant needs</i>
<i>m) Plants – Management – Pests</i>	<i>m) Noxious weeds/insect pests do not reduce forage productivity</i>	<i>m) Moderate reduction in noxious weeds and insect pests</i>
<i>n) Animals – Wildlife - Population Balance</i>	<i>n) Minimize loss of Threaten and Endangered species habitat</i>	<i>n) Improved Threaten and Endangered species habitat</i>
<i>o) Animals – Wildlife- Wildlife Habitat</i>	<i>o) Improved water quality</i>	<i>o) Improved water quality</i>
<i>p) Animals – Wildlife – Health</i>	<i>p) Farm activities less disruptive to fish and wildlife</i>	<i>p) Farm activities less disruptive to fish and wildlife</i>
<i>q) Human – Economic Consideration – Land</i>	<i>q) Proper application of manure on limited land base</i>	<i>q) Proper application of manure on limited land base</i>
<i>r) Human – Economic Considerations – Profitability</i>	<i>r) Increased forage productivity increases profits</i>	<i>r) Increased forage productivity increases profits</i>

9. Run predictive models and use other evaluation tools to document and verify "net" conservation effects, over time, of all RMS's interacting and functioning within the watershed. Account for other influencing past, present or reasonably foreseeable actions.

*Model/Tools Examples:*

<i>Accumulated RUSLE Field Data</i>	<i>Stream Visual Assessment</i>
<i>Phosphorus Index Worksheet</i>	<i>Oregon Stream Habitat Data Sheet</i>
<i>Nutrient Management Specification Sheet</i>	<i>Oregon Biology Technical Note-12</i>
<i>Pest Management Specification Sheet</i>	<i>Oregon Water Quality Decision Aid</i>
<i>Stream Classification Worksheet</i>	<i>Woodland Inventory Worksheet</i>
<i>Environmental Evaluation Worksheet</i>	<i>Watershed &amp; Stream Corridor Overview</i>
<i>Stream Type &amp; Habitat Data</i>	<i>Stream Classification Worksheet</i>
<i>Stream Visual Assessment Protocol</i>	<i>Grazing Lands Applications (GLA) Reports</i>
<i>HEAT Source - Stream Temperature Model</i>	<i>Pasture Utilization Estimate</i>
<i>MANURE - Fecal Coliform Population Model</i>	<i>Pasture &amp; Hayland Trend &amp; Condition Rating</i>
<i>Pasture Production/Clipping Data</i>	<i>Non-Certified Wetland Determination</i>

10. Qualify and quantify conservation effects.

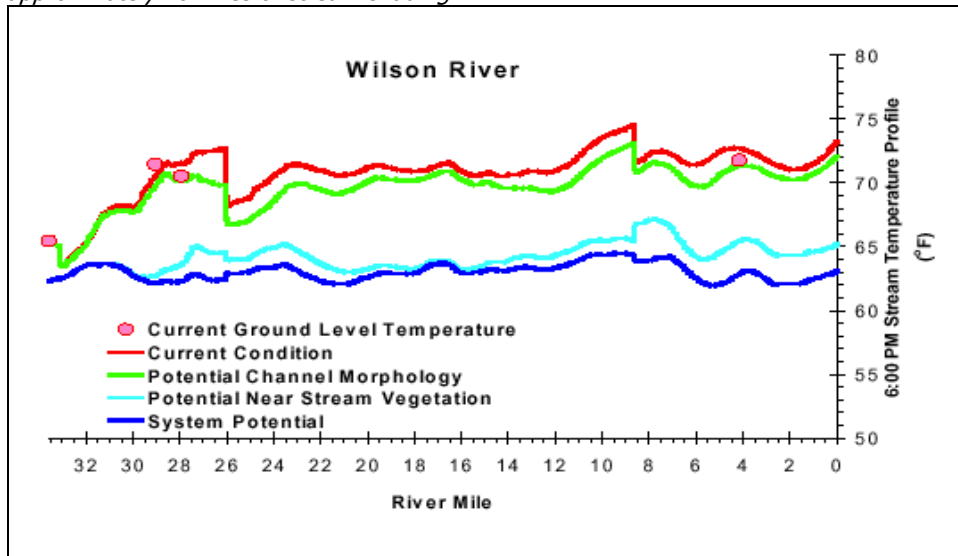
*Example: Stream water temperature vs. salmonid habitat (desired threshold = 64°F)*

<i>Current Conditions 7- Day Maximum Temperatures</i>			
<i>(Temperature ° F)</i>	<i>River A</i>	<i>River B</i>	<i>River C</i>
<i>Entering Agricultural Zone</i>	<i>70.2°</i>	<i>72.3°</i>	<i>72.5°</i>
<i>Maximum in Agricultural Zone</i>	<i>75.2°</i>	<i>73.2°</i>	<i>77.9°</i>
<i>Effective Shade (Percent)</i>	<i>20%</i>	<i>18%</i>	<i>9%</i>

<i>Potential Future Conditions 7- Day Maximum Temperatures (see Step 7: Wildlife - Riparian-RMS #2 - 700 acres)</i>			
<i>(Temperature ° F)</i>	<i>River A</i>	<i>River B</i>	<i>River C</i>
<i>Entering Agricultural Zone</i>	<i>61.3°</i>	<i>64.0°</i>	<i>65.8°</i>
<i>Maximum in Agricultural Zone</i>	<i>63.7°</i>	<i>63.0°</i>	<i>67.6°</i>
<i>Effective Shade (Percent)</i>	<i>80%</i>	<i>76%</i>	<i>59%</i>

11. Prepare summary report including illustrations, diagrams, trend analysis graphs and other display techniques to facilitate decision-making.

*Example: Stream water temperature trends for "river B" with and without proposed actions (desired threshold = 64°F). "With" condition primarily due to application of Wildlife-Riparian-RMS#2 on 700 acres or approximately 70 miles of stream shading.*



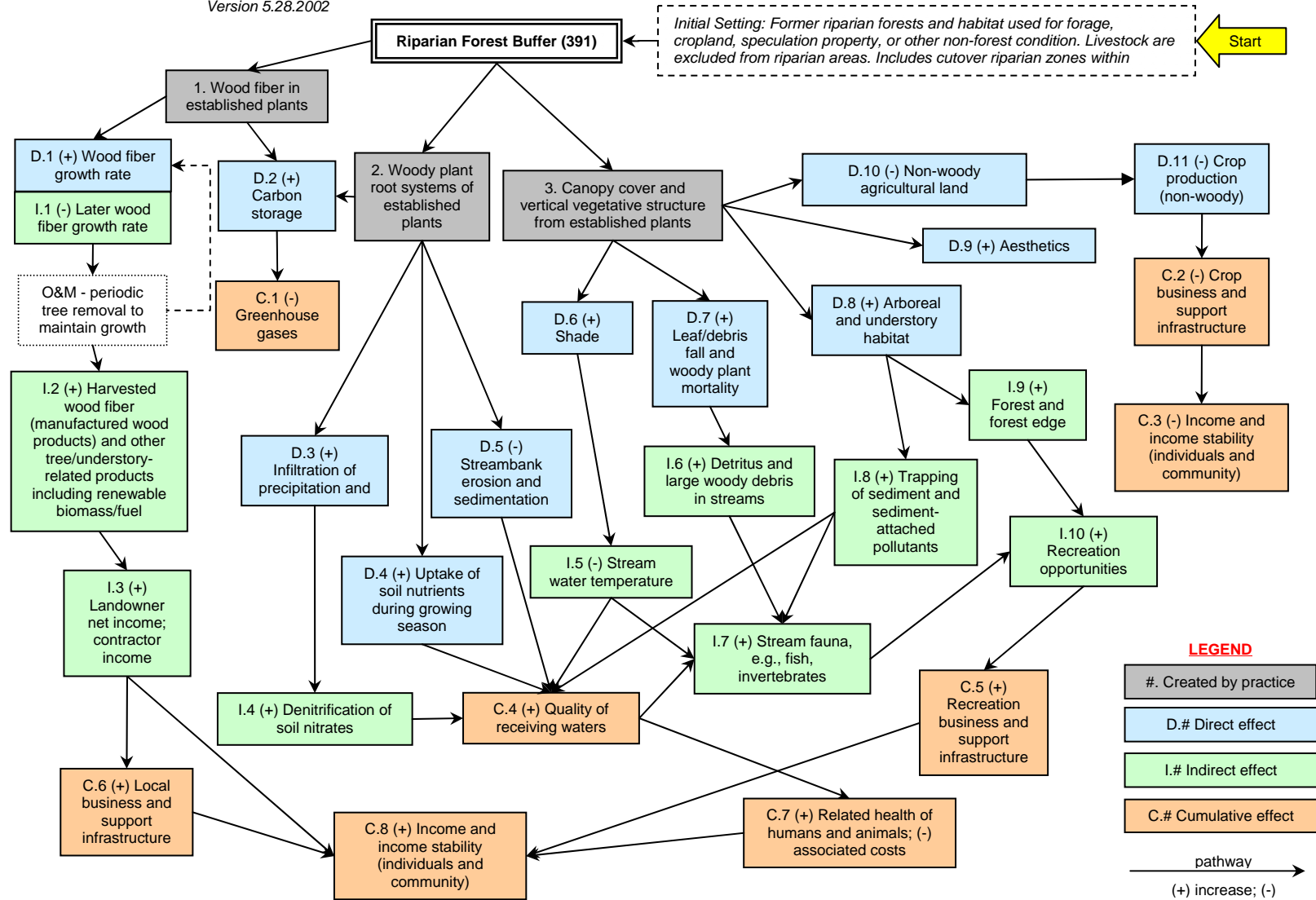
## Appendix D - Practice Effects Network Diagrams

Examples of two practices assessed for use in the 2002 "Farm Bill" (Farm Security and Rural Investment Act of 2002 at the federal level) are displayed on the following two pages. Direct, indirect and cumulative effects are shown for primary practices (double solid-line boxes) in context with associated practices (double dashed-line boxes). The "+" and "-" symbols in effects boxes denote *increase* or *decrease*, respectively, for the particular effect and do not equate with "good, bad, positive or negative."

The increase or decrease in effects are formulated from professional judgement, anecdotal information, research and field trials. They are estimated from the change in conditions caused by application of the practice(s) in comparison to conditions without the practices.

**Riparian Forest Buffer Practice**

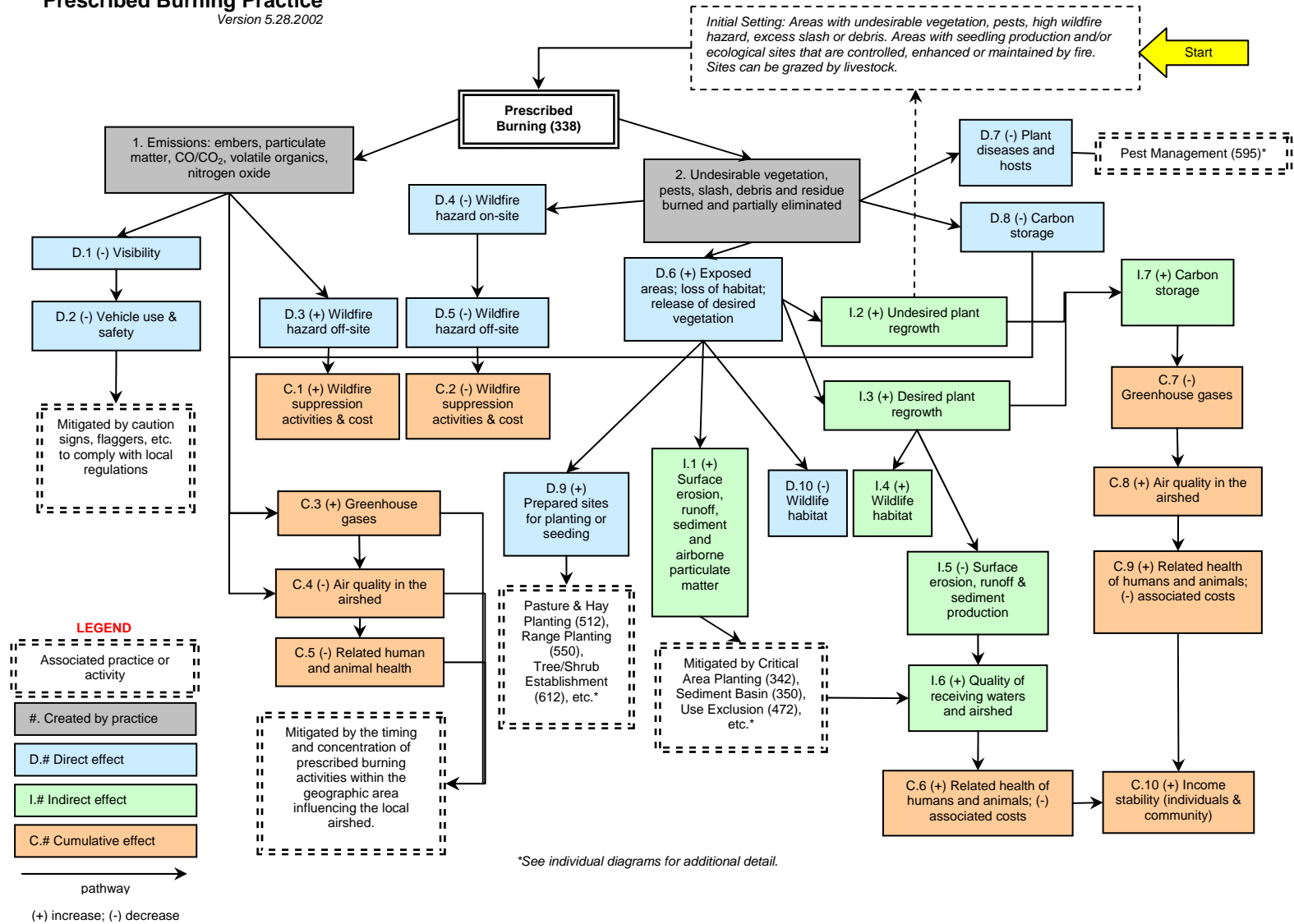
Version 5.28.2002



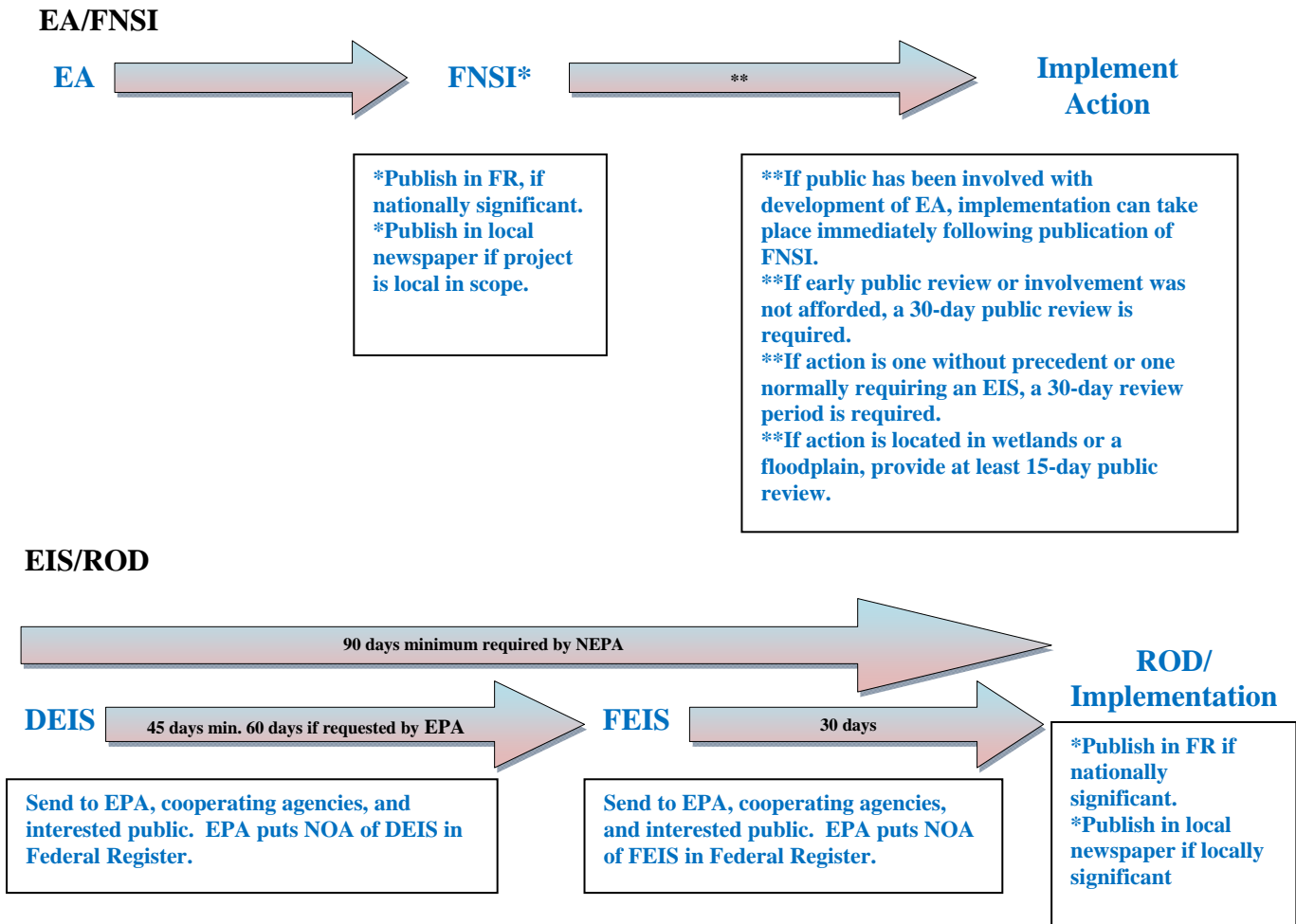


**Prescribed Burning Practice**

Version 5.28.2002



**610.129 Review Timeframes for EA/FNSIs and EIS/RODs**



## 610.130 Sample FNSI

### **Finding of No Significant Impact for the Environmental Assessment on Maintenance Actions at the Lake Apopka Wetlands Reserve Project**

#### I. AGENCY ROLE AND RESPONSIBILITY – United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS)

In accordance with the NRCS regulations (7 CFR Part 650) implementing the National Environmental Policy Act (NEPA), NRCS has completed an environmental review of the following **proposed action**.

The proposed action includes various minor maintenance actions to maintain conditions on previously remediated and restored wetlands sites at Unit 1 Lake Apopka.

#### II. NRCS DECISION TO BE MADE

As the delegated responsible Federal official for compliance with NEPA, I must make the following decision:

##### 1. Issuance of a Compatible Use Authorization.

I must also determine if the agency's preferred alternative (alternative 2) will or will not be a major Federal action significantly affecting the quality of the human environment. The EA accompanying this finding has provided the analysis needed to assess the significance of the potential impacts from the selected alternative. The decision on which alternative is to be implemented and the significance of that alternative's impacts are under part VII of this finding.

#### III. PURPOSE AND NEED FOR ACTION

The underlying need for action is to prevent degradation of previously restored and remediated wetlands sites and to ensure protective measures are continued to be implemented for protection of cultural resources. Maintenance actions proposed to accomplish this are described in detail in the EA.

#### IV. ALTERNATIVES CONSIDERED IN THE EA

Two alternatives were analyzed in the EA and are characterized as follows:

Alternative 1: No Action – Maintenance actions are not authorized and not implemented

Alternative 2: Agency Preferred Alternative – Maintenance actions are authorized and implemented

## V. NRCS'S DECISION AND FACTORS CONSIDERED IN THE DECISIONS

Based on the evaluation in the EA, I have chosen to select alternative 2 as the agency's preferred alternative. I have taken into consideration all of the potential impacts of the proposed action, incorporated herein by reference from the EA and balanced those impacts with considerations of the agency's purpose and need for action.

In accordance with the Council on Environmental Quality's (CEQ) "40 Most Asked Questions" guidance on NEPA, Question 37(a), NRCS has considered "which factors were weighed most heavily in the determination" when choosing the agency preferred alternative (alternative 2) to implement. Specifically, I acknowledge that based on the EA, potential impacts to soil, water, air, plants, fish and wildlife, and human resources were heavily considered in the decision. As a result, the agency's preferred alternative (alternative 2) would result short and long term beneficial impacts to the environmental resources potentially impacted by the preferred alternative.

## VI. FINDING OF NO SIGNIFICANT IMPACT

To determine the significance of the action analyzed in this EA, the agency is required by NEPA regulations at 40 CFR Section 1508.27 and NRCS regulations at 7 CFR Part 650 to consider the context and intensity of the proposed action. Based on the EA, review of the NEPA criteria for significant effects, and based on the analysis in the EA, I have determined that the action to be selected, alternative 2 (agency preferred alternative), would not have a significant effect upon the quality of the human environment. Therefore, preparation of an environmental impact statement (EIS) on the final action is not required under section 102(2)(c) of the NEPA, CEQ implementing regulations (40 CFR Part 1500-1508, Section 1508.13), or NRCS environmental review procedures (7 CFR Part 650). This finding is based on the following factors from CEQ's implementing regulations at 40 CFR Section 1508.27 and from NRCS regulations at 7 CFR Part 650:

- 1) The EA evaluated both beneficial and adverse impacts of the proposed action. It is anticipated the proposed action will result in long-term beneficial impacts for environmental resources (i.e., soil, air, water, animals, plants, and human resources). As a result of the analysis (discussed in detail in section 4 and incorporated by reference), alternative 2 does not result in significant impacts to the human environment, particularly when focusing on the significant adverse impacts which NEPA is intended to help decisionmakers avoid, minimize, or mitigate.
- 2) Alternative 2 does not significantly affect public health or safety. The indirect effects associated with the implementation of the maintenance actions are in fact anticipated to provide long term beneficial impacts to improve natural ecosystem functions. Specifically, soil, water, air, fish and wildlife, plants, and cultural issues will be improved and protected through selection of alternative 2.
- 3) As analyzed in section 3.0 of the EA, there are no anticipated significant effects to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas from selection of alternative 2. NRCS regulations (7 CFR Part 650) and policy (Title 420, General Manual, Part 401), require that NRCS identify, assess, and avoid effects to

historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. In accordance with these requirements, it is not anticipated that implementing alternative 2 would have adverse effects on these resources. On the contrary, alternative 2 is expected to reduce environmental risks associated with past, present, and future restoration actions on the property.

- 4) The effects on the human environment are not considered controversial for alternative 2. There are no impacts associated with the proposed action that would be considered to be controversial.
- 5) Alternative 2 is not considered highly uncertain and does not involve unique or unknown risks.
- 6) Alternative 2 will not establish a precedent for future actions with significant effects, nor does it represent a decision in principle about future considerations.
- 7) Particularly when focusing on the significant adverse impacts which NEPA is intended to help decisionmakers avoid, minimize, or mitigate, alternative 2 does not result in significant adverse cumulative impacts to the human environment as discussed in section 3.X of the EA. Alternative 2 is, however, anticipated to result in beneficial long-term impacts as a result of implementation of the maintenance actions.
- 8) Alternative 2 will not cause the loss or destruction of significant scientific, cultural, or historical resources as addressed in section 3.X of the EA. NRCS follows the procedures developed in accordance with a nationwide programmatic agreement between NRCS, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, which called for NRCS to develop consultation agreements with State historic preservation officers and federally recognized Tribes (or their designated Tribal historic preservation officers). These consultation agreements focus historic preservation reviews on resources and locations that are of special regional concern to these parties.
- 9) Alternative 2 will not adversely affect endangered or threatened species, marine mammals, or critical habitat as discussed in section 3.X of the EA. NRCS has concluded that the maintenance actions that have been proposed either have no effect on threatened and endangered species or will not likely adversely affect threatened and endangered species. The United States Fish and Wildlife Service, which has jurisdiction over these species, has reviewed our conclusions and has concurred with our findings. The concurrence letter provided by USFWS is included in the EA under Section 6, "Attachments."
- 10) The proposed action does not violate Federal, State, or local law requirements imposed for protection of the environment as noted in section 3.X of the EA. The major laws identified with the selection of alternative 2 include the Clean Water Act, Clean Air Act, Magnuson-Stevens Fishery Conservation and Management Act, Endangered Species Act, National Historic Preservation Act, Marine Mammal Protection Act, the Executive order on Environmental Justice, and Migratory Bird Treaty Act. Alternative 2 is consistent with the requirements of these laws.

Based on the information presented in the attached EA, I find in accordance with 40 CFR Section 1508.13 that the selection of the agency preferred alternative (alternative 2) is not a major Federal action significantly affecting the quality of the human environment requiring preparation of an EIS.

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State Conservationist

**610.131 Sample Notice of Availability of a Finding of No Significant Impact  
(FNSI)**

Billing Code: 3410-16

**DEPARTMENT OF AGRICULTURE**

**Natural Resources Conservation Service**

**Upper North River Watershed Dam No. 77, Augusta County, Virginia**

**[Docket No. NRCS-20XX-00XX]**

**AGENCY:** Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture (USDA).

**ACTION:** Notice of a Finding of No Significant Impact

**SUMMARY:** Pursuant to Section 102[2][c] of the National Environmental Policy Act of 1969, the Council on Environmental Quality Regulations [40 CFR Part 1500], and the Natural Resources Conservation Service Regulations [7 CFR Part 650], NRCS gives notice that an environmental impact statement is not being prepared for the rehabilitation of Upper North River Watershed Dam No. 77, Augusta County, Virginia.

**FOR FURTHER INFORMATION CONTACT:** John A. Bricker, State

Conservationist, Natural Resources Conservation Service, 1606 Santa Rosa Road, Suite 209, Richmond, Virginia 23229. Telephone (804) 287-1691, e-mail [jack.bricker@va.usda.gov](mailto:jack.bricker@va.usda.gov).

**SUPPLEMENTAL INFORMATION:** The environmental assessment of this federally assisted action indicates that the project will not cause significant local, regional, or national impacts on the environment. As a result of these findings, John A. Bricker, State

Conservationist, has determined that the preparation and review of an environmental impact statement is not needed for this project.

The project purpose is continued flood prevention. The planned works of improvement include upgrading an existing floodwater retarding structure.

The Notice of a Finding of No Significant Impact (FONSI) has been forwarded to the various Federal, State, and local agencies and interested parties. A limited number of the FONSI are available to fill single copy requests at the above address. Basic data developed during the environmental assessment are on file and may be reviewed by contacting John A. Bricker at the above number.

No administrative action on implementation of the proposal will be taken until 30 days after the date of this publication in the Federal Register.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2015, in Washington, D.C.

John A. Bricker,  
State Conservationist  
Natural Resources Conservation Service  
Richmond, Virginia

[This activity is listed in the Catalog of Federal Domestic Assistance under 10.904, Watershed Protection and Flood Prevention, and is subject to the provisions of Executive Order 12372, which requires inter-government consultation with State and local officials].



**610.132 Sample Notice of Intent for an Environmental Impact Statement (EIS)**

Billing Code: 3410-16

**DEPARTMENT OF AGRICULTURE**

**Natural Resources Conservation Service**

**Intent to Prepare an Environmental Impact Statement for the Green River/Tusher Diversion Dam Rehabilitation Project, Emery/Grand County, UT**

**[Docket No. NRCS-20XX-00XX]**

**AGENCY:** Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture (USDA).

**ACTION:** Notice of Intent (NOI) to Prepare an Environmental Impact Statement.

**SUMMARY:** Pursuant to section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. 4321–4370d, as implemented by the Council of Environmental Quality regulations (40 CFR parts 1500–1508) and Natural Resources Conservation Service (NRCS) regulations that implement NEPA at 7 CFR part 650, the NRCS Utah State Office announces its intent to prepare an Environmental Impact Statement (EIS) for the Green River/Tusher Diversion Dam Rehabilitation project.

The purpose of this notice is to alert interested parties regarding the intent to prepare the EIS, to provide information on the nature of the proposed action and possible alternatives, and to invite public participation in the EIS process (including providing comments on the scope of the draft EIS, to announce that a public scoping meeting will be conducted, and to identify cooperating agency contacts). The EIS process will

evaluate alternatives recommended for detailed study as a result of previous planning-level studies completed by NRCS and any additional (new) alternatives identified during scoping.

**DATES:** Written comments on the scope of the draft EIS, including the project's purpose and need, the alternatives to be considered, types of issues that should be addressed, associated research that should be considered, and the methodologies to be used in impact evaluations should be sent to NRCS starting on May 29, 2013 and ending on or before June 28, 2013 (5:00 p.m. MDT), to the address listed in the **ADDRESSES** section below. Comments submitted after June 28, 2013 will be considered to the extent practicable by the project team.

Two scoping meetings to present the project and develop the scope of the EIS will be held on Wednesday, June 12, 2013, via telebriefings. Participants should call (800) 346-7359 (entry code 840561) at least fifteen minutes prior to the meeting and an operator will connect you to the telebriefing. The first telebriefing will start at 2:00 p.m. (MDT) with a formal presentation and last until 2:45 p.m. An informal question and answer period will be held from 2:45 p.m. to 4:00 p.m. The second telebriefing will start at 6:00 p.m. (MDT) with a formal presentation and last until 6:45 p.m. An informal question and answer period will be held from 6:45 p.m. to 8:00 p.m. Presentation materials will be available on the project Web site (<http://www.ut.nrcs.usda.gov/programs/EWP/index.html>) for participants to download prior to the meeting.

Any individual who requires special assistance to participate in a scoping meeting, such as hard copy documentation of the meeting or other assistance, should

contact Mr. Greg Allington, McMillen, LLC, (208) 342-4214 or [greenriver@mcmillen-llc.com](mailto:greenriver@mcmillen-llc.com) by Friday, May 24, 2013 to allow sufficient time for documents to be mailed or special arrangements to be made.

Scoping meeting presentation materials will be available on the NRCS Utah Emergency Watershed Protection Web site (<http://www.ut.nrcs.usda.gov/programs/EWP/index.html>) prior to the meeting. Electronic copies of the scoping materials may also be obtained from Mr. Greg Allington, McMillen, LLC, (208) 342-4214 or [greenriver@mcmillen-llc.com](mailto:greenriver@mcmillen-llc.com). Representatives of Native American Tribal governments and of Federal, State, regional and local agencies that may have an interest in any aspect of the project will be invited to be cooperating agencies, as appropriate.

**ADDRESSES:** Formal scoping comments may be submitted via mail, email, fax, or oral telephone comment to:

- Contact: Mr. Greg Allington, McMillen, LLC,
- Mail: 1401 Shoreline Dr., Boise, Idaho 83702
- E-mail: [greenriver@mcmillen-llc.com](mailto:greenriver@mcmillen-llc.com)
- Fax: (208) 342-4216
- Telephone: (208) 342-4214.

Details of the public scoping meeting are given above under DATES. Comments should be submitted by close-of-business (5:00 p.m. MDT) June 28, 2013. Respondents should provide contact information if you wish to be included on the EIS mailing list. Please note that any respondent's entire scoping comment, including their personal contact information, may be made publicly available at any time during the EIS process.

**FOR FURTHER INFORMATION CONTACT:** Mr. Bronson Smart, State Conservation Engineer, Wallace F. Bennett Federal Building, 125 South State Street, Room 4010, Salt Lake City, Utah 84138–1100, or via email at [bronson.smart@ut.usda.gov](mailto:bronson.smart@ut.usda.gov). Information may also be obtained from Mr. Greg Allington, McMillen, LLC, 1401 Shoreline Dr., Boise, Idaho 83702, or via email at [greenriver@mcmillen-llc.com](mailto:greenriver@mcmillen-llc.com).

### **SUPPLEMENTARY INFORMATION**

Background - The NRCS and Utah Department of Agriculture and Food (UDAF) are analyzing alternatives to rehabilitate the Green River/Tusher Diversion Dam due to damage from the late 2010 and early 2011 flood events. The dam was constructed in the early 1900's and has been modified over the years to maintain the structure. During the 2010/2011 flood events, flows in the Green River caused severe damage to the diversion structure compromising its structural integrity. If the dam fails, water delivery to two irrigation canals, a historic irrigation water wheel delivery system, and one hydropower plant would be eliminated.

The rehabilitation of the diversion dam would be funded through the NRCS Emergency Watershed Protection (EWP) program (CFR, Title 7: Agriculture, Part 624 - Emergency Watershed Protection) via technical assistance and partial construction funding. A National Environmental Policy Act (NEPA) Programmatic EIS was prepared by NRCS for the overall EWP program in 2004; however, the rehabilitation of this diversion dam does not fit within the analysis parameters of the Programmatic EIS. Therefore, additional NEPA analysis is required for this project.

The project started out under the analysis of an Environmental Assessment (EA) during the first scoping period that was opened from October 30, 2012 to November 30, 2012. A public scoping meeting was held on November 15, 2012 at Green River City Hall in Green River, Utah. Through additional consultation with the Utah State Historic Preservation Office (SHPO) under Section 106 of the National Historic Preservation Act, it was determined that the diversion dam may be eligible for listing on the National Register of Historic Places. Any modifications to the dam may be considered an “adverse effect” which may make it ineligible for listing after rehabilitation. A wide range of alternatives is being considered for the project as listed in the **Alternatives** section below. Some of the impacts to the diversion dam from these alternatives may be considered “significant” to cultural resources and as a result, NRCS has decided to prepare an EIS for the project. The EIS will be prepared consistent with Title 390, The National Emergency Watershed Protection Program Manual.

The Upper Colorado Endangered Fish Recovery Program (Recovery Program) is proposing to fund and install a fish barrier in the west irrigation and hydropower plant canal to prevent Endangered Species Act (ESA) listed fish species from entering the canal and/or hydropower plant. As part of the dam repair, upstream and downstream fish passage may also be incorporated into the design. These fish protection and passage components are proposed for inclusion in the Green River diversion rehabilitation project to help reduce mortality of ESA listed fish species populations in the Green River.

Scoping Process - NRCS invites all interested individuals and organizations, public agencies, and Native American Tribes to comment on the scope of the EIS, including the project’s purpose and need, alternatives proposed to date, new alternatives that should be

considered, specific areas of study that might be needed, and evaluation methods to be used.

Background information including the project purpose and need and alternatives developed to date will be available prior to the scoping meeting on the NRCS Utah EWP Web site (<http://www.ut.nrcs.usda.gov/programs/EWP/index.html>). Electronic and hard copies of supporting documentation are also available from Mr. Greg Allington, McMillen, LLC, (208) 342-4214 or [greg.allington@mcmillen-llc.com](mailto:greg.allington@mcmillen-llc.com).

Once the scope of the EIS is confirmed upon the close of scoping, NRCS will begin preparation of the draft EIS. A summary of comments received during the scoping period will be compiled in a scoping report which will be available on the NRCS Utah EWP Web site.

Project Study Area and Environmental Setting - The proposed project is located approximately 6.6 miles north of the city of Green River in Emery/Grand Counties, Utah. The project study area includes land that is unincorporated on both sides of the Green River. The primary study area includes the diversion dam where rehabilitation activities would occur. Secondary study areas include areas required for alternatives of the project as described in the **Alternatives** section below such as the powerhouse raceway, irrigation canal on the east side of the diversion dam, construction staging areas on both sides of the river, and potential impacts to the river and riparian area upstream of the diversion dam.

The environmental setting for the project area is primarily located in a riverine environment surrounded by a relatively narrow riparian plant community adjacent to the river. Beyond the riparian community are agricultural fields on the east side of the

diversion dam and BLM land on the west side of the diversion dam that is primarily comprised of desert shrubs and grasses.

Environmental resources consist of the natural and man-made environment. Preliminary resource concerns associated with the rehabilitation of the diversion dam may include both beneficial and negative impacts to water quality and supply, fish, threatened and endangered species, cultural, recreation, aesthetics, and public health and safety.

Alternatives - NRCS is analyzing the following conceptual alternatives to rehabilitate the diversion dam:

- Repair Existing Diversion Dam: Repair the existing diversion to safely pass flood events.
- Replace Existing Diversion Dam: Demolish the existing diversion dam and install a new dam in the same location.
- Replace Diversion Dam Downstream: Demolish the existing diversion dam and install a new diversion dam downstream.
- Replace Diversion Dam Upstream: Demolish the existing diversion dam and install a new diversion dam upstream.
- Diversion Decommissioning: Completely remove the diversion dam from the river and stabilize the diversion site. The existing water rights at the dam would be supplemented via pumping out of the river or other options to provide water to the water rights holders.

- Fish Passage Upstream/Downstream: Construct a passage system(s) on the dam to allow safe upstream and downstream passage of fish over the diversion dam.
- Electric Fish Barrier: Install an electric fish barrier to prevent fish from swimming into the powerhouse and irrigation canal on the west side of the diversion dam.
- Fish Barrier: Install a fish barrier to prevent fish from swimming into irrigation canal on the east side of the diversion dam.
- Boat Passage Upstream/Downstream: Construct a passage system(s) on the dam to allow safe downstream passage of boats past the diversion dam.

NRCS will consider any viable alternatives brought forward during scoping if it is substantially different from the alternatives described above. NRCS will also study a No-Action alternative which would consist of no Federal money used for the rehabilitation of the diversion dam.

Cooperating Agencies - Federal, State, and local agencies that may be interested in or affected by the project may request or be requested by NRCS to become a cooperating agency in the development of the EIS.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2013, in Salt Lake City, Utah

David C Brown

Utah State Conservationist, Natural Resources Conservation Service.



## **610.133 Sample ROD**

# **RECORD OF DECISION KENSINGTON GOLD PROJECT**

## **DECISION TO BE MADE**

This Record of Decision (ROD) documents the decision by the U.S. Environmental Protection Agency (EPA) Region 10 to issue a National Pollutant Discharge Elimination System (NPDES) permit for discharges from the Kensington portal to Sherman Creek, discharges of treated domestic wastewater to Lynn Canal, and discharges from the proposed tailings storage facility (TSF) to East Fork Slate Creek. This project is considered a new source discharge and, in accordance with Section 511(c)(1) of the Clean Water Act, is subject to the provisions of the National Environmental Policy Act (NEPA).

The ROD is issued pursuant to NEPA (42 U.S.C. §4321 et seq.), the Council of Environmental Quality (CEQ) NEPA regulations (40 CFR Parts 1500-1508), and EPA's NEPA implementing regulations (40 CFR Part 6, Subpart F). EPA participated in the development of the Kensington Gold Project Final Supplemental Environmental Impact Statement (FSEIS) as a cooperating agency, with the U.S. Forest Service (USFS) as the lead agency. EPA's decision to issue an NPDES permit is based upon the analysis in the FSEIS as supplemented by the U.S. Army Corps of Engineers (USACE) Clean Water Act 404(b)(1) analysis, which identified alternative D as the least environmentally damaging practicable alternative. The Notice of Availability of the FSEIS was published in the Federal Register by the USFS on December 23, 2004. EPA issued the draft NPDES permit on June 21, 2004 for a 45-day comment period. Public hearings were held in Juneau, Alaska on July 26, 2004 and in Haines, Alaska on July 27, 2004. EPA's response to comments on the draft NPDES permit is included in Appendix A.

## **INTRODUCTION**

The Kensington Gold Project is an underground gold mine located approximately 45 miles north-northwest of Juneau, Alaska, in the Tongass National Forest (Figure 1; FSEIS Figure 1-1). The Kensington project has undergone three iterations of environmental review and was previously permitted in 1998. In 1990, the Kensington Venture (a joint venture between Coeur Alaska, Inc. [Coeur] and Echo Bay Exploration) first submitted plans to develop the mine to the USFS. The USFS completed the Final Environmental Impact Statement (FEIS) in 1992. The 1990 plan included underground mining to recover the ore, processing the ore via flotation, cyanidation, gold refining, and disposal of the tailings in a tailings impoundment built in the Sherman Creek drainage. The impoundment would have been sized to accommodate 30 million tons of tailings. The proposal included discharging wastewater to Lynn Canal following treatment, and shuttling employees to the mine site using helicopters. The operation would have

used liquefied petroleum gas to fuel onsite generators. A marine terminal developed at Comet Beach in Lynn Canal would have handled supply deliveries and gold shipments. The Kensington Venture never obtained all the permits necessary to build the mine, and in 1995 Coeur became the sole stakeholder in the property. Coeur then, in 1995, submitted an amended plan of operations to the USFS. In June 1996 Coeur revised the 1995 plan in response to issues raised during scoping.

The 1996 amended plan included removal of the cyanide circuit and offsite processing of the flotation concentrate, backfilling a portion of the tailings in the mine, and disposal of the remaining tailings in a 20 million ton dry tailings facility (DTF) constructed between Sherman and Sweeny creeks. Coeur's proposal also included using diesel instead of liquefied petroleum gas to fuel generators, and discharging mine water to Sherman Creek and DTF effluent to Camp Creek. The 1996 plan was analyzed in the Final Supplemental EIS and approved by the USFS in a ROD signed in August 1997. Coeur obtained all permits necessary for construction from federal, state, and local authorities, including an NPDES permit from EPA, issued on May 14, 1998 (Permit No. AK-005057-1). The permit authorized discharge of drainage from the Kensington portal, which is treated and discharged to Sherman Creek. It also authorized the discharge from the permitted DTF to Camp Creek and domestic wastewater discharge to Lynn Canal.

In November 2001, Coeur submitted another amendment to the plan of operations to the USFS. This plan, which initiated a second supplemental environmental impact statement, proposed a number of changes to the approved plan, including changing the location of the processing facilities, tailings disposal, and site access and employing a different means of transportation. The operation would also mine a smaller portion of the ore body containing higher average gold concentrations. This amendment also proposes to use a dock to be built at Cascade Point on property held by Goldbelt Incorporated, an Alaska Native corporation. The 2001 amended plan formed the basis for Alternative B for the December 2004 FSEIS. The USFS selected Alternative D in a ROD signed on December 9, 2004. Coeur revised its plan of operations to conform to Alternative D in May 2005. The USFS approved the plan of operations in June 2005.

The purpose of the proposed action is to consider changes to the previously permitted project. The changes were intended to improve efficiency and reduce the area of surface disturbance associated with the 1997 mining plan and to provide more reliable transportation and access by improving worker safety during transit to the site and eliminating shipping delays related to weather and sea conditions at Comet Beach. The improved reliability of access would allow Coeur to reduce the amount of diesel storage, as well as inventories of materials and supplies. Tailings disposal would require a smaller area of surface disturbance under the proposed action compared to the 1997 plan by utilizing a 20-acre lake for tailings storage (Lower Slate Lake).

The U.S. Forest Service was the lead agency for preparation of the Kensington Gold Project Final Supplemental EIS. EPA, the U.S. Army Corps of Engineers, and the State of Alaska Department of Natural Resources (ADNR) were cooperating agencies because of the federal and state authorizations and approvals required for this project. EPA was a cooperating agency because of a decision regarding NPDES permit issuance. In accordance with NEPA, the FSEIS was prepared to reduce duplication, excessive paperwork and delay, and to address federal and state regulatory requirements. Through EPA's participation as a cooperating agency, we have determined that the FSEIS adequately describes the potential direct, indirect, and cumulative effects associated with the Kensington Mine Project.

Sections 301 and 306 of the Clean Water Act (CWA) require that EPA develop wastewater effluent standards for specific industries, including gold mines. These standards are established for both existing sources and “new sources.” Because this project would be a new source, the New Source Performance Standards (NSPS) for gold mines and mills are applicable to the project (40 CFR 440.104). NPDES permit limits and requirements are established to ensure compliance with the NSPS and state water quality standards. The NSPS include effluent limits applicable to discharges of mine drainage; they also prohibit the discharge of process water (including mine tailings). An exception is provided for excess flows associated with net precipitation and/or comingled mine water where discharge of such flow is subject to the comparable effluent limits for mine drainage. In states that have not been delegated NPDES permitting authority, such as Alaska, EPA is authorized to permit point source discharges of effluent, including process wastewater and stormwater. Where EPA is the permitting agency, the regulations provide that issuance of a new source NPDES is subject to the environmental review requirements of NEPA.

The 5-year NPDES permit issued by EPA for the 1998 project expired on May 14, 2003, but was administratively extended until a new permit is issued because Coeur submitted a timely application in October 2002. Couer submitted a revised application for an NPDES permit on March 16, 2004. The final NPDES application submittal, consistent with the proposed project revisions, was made on June 15, 2004. The application addresses the current discharge to Sherman Creek, treated domestic wastewater discharge during construction, and the proposed discharge from the tailings storage facility (TSF) in Lower Slate Lake.

## **PROPOSED MINING OPERATION**

The Kensington ore body extends from the surface to a depth of approximately 3,000 feet and is irregular in both shape and distribution of gold. After a 2-year construction period, mining would be accomplished over a projected period of 10 years using a long hole, open stoping method. Ore would be mined at a rate of 2,000 tons per day targeting high-grade gold ore. Ore would be hauled by truck to the mill site located near the Jualin mining area. After crushing, the ore would be transferred to a grinding circuit. Following grinding, oversized material would be returned to the head of the grinding operation, while undersized material would be separated into coarse and fine materials using centrifugal cyclones. From the cyclones, heavy material would go to a gravity concentrator and light material would go to a conditioning tank that feeds a flotation circuit. Concentrate from the gravity concentrator and the flotation circuit would be dewatered, and approximately 700 tons per week of concentrate would be transported from the site. From 2,000 tons of ore per day, mining and processing would produce approximately 400 tons of waste rock per day and approximately 7.5 million tons of tailings over the lifetime of the proposed project.

Waste rock would be disposed in two disposal areas near the Kensington portal and near the Jualin mine area. Tailings would be separated into coarse and fine fractions. The coarse tailings would be pumped to the mine areas that need backfill. At least 40% of the tailings would be backfilled. The fine fractions would be disposed in the tailings storage facility.

Mine drainage is currently combined with runoff from waste rock piles and other disturbed areas and discharged to Sherman Creek through Outfall 001, pursuant to the 1998 NPDES permit. Underground workings that produce mine drainage, as well as waste rock, were developed as part of exploration activities and will be expanded as active mining operations are initiated. Water from mine dewatering operations will continue to be collected, clarified, and filtered underground, if necessary, and then pumped to an above

ground mine water treatment facility. Although the revised proposal includes access to the workings by tunnels from both the Kensington and Jualin sides of the property, all mine drainage would be collected and routed to Outfall 001.

Tailings slurry from the mill would flow through a 3.5-mile pipeline to the TSF, which would be formed by the natural lake basin of Lower Slate Lake and a dam constructed at the outlet of the lake. The dam would be a concrete-faced rockfill dam constructed in two phases. The TSF would be designed to hold 4.5 million tons of tailings. Mid-lake East Fork Slate Creek would be diverted around the TSF. Creek water would be removed from behind a constructed berm through a 20-inch diversion pipeline. The TSF will receive water from slurry transport of tailings as well as undiverted natural inflows from drainage areas immediately adjacent to the TSF and overflows from the berm. Water will be recycled from the TSF to the mill at a rate of approximately 100 gallons per minute (gpm). The discharge from the TSF (Outfall 002) will be treated via reverse osmosis then combined with the diverted natural flows and pumped into the East Fork Slate Creek drainage below the TSF.

## **DESCRIPTION OF PROJECT ALTERNATIVES**

NEPA requires that agencies consider alternatives to the proposed action that address the significant issues identified during the scoping process. NEPA also requires that the alternatives analysis include a No Action Alternative. Because the FSEIS is a supplement to a NEPA analysis that resulted in a permitted project (the 1997 mining plan), the No Action Alternative in this case represents no changes to the approved project. The FSEIS also includes an alternative (Alternative A1) that reflects a mining scenario that could occur if the No Action Alternative was selected, i.e., the operator could choose to lower the production rate and pursue a smaller portion of “high-grade” gold ore similar to what is proposed in the proposed action. The following discussion and Table 1 provides a summary of the No Action Alternative (Alternative A), reduced mining rate of the No Action Alternative (A1), and three action alternatives (Alternatives B, C, and D). Section 2 of the 2004 FSEIS provides detailed descriptions of each of the following alternatives for the Kensington Gold Project.

### **Alternative A – No Action**

The No Action Alternative functions as the baseline against which the effects of other alternatives are compared. As noted above, the No Action Alternative represents a previous action, which in this case is the 1997 mining plan that received agency approval and authorizations in 1998. Alternative A corresponds to the 1997 SEIS Alternative D. Alternative A includes mining the entire ore body and underground crushing of ore with aboveground grinding and flotation. Flotation concentrate would be shipped to a processing facility offsite. There would be no onsite cyanidation circuit. Employees would be housed onsite and transported by helicopter for weekly rotations. Supplies, including fuel, would be delivered to a marine terminal constructed on Comet Beach. Approximately 25 percent of the tailings would be backfilled. The rest of the tailings would be dewatered before being placed in the DTF. The DTF would have the design capacity to hold 20 million tons of tailings and would include an engineered berm around each cell of the facility. Wastewater from tailings dewatering would be treated and discharged to Sherman Creek. The production rate would be 4,000 tons of ore per day and 400 tons of waste rock per day. The waste rock would be used in the construction of the DTF. Road and DTF construction would require the development of sand and gravel and till borrow areas.

### **Alternative A1 – Reduced Mining Rate, DTF**

Alternative A1 reflects a mining plan similar to that described for Alternative A but uses the same mining rate and tailings production levels consistent with Alternatives B, C, and D (2,000 tons per day and 7.5 million tons total, respectively).

Alternative A1 would result in 4.5 million tons of tailings being placed in the DTF, assuming that 40 percent of the tailings would be backfilled. The DTF would be approximately 65 percent smaller than it would be under Alternative A. The reduced mining rate presented under Alternative A1 would produce very limited amounts of waste rock. Because waste rock would not be available for use in DTF construction under this alternative, the impact analysis assumes the same number of acres of sand and gravel borrow areas would be required as under Alternative A, although the coarse and fine till borrow areas would be reduced in size. Other aspects of Alternative A1, including wastewater management and transportation of employees and materials, would be the same as those described under Alternative A.

### **Alternative B – Coeur’s Proposed Action**

Alternative B reflects a number of changes to the mine plan compared to the No Action Alternative. These changes include construction of a TSF in Lower Slate Lake for tailings disposal instead of the dry tailings facility, relocating milling operations to the Johnson Creek drainage, and eliminating the personnel camp. The operation would mine a smaller amount of ore with a higher average gold concentration compared with that proposed under Alternative A. The production rate would be approximately 2,000 tons of ore per day. Alternative B would include the development of a tunnel connecting the Kensington and Jualin areas of the mine. Access to the site would be from marine terminals built in Slate Creek Cove and at Cascade Point (Figure 2; FSEIS Figure 1-2). A daily shuttle boat service would transport employees to and from the project site. The TSF would be sized to accommodate the disposal of 4.5 million tons of tailings (Figure 3; FSEIS Figure 2-6), while approximately 3.0 million tons of tailings would be used as backfill in the mine. Borrow areas would be developed for construction of the TSF dam and roads. This alternative includes recycling water from the TSF to the mill circuit. Alternative B would require upgrading the 5-mile-long access road and constructing a 3.5-mile pipeline access road and a 1-mile cutoff road connecting the other two roads.

### **Alternative C – Dock Location and Design/Diversion**

Alternative C is the same as Alternative B except it includes surface water diversions around the TSF and a marine terminal at Echo Cove instead of Cascade Point. The dock in Echo Cove would be located approximately 0.75 mile north of the existing Echo Cove boat ramp (Figure 2; FSEIS Figure 1-2). Mine workers would use this dock to reach the shuttle boat that would transport them to the dock at Slate Creek Cove. The landing craft ramp at the Slate Creek Cove marine terminal would be eliminated, minimizing the amount of fill placed in the intertidal zone. Alternative C would not include recycling water from the TSF and the mill circuit. This alternative would include diversion channels to direct the flow from Mid-Lake East Fork Slate Creek and overland runoff from undisturbed areas around the TSF (Figure 4; FSEIS Figure 2-9). The diversion would discharge to a spillway at the top of the TSF dam. The diversion would require a dam on Upper Slate Lake to maintain water levels sufficient to reach the spillway at the TSF dam. The purpose of the diversion would be to minimize the volume of fresh water in contact with the tailings.

## **Alternative D – Modified TSF Design and Water Treatment**

Alternative D was developed to address concerns about the TSF effluent meeting NPDES permit limits for protection of downstream water quality in East Fork Slate Creek below the TSF. Alternative D is the same as Alternative B, except it also includes diversion of stormwater and surface water around the TSF, TSF outfall water treatment, and a tailings cap at closure. Alternative D includes a dam in Mid-Lake East Fork Slate Creek that would gravity-feed a pipeline diversion around the TSF (Figure 5; FSEIS Figure 2-12). Water would be treated prior to discharge from the TSF via a reverse osmosis treatment system, which would provide solids and metals removal to ensure compliance with permit limits. Effluent from the treatment system would discharge to the diversion pipeline. Alternative D also requires a cap over the tailings at closure unless the operator could demonstrate to the USFS, USACE, ADNR, and EPA that the tailings are not toxic.

## **ENVIRONMENTALLY PREFERABLE ALTERNATIVE**

The environmentally preferable alternative ordinarily “means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources” (CEQ, 1981: Forty Most Asked Questions, no. 6a).

On December 1, 2004, at the request of the U.S. Forest Service, EPA submitted its designation of an environmentally preferable alternative for inclusion in the FSEIS. EPA’s selection of an environmentally preferable alternative was based on the record at the time, which lacked two important elements. First, the record lacked a completed ESA analysis by the National Marine Fisheries Service (NMFS) addressing potential impacts to listed species and designated critical habitat in Berners Bay. Second, the record lacked a completed Clean Water Act (CWA) § 404(b)(1) analysis from the U.S. Army Corps of Engineers, which must determine the least environmentally damaging practicable alternative and address significant degradation.

Based on information available at the time and on EPA’s comparative analysis of the alternatives, EPA concluded that Alternative A is the Environmentally Preferable Alternative. Alternative A is the only alternative that avoids the habitat loss and the loss of natural ecological functions in Lower Slate Lake during mine operations. Alternative A also avoids impacts to critical habitat and resources in Berners Bay that would result from dock construction, operation, and vessel activities. The USFS and the ADNR identified both Alternatives A and D as environmentally preferable.

Since that time, NMFS has issued a Biological Opinion (BO) and the Corps of Engineers has issued CWA 404 permits for the project. In the BO, issued on March 18, 2005, NMFS stated that individual Stellar sea lions and humpback whales within the action area may be adversely impacted. However, the BO concluded that Alternative D, as proposed, is not likely to jeopardize the continued existence of listed species, or destroy or adversely modify designated critical habitat found in proximity to the action area. NMFS maintained its earlier recommendation to use an alternative dock location to Cascade Point, preferably outside Berners Bay, to facilitate transportation of crews to the mine. The BO also included a list of conservation recommendations to minimize adverse effects to the listed species.

The Corps of Engineers CWA 404(b)(1) analysis, issued with the Record of Decision and CWA 404 permit, on June 17, 2005, concluded that Alternative D is the least environmentally damaging alternative

based on acreages of wetland impacts. The Corps also concluded that Alternative D is economically more attractive than the previously permitted project.

The USFS selected Alternative D and approved the modifications to the 1997 Approved Plan of Operations in its Record of Decision (December 2005). The State of Alaska has also issued its decisions, authorizations, and certifications for Alternative D.

However, for the reasons discussed in our December 1, 2004, letter, EPA continues to believe that Alternative A is environmentally preferable.

## **EPA DECISION**

EPA's decision regarding the Kensington Gold Project involves the issuance of an NPDES permit based on Coeur's NPDES permit application, which reflects Alternative D. The permit sets conditions on the discharges of pollutants from the mine to Sherman Creek (Outfall 001), from the TSF to East Fork Slate Creek (Outfall 002), and domestic wastewater to Lynn Canal (Outfall 003).

Outfall 001 represents the discharge from settling facilities that collect treated (metals precipitation and filtration) mine drainage from mine dewatering operations and runoff from waste rock piles and other disturbed areas in the Sherman Creek drainage. Outfall 002 will discharge water from the TSF, which includes the natural lake basin of Lower Slate Lake and a constructed retention embankment at the outlet of the lake. Outfall 003 will discharge treated domestic wastewater for the Kensington Mine camp during construction. No permanent camp is proposed to remain at the site during the operation phase of the project. The NPDES permit includes effluent limitations specific to each outfall and other requirements to ensure water quality protection in each of the water bodies mentioned above, including compliance with the Alaska Water Quality Standards (AWQS) for aquatic life and human health.

EPA made the draft NPDES permit and Fact Sheet available for a 45-day public review period on June 21, 2004. The draft permit contained effluent and receiving water (ambient) monitoring requirements as well as requirements that the permittee develop a Best Management Practices program for the control of toxic and hazardous pollutants.

The final permit and response to comments are included in this ROD in Appendix A.

## **FACTORS CONSIDERED IN THE DECISION**

### **Scope of EPA's Clean Water Act § 402 Authority**

EPA's NPDES permitting authority is limited to issuing permits based on NPDES permit applications we receive, so long as it is feasible for the project, as described in the application, to meet water-quality based limits. Coeur applied for an NPDES permit to discharge wastewater based on Alternative D. Coeur has gained approval to begin construction and operation of the Kensington Mine Project from the USFS, the USACE, and the State of Alaska, whose consent or authorization is necessary. Coeur has demonstrated their ability to implement treatment options (such as reverse osmosis for Outfall 002) that will enable them to meet permit limits.

### **Receiving Waters**

The permit authorizes discharges through three outfalls. Outfall 001 discharges mine water to Sherman Creek, and is located at latitude 58° 52' 04" North and longitude 135° 06' 55" West. Outfall 002 will discharge from the TSF to East Fork Slate Creek at latitude 58° 49' 58" North and longitude 134° 57' 58" West. Outfall 003 will discharge treated domestic wastewater to Lynn Canal at latitude 58° 51' 58" North and longitude 135° 8' 28" West.

East Fork Slate Creek and Sherman Creek are designated by the State as protected for water supply (drinking, culinary, and food processing; agricultural irrigation and stock watering; aquaculture; and industrial); contact and secondary recreation; and growth and propagation of fish, shellfish, other aquatic life, and wildlife (18 ACC 70.020(2)). Lynn Canal is protected for marine water supply (aquaculture, seafood processing and industrial); water recreation (contact and secondary); growth and propagation of fish, shellfish, other aquatic life, and wildlife; and harvesting for consumption of raw mollusks or other raw aquatic life.

### **Description of Discharges**

#### **Outfall 001**

Outfall 001 represents the discharge from settling facilities into Sherman Creek. Inflows to the sediment ponds include treated mine drainage from mine dewatering operations and runoff from waste rock piles and other disturbed areas in the Sherman Creek drainage. The sediment pond has two cells. Stormwater runoff from waste rock and disturbed areas is routed to Cell 1 via a riprap-lined spillway, which is sized to handle runoff from a 100-year, 24-hour precipitation event. A spillway, notched in the center berm, allows flow from Cell 1 to Cell 2. Cell 2, which is designed to treat water from mine dewatering operations and high flows from Cell 1, has been conservatively designed to hold settled solids for the life of the mine. Discharge from Cell 2 to Outfall 001 occurs through a perforated decant pipe with a design capacity to handle the 10-year, 24-hour storm event. Discharge flows from Outfall 001 will initially increase due to increased mine development area and will vary over time due to stormwater runoff.

Coeur estimates the rate of mine dewatering to generally range from 1.33 and 2.45 cubic foot per second (cfs). All of the flow will be collected in sumps within the mine where initial settling will occur. Mine drainage will be pumped to the mine water treatment system for metals precipitation and filtration. Settled solids will be added to tailings that are backfilled into the mine. Filter backwash will be recycled to the underground mine water treatment system.

#### **Outfall 002**

Outfall 002 will discharge water from the TSF to East Fork Slate Creek. The natural lake basin of Lower Slate Lake and a constructed retention embankment at the outlet of the lake will form the TSF. TSF inflows include tailings slurry from mill operations, precipitation that falls onto the lake, storm water runoff from upland areas adjacent to the TSF, and flows from Mid-Lake East Fork Slate Creek (if the flows are too high for the diversion to accommodate). The upstream flow in East Fork Slate Creek will be collected and transferred to a 20-inch diversion pipeline.

Tailings slurry will flow by gravity from the mill to the TSF in a 3.5-mile pipeline. The pipeline will be double-walled high density polyethylene (HDPE) and/or steel. The tailings slurry will be discharged into the TSF through perforations in a submerged portion of the tailing delivery pipeline. The pipeline will be



operated so that a portion of the perforated segment is always above the bottom of the TSF, allowing the tailings to flow freely from the pipe.

The average slurry throughput to the TSF is projected to be 354 gpm with an average solids content of 55 percent by weight (i.e., the water component of the slurry will be approximately 247 gpm). A portion of the slurry water will be entrained in the tailings and will be unavailable for recycle. Coeur will recycle an average of 100 gpm out of the TSF back to the mill.

Coeur initially proposed to discharge effluent via Outfall 002 without treatment other than best management practices (BMPs) to enhance settling. However, water quality modeling indicated that total suspended solids (TSS) limits may not be achieved without additional treatment. In addition, background levels of aluminum in East Fork Slate Creek and Lower Slate Lake occasionally exceed the permit limits. As a result, Coeur amended its NPDES permit application to incorporate a reverse osmosis (RO) treatment system into the TSF design. The RO system will reduce levels of both aluminum and TSS to below permit limits and provide additional removal of other pollutants. A maximum total of 1,100 gpm is authorized to be discharged out of Outfall 002.

### **Outfall 003**

The discharge of treated domestic wastewater for the Kensington Mine camp was previously permitted for use during exploration, construction and production. The current project anticipates the use of the camp through exploration and construction. No permanent camp is proposed for the site during the operation phase of the project. Domestic wastewater will be treated and discharged from Outfall 003 to Lynn Canal. The average flow for the plant during construction is estimated at 30,000 gallons per day (gpd), or 20.8 gpm, based on sizing to accommodate 300 people.

### **Endangered Species Act (ESA)**

Section 7(a)(2) of the Endangered Species Act (ESA) requires Federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), as appropriate, to ensure that their actions do not jeopardize the continued existence of species listed as threatened or endangered under ESA, or destroy or adversely modify their critical habitat.

Through the NEPA process, EPA obtained a list of threatened and endangered species. On June 21, 2004, EPA sent a copy of the draft NPDES permit and Fact Sheet to NMFS and USFWS. In the Fact Sheet, EPA stated we do not expect the discharges from the facility, which comply with the requirements of the permit, to adversely affect endangered species. On November 17, 2004, the U.S. Forest Service and the U.S. Army Corps of Engineers sent a copy of the Biological Assessment/Biological Evaluation (BA/BE) to NMFS and requested initiation of formal consultation. NMFS issued a final Biological Opinion (BO) on March 18, 2005. The BO did not include any specific conservation recommendation applicable to the NPDES permit issuance.

### **Essential Fish Habitat (EFH)**

Section 305(b) of the Magnuson Stevens Fishery Conservation and Management Act of 1996 requires Federal agencies to consult with NMFS when any activity proposed to be permitted, funded, or

undertaken by a Federal agency may have an adverse effect on designated Essential Fish Habitat (EFH). As stated in the Fact Sheet, EPA has determined that the issuance of the permit is not likely to have an adverse effect on EFH in the vicinity of the discharge. Effluent limitations have been incorporated in the permit based on criteria considered to be protective of overall water quality in East Fork Slate Creek, Sherman Creek, and Lynn Canal.

### **National Historic Preservation Act (NHPA)**

The USFS completed a cultural resource survey of the area of potential effect (APE) for the Kensington Gold Project in 2003, in compliance with the requirements of Section 106 of the National Historic Preservation Act (16 U.S.C. 470 et seq). The USFS sent determinations of eligibility of 43 historic sites within the APE to the State Historic Preservation Office for concurrence. Additionally, Coeur, the Alaska State Historic Preservation Office, and the Tongass National Forest entered into a Memorandum of Agreement (MOA) on November 29, 2004, to ensure compliance with Section 106 of the NHPA during mine construction, operation, and closure.

### **Coastal Zone Management Act (CZMA)**

The State of Alaska, Office of Project Management and Permitting (OPMP), completed its review of the Kensington Gold Project for consistency with the Alaska Coastal Management Program (ACMP) on April 25, 2005. OPMP found the project, including the discharge of pollutants such as treated domestic wastewater and treated non-domestic wastewater from the Kensington Mine, to be consistent with the ACMP.

### **Wetlands (Executive Order 11990)**

Wetlands throughout the project area would be affected by construction and operations. Section 404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers to issue permits for activities that would result in the placement of dredge or fill material in waters of the U.S., including wetlands. Before a permit can be issued, Section 404(b)(1) Guidelines require that projects avoid impacts to the extent possible, minimize impacts that cannot be avoided, and provide compensatory mitigation for impacts that occur. Alternative D is estimated to impact a total of 61.7 acres of U.S. waters, including 41.5 acres of wetlands filled, 20 acres of open water filled, and 0.2 acres of marine waters filled (USACE ROD, June 17, 2005). The Corps, in their CWA 404 permit and Record of Decision, determined Alternative D was least environmentally damaging based on total wetland acreages of impact.

### **Floodplains (Executive Order 11988)**

The Kensington Gold Project is not located within floodplains.

### **Environmental Justice (Executive Order 12898)**

EPA's issuance of the NPDES permit will not result in disproportionate adverse human health or environmental effects to minority or low-income communities.

### **Tribal Consultation and Coordination (Executive Order 13175)**

On January 23, 2004, EPA sent letters to Chilkat (Klukwan) Village, Chilkoot Indian Association, Douglas Indian Association, and Tlingit and Haida Central Council informing the Tribes that the preliminary permit will be sent for tribal review. EPA also invited the Tribes to initiate formal government-to-government consultation with EPA in developing the final draft permit prior to public release. EPA transmitted the preliminary draft permit and draft Fact Sheet to the Tribes on April 8, 2004. EPA received no comments in response. Each Tribe also received a copy of the draft permit and Fact Sheet at the start of the public comment period on June 21, 2004. EPA did not receive any comments from these Tribes.

## **MITIGATION MEASURES**

Section 2.5 and Tables 2-6 and 2-7 of the FSEIS identify potential mitigation and monitoring measures required as part of Alternative D during construction, operation, and reclamation. Additional mitigation measures have been developed as part of stipulations, special conditions, monitoring requirements of other Federal and State permits and authorizations to ensure that environmental protection is being achieved.

Alternative D also includes the construction of a reverse osmosis treatment system to treat the TSF effluent water. The RO system would ensure compliance with permit limits for total suspended solids and metals. The treatment plant effluent would discharge into the diversion pipeline, which would flow to East Fork Slate Creek below the TSF dam.

Once tailings disposal is complete, the tailings would be capped to isolate any toxic contaminants unless Coeur could demonstrate to the satisfaction of EPA that tailings are not toxic. Although the FSEIS refers to a cover of approximately 4 inches of native material, the cap design (e.g., horizontal and vertical dimensions, types of materials, placement methods, etc.) will depend on the evaluation of the test results and the site characterization at closure.

The U.S. Army Corps of Engineers, in its CWA 404 permit, requires a special condition for Coeur to use nontoxic chemical flocculent to enhance the deposition of suspended particles and reduce turbidity levels in the Lower Slate Lake disposal site.

## **MONITORING**

Under Section 308 of the Clean Water Act and 40 CFR 122.44(i), EPA must require a discharger to conduct monitoring whenever necessary to determine compliance with effluent limitations and assist in the development of effluent limitations. The permit contains both effluent and receiving water (ambient) monitoring requirements. The data from ambient monitoring is important for determining whether effluent limits in the proposed permit are adequate, and may be necessary for the development of water quality-based effluent limitations when the permit is reissued. The permit also requires that Coeur prepare a Quality Assurance Plan for all monitoring.

### **Outfall Monitoring**

To ensure compliance with the effluent limitations, Coeur is required to monitor the discharges from Outfalls 001, 002, and 003 for metals, toxicity, and other parameters on a routine basis (See Permit

Tables 1-4). The permit also requires that the percent removal for BOD and TSS be calculated on a quarterly basis for Outfall 003. This would entail measuring the influent as well as the effluent for these parameters.

### **Receiving Water (Ambient) Monitoring**

The permit requires Coeur to conduct ambient monitoring in Sherman Creek, Slate Creek, and Johnson Creek.

### **Water Column Monitoring**

The permit requires monthly water column monitoring for metals and other parameters at locations in Sherman Creek, Slate Creek, and Johnson Creek. The Sherman Creek and Slate Creek monitoring will provide data to assess the characteristics of the receiving stream below the discharges. Monitoring in Johnson Creek will be used to determine whether the process areas are affecting conditions in the creek.

### **Sediment Monitoring**

The permit requires annual sediment monitoring for metals and other parameters and annual toxicity testing to assess the effect of mine effluent on sediments within the receiving streams. The permit requires sampling in Sherman Creek at a location immediately downstream of Outfall 001 and at another location below the fish barrier. Additional sampling is required at a location below Outfall 002 in East Fork Slate Creek and in lower Slate Creek below the fish barrier. Sediment sampling is also required at a location in upper Johnson Creek immediately below the process area.

### **Biological Testing and Monitoring of Aquatic Resources**

*Benthic Invertebrates* – The permit requires benthic invertebrates monitoring using methods and locations established in baseline surveys in Sherman and Sweeny creeks. In Slate and Johnson Creeks, Coeur will define reaches to be sampled that are representative of potential impacts from Outfall 002 and the process area, respectively. Each reach will be delineated for all possible sampling sites. Every third or fourth sampling site will be sampled until a total of six samples are collected. Sampling will be conducted once during the construction period and annually thereafter.

*Resident Fish* – Abundance and condition of Dolly Varden char in Sherman, Slate, and Johnson creeks will be monitored using annual snorkel observations or electrofishing techniques comparable to those employed in previous baseline studies. Surveys will be conducted in: upper, middle, and lower Sherman Creek; East Fork Slate Creek and Lower Slate Creek; and Johnson Creek. These surveys will focus on fish greater than 25 mm. Data to be derived from the surveys include: 1) population estimates by species, habitat type, and stratum, and 2) condition factor by stratum.

*Anadromous Fish* – Annual surveys of spawning salmon in Sherman, Slate and Johnson creeks will be conducted to assess the size of the escapement. Surveys will consist of weekly stream counts throughout the spawning season documenting the distribution of salmon within the surveyed areas. Outmigrating juvenile pink salmon from the Sherman, Slate, and Johnson creek drainages will be

sampled during the spring following each year of adult counts. Quantitative methods, such as screw trap or inclined plane trap will be used to estimate the relationship between adult escapement and fry protection. The quality of spawning substrate used by pink salmon will be monitored to detect possible changes caused by potential introduction of fine sediments into lower Sherman, Slate, and Johnson creeks. Sediment samples will be collected in July prior to spawning activity.

*Aquatic Vegetation* – Annual visual surveys of visual impacts of aquatic vegetation in Sherman, Slate, and Johnson creeks will be conducted during the summer months.

## **RECLAMATION**

Section 2.3.19 of the FSEIS discusses the general reclamation procedures for all the alternatives and summarizes how major mine components would be reclaimed. A more detailed closure and reclamation plan specific to Alternative D is presented in Appendix 1 of the Final Plan of Operations.

## **BEST MANAGEMENT PRACTICES (BMP) PLAN**

Section 402 of the Clean Water Act and Federal regulations at 40 CFR 122.44(k) (2) and (3) authorize EPA to require Best Management Practices (BMP) Plan in NPDES permits. The BMP Plan will be used to control the discharge of toxics or hazardous pollutants by way of spillage or leaks, sludge or waste disposal, and drainage from raw material storage. The BMP Plan must be maintained at the mine facility and amended whenever there is a change in the facility or in the operation of the mine which materially increases the potential for an increased discharge of pollutants. Annually, the BMP Plan must be reviewed and certified.

## **PUBLIC INVOLVEMENT**

The public involvement process is presented in Section 1.5 of the FSEIS. The following is a chronology of the public involvement process for the FSEIS and NPDES permitting process:

13, 2002 The *Notice of Intent (NOI)* was published in the Federal Register and announced the USFS's intention to develop an SEIS under NEPA for the Kensington Gold Project. The NOI initiated the 30-day public scoping period.

Sept. 19 & 21, 2002 Scoping open houses held in Juneau and Haines, respectively.

January 23, 2004 Draft SEIS released to the public for review and comment.

March 6, 2004 Public meetings on the Draft SEIS were held in Juneau and Haines, respectively.

June 21, 2004 EPA, U.S. Army Corps of Engineers, and the State of Alaska issued draft permits and draft decisions/authorizations (draft NPDES permit, CWA 404 public notices, draft State CWA 401 certifications, draft State decisions and authorizations) for public comment.

July 21, 2004 Public hearings on draft Federal and State permits and decisions/authorizations were held in

Juneau and Haines, respectively.

## CONCLUSIONS

Based on the NPDES permit application received by EPA, Coeur's demonstration that the project can meet permit limits, and the findings of the FSEIS, EPA is issuing an NPDES permit, with discharge limits, for Alternative D. The permit authorizes treated mine water discharges from Outfall 001 to Sherman Creek, treated TSF discharges from Outfall 002 to East Fork Slate Creek, and treated domestic wastewater discharge during construction from Outfall 003 to Lynn Canal. The final NPDES permit is included in Appendix A.

Further information regarding this Record of Decision (ROD) may be obtained by contacting:

Hanh Shaw NEPA Compliance Coordinator  
U.S. Environmental Protection Agency 1200 Sixth Avenue, OWW-130 Seattle, WA 98101  
E-mail: [shaw.hanh@epa.gov](mailto:shaw.hanh@epa.gov) Telephone: (206) 553-0171 Facsimile: (206) 553-0165

Approving Official:

/s/ Michael F. Gearheard  
Michael F. Gearheard, Director  
Office of Water and Watersheds

Date 6/28/2005

## 610.134 NEPA Supplementation Review and Documentation Checklist

**(See section 610.135 for a completed example)**

In order to ensure that the proposed action and the existing environmental assessment or environmental impact statement is still valid, the following checklist documents whether circumstances and environmental conditions have changed to the extent that a supplemental EA or EIS should be prepared for the proposed action. **If the EA or EIS is associated with a watershed project plan, follow the guidance in Title 390, National Watershed Program Manual (NWPM), Part 503, and Title 390, National Watershed Program Handbook (NWPH), Part 603).**

Specifically, the National Environmental Policy Act (NEPA) requires that supplements to existing EA or EIS documents be prepared if the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or there are significant new circumstances or information relevant to environmental concerns that have bearing on the proposed action or its impacts.

This checklist should be retained with the file to document that the agency assessed the need for a supplemental EA or EIS. In following the Council on Environmental Quality's Forty Most Asked Questions guidance on implementing NEPA (Question # 32), the following checklist is applicable for use by all projects with an environmental analysis that is more than 5 years old.

### **New Information/Change in Existing Conditions and Need for Supplementation**

For each question below, provide a yes or no response with a short explanation or citation that supports the response.

**1) Have substantial changes in the proposed action been made that were not fully considered in the initial environmental analysis?**

Yes or No

Describe extent and magnitude of change:

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**2) Have project conditions or information changed such that the proposed action may have increased the potential for significant adverse effects on public health or safety?**

Yes or No

Describe extent and magnitude of change:

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**3) Have project conditions or information on the proposed project changed such that the proposed action may have increased significant adverse effects on such natural resources and unique**

**geographic characteristics** as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds (Executive Order 13186); and other ecologically significant or critical areas under Federal ownership or jurisdiction?

Yes or No

Describe extent and magnitude of change:

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**4) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential for highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA Section 102(2)(E))?**

Yes or No

Describe extent and magnitude of change:

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**5) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential for highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks? Example: Dam classification and engineering has changed to require the dam to be classified as a high-hazard dam.**

Yes or No

Describe extent and magnitude of change:

---

**6) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential for setting a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?**

Yes or No

Describe extent and magnitude of change:

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**7) Have project conditions or information on the proposed project changed such that the proposed**



**action may have increased the potential to result in actions with individually insignificant but cumulatively significant environmental effects?**

Yes or No

Describe extent and magnitude of change:

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**8) Have project conditions or information on the proposed project changed such that there is an increased potential for effects on historic properties listed in or eligible for listing in the National Register of Historic Places as determined by the NRCS State office after consultation with the State historic preservation officer, appropriate federally recognized American Indian Tribes, appropriate Tribal historic preservation officers, or other appropriate consulting parties that the State office identifies, in accordance with the National Historic Preservation Act Section 106 as implemented by 36 CFR Part 800?**

Yes or No

Describe extent and magnitude of change:

---

**9) Have project conditions or information on the proposed project changed such that there is an increased potential for effects to species listed, or proposed to be listed, on the List of Endangered or Threatened Species under the Endangered Species Act, or have the potential for effects on designated critical habitat for these species?**

Yes or No

Describe extent and magnitude of change:

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**10) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential for violating a Federal, State, local, or Tribal law, or requirement imposed for the protection of the environment?**

Yes or No

Describe extent and magnitude of change:

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**11) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential for disproportionately high and adverse effect on low-**

**income or minority populations** (Executive Order 12898)?

Yes or No

Describe extent and magnitude of change:

---

**12) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential to contribute to the introduction, continued existence, or spread of noxious weeds or nonnative invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?**

Yes or No

Describe extent and magnitude of change:

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The RFO is to check below the appropriate response on whether or not a supplemental EA or EIS is warranted based on the review above.

**Based on the responses provided above, I find that:**

a) Substantial changes in the proposed action **have not** been made or the potential effects and information on the proposed action **have not** significantly changed such that a supplemental EA or EIS needs to be prepared, and there is no new information having a bearing on environmental effects or environmental conditions to the degree that necessitates the preparation of a supplemental EA or EIS.

b) Substantial changes in the proposed action **have** been made, or the potential effects or information on the proposed action **have** significantly changed such that a supplemental EA or EIS needs to be prepared, or there is new information having a bearing on environmental effects or environmental conditions that necessitates the preparation of a supplemental EA or EIS.

Justification for the determination:

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\_\_\_\_\_  
Responsible Federal Official

\_\_\_\_\_  
Date

## 610.135 Sample Completed Supplementation Worksheet

In order to ensure that the proposed action and the existing environmental assessment or environmental impact statement is still valid, the following checklist documents whether circumstances and environmental conditions have changed to the extent that a supplemental EA or EIS should be prepared for the proposed action. **If the EA or EIS is associated with a watershed project plan, follow the guidance in Title 390, National Watershed Program Manual (NWPM), Part 503, and Title 390, National Watershed Program Handbook (NWPH), Part 603).**

Specifically, the National Environmental Policy Act (NEPA) requires that supplements to existing EA or EIS documents be prepared if the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or there are significant new circumstances or information relevant to environmental concerns that have bearing on the proposed action or its impacts.

This checklist should be retained with the file to document that the agency assessed the need for a supplemental EA or EIS. In following the Council on Environmental Quality's Forty Most Asked Questions guidance on implementing NEPA (Question # 32), the following checklist is applicable for use by all projects with an environmental analysis that is more than 5 years old.

### **New Information/Change in Existing Conditions and Need for Supplementation**

For each question below, provide a yes or no response with a short explanation or citation that supports the response.

#### **1) Have substantial changes in the proposed action been made that were not fully considered in the initial environmental analysis?**

**Yes** or No

Describe extent and magnitude of change:

The additional work proposed is the removal of fish migration barriers/point source sediment delivery at 18 sites within the Stinky Creek watershed. This work entails the removal of existing culverts on existing forest road drainage crossings and replacing them with larger culverts. The drainages are all tributaries to the main stem of Stinky Creek. At each site the forest road will be regarded to address potential forest road surface runoff and sediment delivery to the drainage. As needed, the stream channel upstream and down-stream of the culvert will be graded to match the channel reference reach. In some cases it is expected that in order to achieve a stable channel section that in-stream grade control structures will be needed (i.e., rock cross vanes).

Note that the 2 of the 4 primary purpose of the recommended plan as outline in the FNSI is to—

- 1.) Improve water quality by reducing soil erosion on rangeland, forestland and cropland.
- 2.) Maintain, protect, and enhance cultural resources, fish habitat and wildlife habitat.

The section of the FNSI titled “Effects of Recommended Actions” states that the project implementation schedule includes removal of anadromous fish barriers, improvement of stream corridor vegetation, channel condition, rangeland, forestland and riparian areas. Water quality will be improved in Stinky Creek by reducing fecal coliform levels, stream temperatures and excessive runoff and sediment from roads. The combine effects of these treatments will result in improved water quality and fish habitat in approximately 40 miles of habitat.

The section titled “Summary of Alternative Five Components” in the FNSI outlines a list of components, this section needs to be amended to include the installation of:

- 18 culverts
- 3,600 feet of forest road grading
- 1,800 feet of stream channel stabilization
- 2 acres of critical area seeding
- 2 acres of tree and shrub planting

In order to achieve the benefit outlined in the “Effects of Recommended Actions” section of the FNSI, this additional work is necessary.

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**2) Have project conditions or information changed such that the proposed action may have increased the potential for significant adverse effects on public health or safety?**

Yes or **No**

Describe extent and magnitude of change: **The planned or proposed additional work will not have a negative impact on health or safety. The proposed additional work will be conducted in forestland location contained within the Confederated Salmon Tribe reservation.**

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**3) Have project conditions or information on the proposed project changed such that the proposed action may have increased significant adverse effects on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds (Executive Order 13186); and other ecologically significant or critical areas under Federal ownership or jurisdiction?**

Yes or **No**

Describe extent and magnitude of change: **No increases of significant adverse effects for the planned or proposed additional work are anticipated. The proposed additional work will help achieve the desired effects described in the FNSI.**

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**4) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential for highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA Section 102(2)(E))?**

Yes or **No**

Describe extent and magnitude of change: [An increase of highly controversial environmental effects is not anticipated. The proposed additional work will result in positive environmental benefits for the Stinky Watershed.](#)

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**5) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential for highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?** Example: Dam classification and engineering has changed to require the dam to be classified as a high-hazard dam.

Yes or **No**

Describe extent and magnitude of change: [No increases of highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks for the planned or proposed additional work are anticipated.](#)

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**6) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential for setting a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?**

Yes or **No**

Describe extent and magnitude of change: [No increases in the potential for setting a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects for the planned or proposed additional work are anticipated.](#)

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**7) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential to result in actions with individually insignificant but cumulatively significant environmental effects?**

Yes or **No**

Describe extent and magnitude of change: [No increases in the potential to result in actions with individually insignificant but cumulatively significant environmental effects for the planned or proposed additional work are anticipated.](#)

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**8) Have project conditions or information on the proposed project changed such that there is an increased potential for effects on historic properties listed in or eligible for listing in the National Register of Historic Places** as determined by the NRCS State office after consultation with the State historic preservation officer, appropriate federally recognized American Indian Tribes, appropriate Tribal historic preservation officers, or other appropriate consulting parties that the State office identifies, in accordance with the National Historic Preservation Act Section 106 as implemented by 36 CFR Part 800?

Yes or **No**

Describe extent and magnitude of change: [No increases in the potential for effects on historic properties listed in or eligible for listing in the National Register of Historic Places for the planned or proposed additional work are anticipated.](#)

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**9) Have project conditions or information on the proposed project changed such that there is an increased potential for effects to species listed, or proposed to be listed, on the List of Endangered or Threatened Species under the Endangered Species Act, or have the potential for effects on designated critical habitat for these species?**

Yes or No

Describe extent and magnitude of change: There have been changes to the to the Federal and State T&E species listings and there is a potential for adverse impacts to salmon species and adverse modifications to designated critical habitat. Consultation will be required and changes to the designs are likely. It is anticipated that even with mitigation, there may be an adverse impact to species present in the area.

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**10) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential for violating a Federal law, or a State, local, or Tribal law or requirement imposed for the protection of the environment?**

Yes or No

Describe extent and magnitude of change: No increases in the potential for violating a Federal law, or a State, local, or Tribal law or requirement imposed for the protection of the environment for the planned or proposed additional work are anticipated.

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**11) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential for disproportionately high and adverse effect on low-income or minority populations (Executive Order 12898)?**

Yes or No

Describe extent and magnitude of change: No increases in the potential for disproportionately high and adverse effect on low income or minority populations for the planned or proposed additional work are anticipated.

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**12) Have project conditions or information on the proposed project changed such that the proposed action may have increased the potential to contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?**

Yes or No

Describe extent and magnitude of change: No increases in the potential to contribute to the introduction, continued existence, or spread of noxious weeds or nonnative invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species for the planned or proposed additional work are anticipated.

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The RFO is to check below the appropriate response on whether or not a supplemental EA or EIS is warranted based on the review above.

Based on the responses provided above, I find that:

a) Substantial changes in the proposed action **have not** been made or the potential effects and information on the proposed action **have not** significantly changed such that a supplemental EA or EIS needs to be prepared, and there is no new information having a bearing on environmental effects or environmental conditions to the degree that necessitates the preparation of a supplemental EA or EIS.

b) Substantial changes in the proposed action **have** been made, or the potential effects or information on the proposed action **have** significantly changed such that a supplemental EA or EIS needs to be prepared, or there is new information having a bearing on environmental effects or environmental conditions that necessitates the preparation of a supplemental EA or EIS.

Justification for the determination: A supplemental EA will be prepared to address changes to project design and implementation and will include a complete analysis of impacts to federally listed species and designated critical habitat. Formal consultation will be initiated and documented in the plan EA. The public scoping process will be reinitiated to ensure that all appropriate issues and concerns of the affected community and the Tribe can be addressed. Relevant information from the project sponsor along with their consent to initiate consultation with FWS and NMFS will be obtained.

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Responsible Federal Official

Date





**610.137 Sample Notice of Intent to Adopt an EA or EIS**

Billing Code: 3410-16

**DEPARTMENT OF AGRICULTURE**

**Natural Resources Conservation Service**

**Adoption of Final Environmental Assessment (UT-040-09-03) Prepared for the  
Upper Kanab Creek Watershed Vegetation Management Project**

**[Docket No. NRCS-20XX-00XX]**

**AGENCY:** Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture (USDA).

**ACTION:** Notice of Intent (NOI) to adopt final Environmental Assessment (EA).

**SUMMARY:** NRCS announces its intent to adopt the Kanab Creek Watershed Vegetation Management Project EA, as prepared by the U.S. Department of Interior's Bureau of Land Management (BLM), under the provisions of the Council on Environmental Quality (CEQ) regulations (40 CFR 1506.3).

**DATES:** NRCS will accept comments received or postmarked concerning the adoption of this EA at the address below until [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may submit comments concerning the adoption of the Kanab Creek Watershed Vegetation Management Project EA, request a copy of the EA, or submit comments on actions being taken by NRCS regarding this matter to: Mr. Gary McRae, Resource Conservationist, Natural Resources Conservation Service, 125 South State Street, Room 4010, Salt Lake City, Utah 84138.

**FOR FURTHER INFORMATION CONTACT:** Mr. Gary McRae, Resource Conservationist, Natural Resources Conservation Service, 125 South State Street, Room 4010, Salt Lake City, Utah 84138; e-mail at [gary.mcrae@ut.usda.gov](mailto:gary.mcrae@ut.usda.gov).

**SUPPLEMENTARY INFORMATION:** NRCS announces its intent to adopt the Kanab Creek Watershed Vegetation Management Project EA (UT-040-09-03) prepared by the U.S. Department of Interior's Bureau of Land Management (BLM), Color County District, under the provisions of the Council on Environmental Quality (CEQ) regulations (40 CFR 1506.3). NRCS has reviewed this EA and determined that it adequately addresses the environmental impacts related to the proposed action for the private land vegetation treatment within the watershed.

As described in the EA, the area project is 130,689 acres with up to 52,043 acres proposed for treatment. The NRCS is the lead agency dealing with the small private parcels totaling 31,401 acres within this proposed watershed. A portion of this private land, the acreage is dependent on private landowner's preference, will also participate in vegetation treatment. The proposed action is needed to: 1) reduce hazardous fuels and risk to life and property from catastrophic wildland fire, 2) restore and improve the sagebrush steppe ecosystem, 3) increase plant species diversity and improve watershed conditions and water quality, 4) improve the health of both woodland and sagebrush/grassland by increasing vegetation diversity as well as age class structure, 5) enhance important seasonal and year-round habitat for several species of wildlife including but not limited to sage grouse, mule deer, elk, and pronghorn antelope, and 6)

decrease the amount of pinyon/juniper expansion into areas historically dominated by sagebrush and grass.

Dated: June 4, 2013

DAVID C. BROWN  
Utah State Conservationist  
Natural Resources Conservation Service

SAMPLE

## 8 questions any EA or EIS should readily answer

Ask this question	Looking for	CEQ: 40 CFR	Notes:	Comment:
1. What action is proposed?	Proposal  <b>PA</b>	1502.4(a); 1508.23; 1502.14; 1502.5	A "proposal" for action triggers the NEPA process, and the "proposal" is one of the alternative actions normally present in an EA or EIS.	
2. Why?	Underlying need  <b>DFC</b>	1502.13; 1508.9(b)	It is the "finding" of the existence of an underlying need that justifies the proposal to take action, authorizes the ultimate agency action, defines the range of alternatives, and forms the basis to create a no-action alternative in true contrast to the action alternatives (including the proposed action alternative).	
3. What other action would meet the same need?	Alternatives  <b>PA</b>	1502.14; 1508.25(b)	The "heart" of the NEPA process is the evaluation, comparison, and consideration of alternatives. The statement of underlying need defines the range of alternatives. Agencies are bound by law to consider all reasonable ways to meet the same need that the proposed action is intended to meet, and may by law exclude from serious consideration all alternatives that do not meet the need for action.	
4. What would it mean not to meet the need?	No-action alternative  <b>EC</b>	1508.25(b)(1); 1502.14(d)	"No-action" forms the basis for a true comparison between meeting the underlying need and <i>not</i> meeting the underlying need. "No-action" is not simply the absence of the proposed action or other action alternatives, but is a scenario about the future that is alternative to any of the action alternatives.	
5. What are the effects of the proposed action, and alternative actions — in comparative format?	Impacts, "events"	1502.14; 1508.8; 1502.16	An EA or EIS should contain a sufficient discussion of the relevant issues and opposing viewpoints to enable the decisionmaker to take a "hard look" at relevant environmental factors. The agency must articulate a rational connection between the facts and law found and the conclusions made. A court may set aside an agency decision if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. §706(2)(A). An agency's action is arbitrary and capricious if the agency fails to consider an important aspect of a problem, if the agency offers an explanation for the decision that is contrary to the evidence, if the agency's	

			decision is so implausible that it could not be ascribed to a difference in view or be the product of agency expertise, or if the agency's decision is contrary to the governing law.	
6. What factors will be used when making the decision between alternatives?	Purposes	1502.23	“... an environmental impact statement should at least indicate those considerations, including factors not related to environmental quality, which are likely to be relevant and important to a decision.” These “decision factors” are relevant to an EIS, and relevant again at the time of decision in the Record of Decision.	
7. Are there any ways to mitigate adverse effects?	Mitigation <b>PA</b>	1508.25(b)(3); 1502.14(f); 1502.16(h); 1508.20; 1500.2(e)	If “mitigation” is part of the proposal, or part of an alternative, it is already accounted for in that proposal or alternative. Only “mitigation” that is <i>optional</i> above and beyond the proposal or alternative is to be considered here. Thus, as CEQ says, “mitigation” is an “alternative” that must be considered apart from the proposal or other alternatives.	
8. What monitoring is necessary that is not included in the proposed action or alternative action?	Monitoring	1505.3; 1505.2(c)	At the time of decision, a monitoring program must be considered for mitigation. Earlier, the EIS is a good place to invite public involvement on potential monitoring. Moreover, monitoring may be incorporated into the proposal, alternatives, or mitigation measures — so their presence in the EIS is required in such a case for purposes of full disclosure.	

Caveats: answers may be present, but not readily apparent; answers may exist in the administrative record but not in the environmental document. If these conditions are present, the ultimate conclusion of the decisionmaker may be supportable, but other problems may be posed. PA = Proposed Action; DFC = Desired Future Condition; EC = Existing Condition.

## EC + PA = DFC

## 8 questions any EA or EIS should readily answer

### *Practice Pointers*

1. What action is proposed?

<b>Do</b>	<b>Don't</b>
The reader is looking for action that triggers the NEPA process. Without a proposal for action there is no need for a NEPA process. Indeed, the NEPA process is impossible without a clearly defined, well-articulated proposal for action.	The proposal may be so vaguely stated or poorly defined that a reader cannot understand what the agency proposes to do. The proposal may be stated variously or differently in the EA or EIS, again with the effect that the reader cannot understand what the agency proposes to do.

2. Why?

<b>Do</b>	<b>Don't</b>
The reader is looking for a match between the need for action and the proposal for action. The proposal for action should meet the need for action. The need for action should support the proposal for action. And the need for action must be supported by evidence that it is bona fide, that it really exists. See the practice pointers, above, for writing a need statement.	One common way to get this wrong is to write about the need for an EA or EIS. Another is to use a circular logic, or use the same language for both the proposal for action and the need for action, as in "We propose to take action because we need to take action." "We propose to do X because we need to do X."

3. What other action would meet the same need?

<b>Do</b>	<b>Don't</b>
The reader is looking for alternative ways to meet the need. If the proposal would meet the need, what other action would also meet the need? If there is only one way, say so. If there is more than one way, these are alternatives.	Any set of alternatives that loses sight of the need for action would be wrong. One example is to "bracket" the proposed action with alternatives, such as smaller and larger sizes. Thus alternatives are present, but they may make no sense. If there is a need to do one thing, then it may make no sense to look at doing half of it, or double whatever it is. Another example would be to bracket the proposed action with alternatives having different emphasis, such as a "pro-development" alternative and a "pro-conservation" alternative. If either of those would not meet the need for action, they make no sense.

4. What would it mean not to meet the need?

<b>Do</b>	<b>Don't</b>
The reader is looking for the consequences of leaving the need un-met. This is usually the "no action" alternative, though the explanation could be present in the same section the underlying need is described. This information may be the best support there is for why it is important to take action.	The most common mistake is omission. If the "no action" alternative is not analyzed in detail, and if the "underlying need" is not proved, the reader will not grasp the basic comparison between taking action and not taking action, which is meeting the need and not meeting the need.

5. What is the comparison of effects between the proposed action and alternative actions?

<b>Do</b>	<b>Don't</b>
The reader is looking for the “heart” of the EA or EIS, a ready comparison between the “action” alternatives. This is commonly lumped with question 4, above. A comparison table is usually effective.	As for question 4, the most common mistake is omission. Another mistake would be to use different metrics for different alternatives, creating an apples-and-oranges comparison.

6. What factors will be used when making the decision between alternatives?

<b>Do</b>	<b>Don't</b>
Looking ahead to the time of the decision, the reader wants to know what factors will be important to the decisionmaker. For example, if cost is an overriding consideration the reader will want to be satisfied that cost has been adequately analyzed.	The most common mistake is to write a decision that rests on considerations not first presented in the EA or EIS. Thus the task for the EA and EIS is to accurately predict what these factors will be.

7. Are there any ways to mitigate adverse effects?

<b>Do</b>	<b>Don't</b>
The reader is looking at “left over” adverse consequences, those not mitigated at all and those left over even after mitigation. The agency has a duty to investigate the possibility of mitigation, even though it may choose not to mitigate.	Mitigation measures incorporated into the proposed action or alternative actions are just that — part of the proposal or alternatives. Those don't count here. The usual mistake is to disclose an adverse effect and move on, without an analysis of mitigating that effect.

8. What monitoring is necessary that is not included in the proposed action or alternative action?

<b>Do</b>	<b>Don't</b>
The reader is looking for what the agency says about monitoring, whether it is being done already or needs to be added.	The only way to get this wrong is omission. NEPA case law requires monitoring, but does not specify what kind or how to carry it out.

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## 610.139 NEPA Document Review Questions

### NEPA DOCUMENT REVIEW QUESTIONS

#### A. Proposed Action and Alternatives

- a. Do the statement of purpose and the underlying need clearly explain the reasons for proposing the action?
- b. Are all parts and phases of the proposed action described?
- c. Are all connected actions included in the proposed action description?
- d. Have a reasonable range of alternatives been presented, including the no-action alternative?
- e. Do all alternatives satisfy the purpose and underlying need?
- f. Do all alternatives avoid or minimize significant impacts?
- g. Have all alternatives been evaluated rigorously and objectively? (“Hard Look” test)
- h. Have the alternatives’ impacts been presented in comparative form?
- i. If some alternatives were eliminated, does the NEPA document explain why, presenting the criteria for selection?

#### B. Impacts

- a. Are all foreseeable effects evaluated, including the direct, indirect, and cumulative effects?
- b. If there were some impacts that were not evaluated, is there an explanation of why?
- c. Was each environmental impact evaluated with reasonable and appropriate scientific methods?
- d. Is the impact analysis objective and unbiased?

#### C. Process

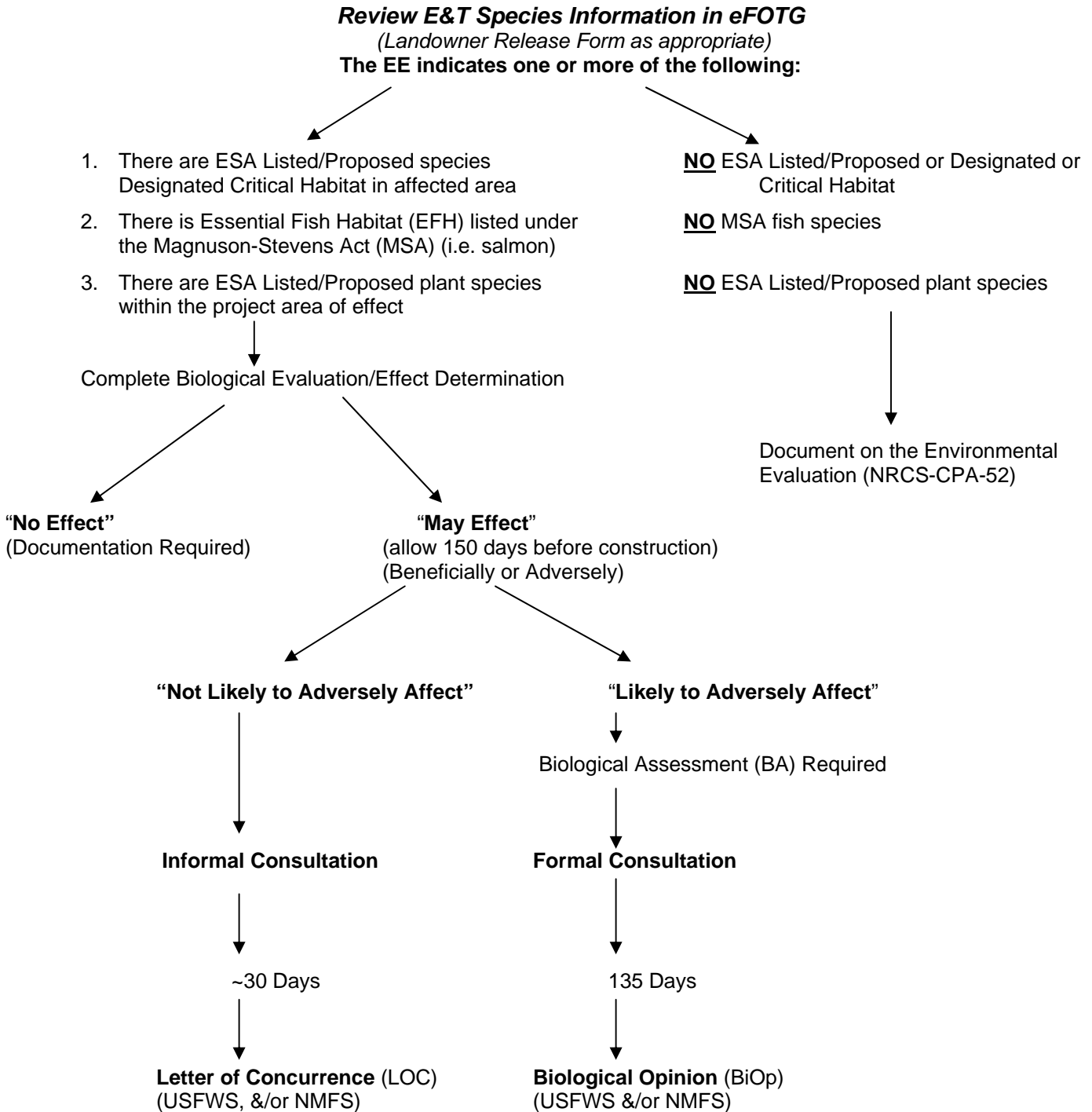
- a. Was a scoping process conducted by the lead agency?
- b. Does the document consider comments received during the scoping process?
- c. Was the document made available for public review, and, if so, how?
- d. Which other federal state, and local agencies were consulted?
- e. Were all public and agency comments adequately responded to?
- f. Was the NEPA process integrated with other environmental reviews and consultation requirements?
- g. Were there any changes to the proposed action that may require a supplemental EA or EIS?
- h. Does the decision document (ROD or other) explain the rationale for the decision?
- i. Is a ‘monitoring’ plan needed? If so, is it included in the decision document?

#### D. Mitigation

- a. Are there mitigation measures presented for all significant impacts? If so, are they adequate and feasible?
- b. Are the measures defined sufficiently (e.g., who, what, when, where, why?)
- c. Are there any impacts that cannot be mitigated?



**610.140 - Endangered Species Act Compliance Procedures for Section 7**



**\*\*Document conclusions on the Environmental Evaluation (NRCS-CPA-52) and reference appropriate documents**

## 610.141 Biological Evaluation/Assessment Outline

### Biological Assessment/ Biological Evaluation Outline (if used to make ESA Effects

#### Determinations, omit sections that are in parenthesis):

*For the purpose of making Effect Determinations*

*(Introduction:*

- 1. Species we are consulting on*
- 2. Attachment from USFWS and/or NMFS)*

#### **I. Project Description, Location and Actions**

1. County
2. Legal Description
3. Watershed
4. Stream
5. What is the proposed action?
6. When will the proposed action occur?
7. How will the proposed action occur?
8. Reference drawings and maps.

#### **II. Project Objectives**

#### **III. Description of Listed/Proposed Species**

***Complete for each Species or DCH:***

1. ***Species ESA Status*** (Include References)
2. ***Species Distribution*** (Include References)
  - a. In Project area
3. ***Proximity of the action*** (Include References)
  - a. to the species
  - b. to the management units
  - c. to Designated Critical Habitat
4. ***Distribution*** (Include References)
  - a. geographic areas where disturbance occurs

#### **IV. Description of the action area:**

1. Describe current habitat at action area
2. Describe current habitat near action area.

#### **V. Description of the Effects of the Proposed Action on Listed/Proposed Species**

1. Timing: What is the relationship of the action to sensitive periods of a species lifestyle?
2. Nature of the Effect:
  - a) On a species' lifestyle
  - b) Population Size

- c) Population variability
- d) Distribution
- e) Designated Critical Habitat
- 3. Disturbance
  - a) Frequency of disturbance
  - b) Intensity of disturbance
  - c) Severity of disturbance

*(Planning Alternatives Considered)*

**VI. Mitigation Measures and Specifications**

- 1. What are the methods used to avoid short-term adverse effects?
- 2. What are the methods used to avoid long-term adverse effects?

**VII. Determination of Effect**

- 1. State briefly your final determination and rationale.
  - a. **No Effect:** the appropriate conclusion when the action agency determines that its proposed action will not affect listed species or DCH (*no consultation required*).
  - b. **Is not likely to adversely affect:** the appropriate conclusion when effects on listed species expect to be discountable, or insignificant, or completely beneficial.
    - 1) **Beneficial Effect** is the appropriate conclusion for those effects of an action that are wholly positive without any adverse effects on a listed species or DCH.
    - 2) **Insignificant effects** relate to the size of the impact and should never reach the scale where take occurs.
    - 3) **Discountable effects** are those extremely unlikely to occur. Based on best judgement, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur (*Informal Consultation required*).
  - c. **Is likely to adversely affect:** the appropriate conclusion if any adverse effect to listed may occur as a direct or indirect result of the proposed action.
    - 1) **Direct effects:** the direct or immediate effects of the project on the species or its habitat.
    - 2) **Indirect effects:** are caused by or result from the proposed action, are later in time, and are reasonable certain to occur. (*Formal Consultation required*).

**If the decision is “No Effect,”** place documentation in the case file and proceed with action.

**If the decision is “Not likely to Adversely Affect”** informal consultation is necessary.

**If the decision is “Is likely to Adversely Affect”** formal consultation is necessary.

## 610.142 Example – Privacy Act Statement for NRCS Conservation Program Application (Landowner Consent Form)

### Sample Authorization for NRCS Release of Conservation Plan File Information

Persons receiving Federal funding through the USDA Natural Resources Conservation Service (NRCS) to implement conservation projects are required to comply with all Federal, State, and local laws, as well as obtain any required Federal, State, or local permits prior to construction of the project. In order to ensure compliance with Endangered Species Act (ESA) and the Magnuson-Stevens Act (MSA), NRCS is required to consult with US Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) – Fisheries [formerly referred to as the National Marine Fisheries service (NMFS)] (the “Services”) if we determine our actions will affect Threatened or Endangered species or their habitat. A person who receives non-federal funding, and uses NRCS final designs/specifications, may request NRCS to consult with the Services on their behalf, but are not required to do so. The National Historic Preservation Act (NHPA) requires NRCS to cooperate with the State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (Advisory Council).

I, \_\_\_\_\_, have control of said project and/or property, and give my consent for NRCS to consult with and/or release pertinent information from my project or construction plan relating to said consultation with the USFWS, NMFS, Advisory Council, and SHPO to ensure compliance with ESA, MSA, and NHPA. This does not authorize access to my private property by non-NRCS agencies, groups or individuals.

I, \_\_\_\_\_, have control of said project and/or property and choose **not** to give my consent for NRCS to consult with and/or release pertinent information from my project or construction plan relating to said consultation with the USFWS, NMFS, Advisory Council, and SHPO to ensure compliance with ESA, MSA, and NHPA.

If you choose **not** to give your consent, you may work directly with these agencies when the need arises and provide assurance of ESA, MSA and NHPA compliance to the NRCS prior to implementation of your planned project. NRCS will provide you no further assistance until the consultation process has been completed.

**NOTE:** Failure to provide consent may affect your eligibility to receive USDA funding for your project. You may cancel this consent by written notice.

\_\_\_\_\_  
NAME (Signature)

\_\_\_\_\_  
DATE

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

USDA is an equal opportunity provider, employer, and lender.

**610.143 Landowner Conservation Tools Available from the USFWS**

**LANDOWNER CONSERVATION TOOLS (INCLUDING ASSURANCES) AVAILABLE FROM FWS**

	<b>Candidate Conservation Agreement (CCA)</b>	<b>Candidate Conservation Agreement with Assurances (CCAA)</b>	<b>Safe Harbor Agreement (SHA)</b>	<b>ESA Section 6 Agreement with a Cooperating State Agency</b>	<b>Memorandum of Agreement or Memorandum of Understanding</b>	<b>4(d) special rule by FWS under the ESA</b>
<b>Purpose of the Tool</b>	Voluntary, proactive, formal agreement to conserve any non-federally listed species of interest to FWS.	Voluntary, proactive, formal agreement to conserve a species to the point at which listing is not necessary. Because FWS can't guarantee the targeted species won't be listed, a CCAA provides regulatory assurances as an incentive for conservation should it become listed.	Voluntary, proactive, formal agreement to conserve listed species. SHA requires a net conservation benefit to the target species which directly or indirectly promotes recovery of the species. SHA also provides regulatory assurances as an incentive to implement conservation measures.	Provides a mechanism for cooperation between FWS and States in the conservation of threatened, endangered, and candidate species. Through section 6 of the ESA, FWS is authorized to enter into cooperative agreements with any State that establishes and maintains an "adequate and active" program for the conservation of endangered and threatened species. Once a State agency enters into such an agreement, FWS is authorized to provide Federal assistance to the State to assist in the development of programs for the conservation of endangered and threatened species or to assist in the monitoring of candidate and recovered species. Federal assistance, provided in the form of grants, can be used to support management,	Any formalized agreement initiated and executed by FWS with any other (federal, non-federal; RCD; NGOs; private landowners, etc.) entity to further listed species conservation.  Several examples of this technique have been developed throughout the US and in instance the courts upheld this approach (e.g., Grizzly Bear).	The 4(d) rules are an ESA mechanism for protecting "threatened" species. They propose a means by which states, tribes, government entities, developers, private citizens & others can obtain conditional exemptions under the ESA as set forth at the time of listing. This tool is species specific.

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				outreach, research, planning, acquisition, and monitoring projects that have direct conservation benefits for listed species, and to assist in the monitoring of candidate and recovered species.		
<b>Service Authorities</b>	Section 2 of the ESA; Section 7 (a)(1) of the ESA	Section 10 of the ESA; Section 7(a)(1) of the ESA	Section 10 of the ESA; Section 7(a)(1) of the ESA	Section 6 of the ESA; Section 7(a)(1) of the ESA	Section 2 of the ESA; FWS internal Section 7(a)(1) responsibilities	Section 4(d) of the ESA allows FWS to structure a listing action for a threatened species that includes specific provisions for exemptions under Section 9 “take” prohibitions.
<b>Participants</b>	Anyone (Federal and non-federal; RC&D; NGOs, private landowners, etc)	Anyone (Federal and non-federal; RC&D; NGOs, private landowners, etc). Federal agencies can participate but not get assurances.	Anyone (Federal and non-federal; RC&D; NGOs, private landowners, etc). Federal agencies can participate but not get assurances.	Only State agencies with a current cooperative agreement with the FWS are eligible to receive Federal financial assistance directly through the program. However, any entity may work cooperatively with the State to assist in meeting the conservation goals and objectives of the program. Participants can include a variety of entities within state government. These have included Governor’s Office (Idaho), State Wildlife Agencies, and State Agricultural Agencies. Unclear who else can be a participant?	Anyone (discretion to FWS)	Any agency or entity that conducts the actions identified in the listing rule which has been tailored for the specific species. These entities need to become engaged early in the FWS listing process to ensure that these exemptions are included in the rule.
<b>Species Covered</b>	Agreed-upon species (cannot include listed)	Agreed-upon species (cannot include listed)	Listed species only.	Species covered by State Cooperative Agreements with the FWS.	Listed species under FWS jurisdiction.	Only applies to threatened species.

	<b>Candidate Conservation Agreement (CCA)</b>	<b>Candidate Conservation Agreement with Assurances (CCAA)</b>	<b>Safe Harbor Agreement (SHA)</b>	<b>ESA Section 6 Agreement with a Cooperating State Agency</b>	<b>Memorandum of Agreement or Memorandum of Understanding</b>	<b>4(d) special rule by FWS under the ESA</b>
<b>Role of States</b>	Have significant role since they are the natural lead for non-federally listed species.	Have significant role since they are the natural lead for non-federally listed species. States can be administrator/Permittee for programmatic CCAAs.	Federally listed species are likely state listed species and may be included in State Wildlife Action Plans. States can be administrator/Permittee for programmatic SHAs.	States have great potential to create their own conservation programs within the spirit and intent of section 6 of the ESA. These agreements can include potentially any program type subject to the general criteria of section 6.	Federally listed species are likely state listed species and may be included in State Wildlife Action Plans. States can be signatories with FWS.	States may have parallel listing process. States can also provide information and technical assistance to create the 4(d) exemptions.
<b>Assurances to signatories</b>	None	Yes, landowners participating would not be asked to do more than agree to in the CCAA should the covered species become listed in the future.	Yes, landowners participating will not be asked to commit additional land or financial compensation during the term of the SHA. Further, landowners can return to baseline at the end of the SHA term.	No regulatory assurances are implicit with a section 6 agreement. However, if the state would propose a conservation program that included regulatory assurances like those in a CCAA or SHA, then FWS would have the discretion to “agree-to” those program by approving the section 6 agreement. The state-developed conservation programs could identify/include any other entity (such as NRCS) as part of the implementation of these conservation programs (e.g., NRCS is an agent of the state).	FWS would have the discretion to “agree-to” measures that offer regulatory assurances (incidental take during management, incidental take for return to baseline) as part of the MOU/MOA. FWS is using the section 7 consultation process to evaluate the effects of these assurances as part of the federal scope of the action.	While the following technique has not been utilized it has great potential. The use of a positive, voluntary, recovery-oriented program, similar to Safe Harbor, could be built into 4 (d) rule making at the time of listing which will include categories of actions that will not create jeopardy.

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<b>Benefit for species</b>	Increase habitat. Improve population numbers & distribution.	Increase habitat. Improve population numbers & distribution. Potentially improve the status to the point at which listing is not necessary by FWS.	Contributes to recovery of the species for the duration of the SHA.	Increase habitat. Improve population numbers & distribution. Contributes to species recovery. Potentially improve the status to the point at which listing is not necessary by FWS.	Can promote voluntary recovery oriented programs for listed species.	Can promote voluntary recovery oriented programs for listed species.
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	<b>Candidate Conservation Agreement (CCA)</b>	<b>Candidate Conservation Agreement with Assurances (CCAA)</b>	<b>Safe Harbor Agreement (SHA)</b>	<b>ESA Section 6 Agreement with a Cooperating State Agency</b>	<b>Memorandum of Agreement or Memorandum of Understanding</b>	<b>4(d) special rule by FWS under the ESA</b>
<b>Benefits/Adverse impacts to Landowners</b>	<p>Intrinsic benefits of conserving species. Potentially reduce costs to landowners should the species be listed. The agreement can be used as potential funding platform from FWS grant programs for cost share in conservation actions.</p> <p>No regulatory assurances. No take authorization.</p>	<p>The CCAA “locks-in” a landowner’s responsibility with respect to conservation measures even if the species becomes listed. The agreement can be used as potential funding platform from FWS grant programs for cost share in conservation actions. If the Permittee is the state (or other party) holding a programmatic agreement, they are the intermediary between the Service and</p>	<p>Landowners can return to baseline. Landowners will not be required to do anything more than agreed to in the SHA. The agreement can be used as potential funding platform from FWS grant programs for cost share in conservation actions. If the Permittee is the state (or other party) holds a programmatic agreement, then landowner doesn’t have to deal with FWS.</p> <p>Public review process involving a</p>	<p>No federal register notices. Landowner doesn’t have to deal with FWS. Landowners may work directly with the State to identify and develop project proposals. Federal assistance provided in the form of grants, can be used to support management, outreach, research, planning, acquisition, and monitoring projects that have direct conservation benefits for listed species, and to assist in the monitoring of candidate and recovered species. Leverages state funding to implement conservation programs.</p> <p>We don’t see any adverse impacts.</p>	<p>FWS internal consultation expedites implementation of conservation practices because the process precludes the development of a BA. The MOU /MOA process has the potential to include regulatory assurances.</p>	<p>ESA exemption as per the rule. <b><i>Benefit for Action Agencies: 4(d) rule can preclude the need to consult under Section 7</i></b></p>



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		<p>landowner. Public review process involving a federal register notice. Further, landowner information potentially subject to FOIA.</p>	<p>federal register notice. Further, landowner information potentially subject to FOIA.</p>			
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<p><b>Type of take authorization.</b></p>	<p>No take authorization.</p>	<p>Take authorization is effective should the species become listed.</p>	<p>Authorization is effective at time the SHA is signed. Authorization includes the ability to return to baseline, take during the implementation of management actions, and other forms of take explicitly mentioned in the SHA.</p>	<p>Section 6 Agreements allow state conservation agencies to develop programs which allow incidental take. (Specifically: State conservation agency which is operating a conservation program pursuant to the terms of a Cooperative Agreement with the Service in accordance with section 6(c) of the Act, and any qualified employee or agent of a State Conservation Agency which is a party to that agreement and is designated by that agency for such purposes, may, when acting in the course of their official duties, take those threatened species of wildlife which are covered by an approved cooperative agreement to carry out conservation programs. Further, the State conservation agency, or designated agent, may, when acting in the course of their official duties, take those endangered species which are covered by an approved cooperative agreement in accordance with 50 CFR 17.21(5))</p>	<p>Internal Section 7 consultation results in an incidental take statement which is transferred to the parties of the Agreement by explicitly mirroring it within the agreement (e.g. documents are connected).</p>	<p>Built into the rule</p>
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	<b>Candidate Conservation Agreement (CCA)</b>	<b>Candidate Conservation Agreement with Assurances (CCAA)</b>	<b>Safe Harbor Agreement (SHA)</b>	<b>ESA Section 6 Agreement with a Cooperating State Agency</b>	<b>Memorandum of Agreement or Memorandum of Understanding</b>	<b>4(d) special rule by FWS under the ESA</b>
<b>Does the FWS have regulations or policy that govern this action?</b>	Depends. If the CCA is designed to influence a listing decision, then the FWS would have to evaluate it in accordance to its PECE policy. In summary, the PECE policy requires an analysis of (1) the certainty of effectiveness of the Agreement on conservation of the species and (2) the certainty of implementation of the Agreement (e.g. level of formal commitment by the parties).	Yes. Final regulations for this action are found in Part 50 of the CFR (Section 10 of the ESA). Additionally, FWS has a CCAA Policy published in 1999 that indicates that the enhancement of survival permit process (e.g. Section 10 permit) is the most appropriate way (but not the only way).	Yes. Final regulations for this action are found in Part 50 of the CFR (Section 10 of the ESA). FWS has a SHA Policy published in 1999 that indicates that the enhancement of survival permit process (e.g. Section 10 permit) is the most appropriate way (but not the only way).	Yes, section 6 of the ESA, the codified regulations at 50 CFR Part 81, and FWS Manual Chapter 521FW4.	Other than Section 7 of the ESA, FWS does not have any formal policies on this tool. By signing the agreement FWS must complete internal consultation to ensure that the agreement would not violate the 7(a)(2) jeopardy standard.	Yes, ESA Section 4 listings have a relatively complex process and standard format on rule making. Special conditions that exempt certain actions or groups of actions could be built into any 4(d) rule at the time of listing. However the use of SHA/CCAA and/or their assurances have never been used inside a 4(d) rule.

## 610.144 Sample ESA MOU With FWS/NMFS

### AGENCY REVIEW DRAFT 10/15/96

#### MEMORANDUM OF UNDERSTANDING BETWEEN

Natural Resources Conservation Service (NRCS)  
Fish and Wildlife Service (FWS)  
National Marine Fisheries Service (NMFS)  
The State of California (State)  
California Association of Resource Conservation Districts (CARCD)<sup>1</sup>

#### SECTION 1- PURPOSE

This Memorandum of Understanding (MOU) establishes a framework to proactively address the intent of the Federal Endangered Species Act (ESA) on non-Federal lands using a locally led watershed planning process. The FWS and NMFS share regulatory authority under the ESA. While the NRCS has no regulatory function under ESA, their programs and ties to private land users provide an opportunity to facilitate ESA compliance on non-Federal lands and help provide certainty to these users.

The MOU will foster interagency cooperation with local RCDs<sup>2</sup>, Tribal governments, watershed-based groups, and private landowners in programs that contribute to the conservation and recovery of species of concern<sup>3</sup> and their habitats. The MOU will also create a mechanism by which funds from a variety of sources may be made available for implementing appropriate management systems on non-Federal lands.

#### SECTION 2- OBJECTIVES

- (a) Accelerate the implementation of voluntary changes in resource management on non-Federal lands that will protect salmon and other species of concern, protect habitat, and improve water quality.
- (b) Provide interested agricultural land users with a way to achieve regulatory certainty under Federal and State endangered species laws as well as Federal and State water quality laws.
- (c) Make Farm Bill and other funds available to those who desire to implement a Farm or Ranch conservation plan<sup>4</sup> that addresses species of concern and established water quality objectives.

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<sup>1</sup> CARCD is the California Association of Resource Conservation Districts which represents the statewide interests of Resource Conservation Districts.

<sup>2</sup> RCDs are Resource Conservation Districts, which are legal sub-divisions of State Government authorized under Division 9 of the State Resources Code to carry out a program of natural resource conservation within their District boundaries

<sup>3</sup> Species of Concern include State listed and sensitive species and Federal candidate, proposed, and listed species.

<sup>4</sup> Farm and Ranch Conservation Plans are developed by land users with assistance from NRCS and RCDs,

(d) Create a process through which signatory Federal and State agencies provide fully coordinated and consistent technical assistance to local watershed planning efforts, a single point of contact for required reviews or consultations, and consistent and timely responses to requests for assistance and consultation under the Federal ESA.

### **SECTION 3- BACKGROUND**

(a) California is faced with the significant challenge of managing its land and water to meet the needs of people and to protect and restore fish and wildlife habitats, especially for species of concern. A large number of species in California are currently listed or proposed for listing under State and Federal endangered species laws. In addition, hundreds of streams and stream segments have been designated as impaired under the Federal Clean Water Act.

(b) The State is proposing a comprehensive program to protect and restore coastal salmon watersheds that will sustain viable populations of anadromous salmonids and other species of concern. Successful implementation of this program will require collaboration and cooperation among local, State and Federal agencies, Tribal governments, private landowners and other stakeholders with interests in these coastal watersheds.

(c) Federal and State agencies have a variety of technical expertise and programs that provide management and/or restoration services to private landowners. With existing and proposed Federal listings, it is of utmost importance that delivery of these Services be consistent with ESA requirements, resource needs, cultural, social and economic conditions, and provide certainty to both the landowners and species of concern.

(d) The NMFS and the FWS each have significant responsibilities for ecosystem protection, and recognize a common purpose in reducing environmental degradation while protecting and restoring habitat needed to maintain viable populations of native species. With existing and pending listings, it is of utmost importance that delivery of these services is done in a manner that protects ecosystem and watershed health, maintains the full range of natural resource values, complies with ESA requirements, and provides guarantees to non Federal land users as they carry out their land use activities.

(e) NRCS delivers technical services and programs on a voluntary basis to provide landowners, Tribal governments, and local governments, on request through cooperative agreements with Resource Conservation Districts. Through these cooperative agreements, RCDs provide local land users access to NRCS technical assistance and various programs. NRCS has a traditional role in providing assistance to Private landowners who voluntarily plan and apply appropriate conservation measures to maintain or enhance the health of their lands. NRCS has the flexibility to extend this role to include the consideration of species of concern and water quality issues

### **SECTION 4- ROLES AND RESPONSIBILITIES**

(a) It is mutually agreed that the signatories to this MOU will:

- 1) Review applicable NRCS Field Office Technical Guides (FOTGs) and Identify adjustments that may be needed in order to adequately address conservation of species of concern;

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these plans are developed consistent with the information, guidance and standards contained in the local Field Office Technical Guide.

- 2) Implement this MOU based on the availability of additional funding and personnel, at the levels necessary to carry out the new and innovative programs described in this MOU.
- 3) Establish a coordinated program of government support for the development and implementation of watershed management and restoration plans.
- 4) Work with RCDs and watershed groups in conducting outreach efforts to develop local support for a watershed-based approach to conserving and recovering species of concern, and meeting established water quality objectives.
- 5) Collaborate with non-Federal land users in monitoring and evaluating the long term effectiveness of watershed plans based on data collected as a result of a jointly developed monitoring plan.
- 6) Participate in a public outreach process to inform and seek input from local land users, residents and organizations on the status of species of concern, water quality concerns, agency responsibilities, and watershed-based alternatives available to address ESA requirements and attain established water quality objectives.
- 7) Actively seek means to support demonstration and restoration projects and other on-the-ground actions that are needed to restore watershed health, eliminate or minimize and mitigate the impact of "take" (as defined under the Federal ESA) and contribute to the conservation of species of concern.
- 8) Reach consensus on watersheds in which the collective financial and technical resources of the signatories should be focused,
- 9) Carry out this MOU in full recognition of the private property rights of private landowners, and the need to provide certainty to these landowners that they can continue to conduct their land use activities while conserving species of concern,
- 10) The State and Federal agencies with regulatory responsibility will develop (in consultation with interested parties) and implement an integrated regulatory review and approval process for watershed management and restoration plans.
- 11) Seek to involve all State and Federal entities with resources protection responsibilities in furtherance of the goals of this MOU

(b) The NRCS will:

- 1) Serve as the Federal action agency for consultation under Section 7 of the ESA on programmatic actions (under NRCS authority) that will support voluntary, non-Federal land user activities to improve habitat, conserve species of concern and address established water quality objectives. The FOTGs will serve as the basis for consultation with FWS and NMFS on actions to be carried out in the near future. Once watershed plans, (developed under NRCS planning guidelines), are completed they will be the basis for consultation to ensure ESA compliance.
- 2) Work directly with RCDs in accordance with existing cooperative agreements to carry out the intent and purpose of this MOU.
- 3) Upon request from RCDs, provide technical assistance in the development of watershed plans which satisfy National Environmental Policy Act (NEPA) requirements and contain biological

assessments of the effects of selected management alternatives on species of concern.

4) Assist non-Federal land users on a voluntary basis in developing individual conservation plans in accordance with FOTGs.

5) Provide land users with practice standards and technical specifications to guide implementation of conservation practices contained in their individual conservation plans, and assure technical adequacy of practices associated with habitat for species of concern.

(b) The NMFS will:

1) Complete ESA consultation on amended FOTGs on a timely basis so they can provide a programmatic basis for selected activities.

2) Participate in early planning and review of watershed plans to facilitate a streamlined planning and consultation process.

3) Expeditiously review and co-sign or sign, as appropriate, consultation documents prepared by NMFS or FWS, as appropriate, that involve anadromous fish species.

4) Provide information on species for which NMFS is responsible, under the ESA, for use in the planning and consultation processes.

5) Coordinate with FWS to ensure the consultation documents addressing anadromous fish species meet NMFS criteria pursuant to regulatory responsibilities.

(c) The FWS will:

1) Serve as the primary contact with NRCS and state agencies for coordinating decisions on the design, implementation, and monitoring of habitat restoration and enhancement projects.

2) Conduct ESA consultations, in cooperation with NMFS, on RCD interim activities, NRCS FOTGs, and watershed plans. This will be done on a programmatic basis, rather than on individual conservation plans or projects, where possible.

3) Provide information on species for which FWS is responsible under the ESA for use in the planning and consultation processes.

(d) The State will:

1) Provide resources to RCDs and watershed groups to facilitate the development of watershed plans and local participation in the consultation process.

2) Provide signatories to this agreement with information on local resource issues that contribute to recovery planning efforts, e.g., resource information data bases as related to species of concern, water quality, etc.

3) Participate in efforts to develop watershed plans and strategies, and seek funds and partnerships to facilitate the implementation of conservation measures.

4) Ensure that those State agencies having regulatory and/or resource management responsibilities are actively involved in the development and implementation of watershed plans.

5) Collaborate with NRCS in development of planning guidelines for watershed plans.

(e) CARCD will:

1) Assist with statewide coordination of local efforts to develop watershed plans and strategies, maintain communication between involved agencies and advance the consultation process.

2) Help seek funds and partnerships to facilitate local RCDs implementation of conservation measures.

3) Provide education and outreach on natural resource management issues that contribute to recovery efforts.

4) Work with the private sector to facilitate the implementation of habitat restoration and enhancement projects.

5) Assist with review and amendment of FOTGs to ensure timely adoption of recommended changes and extension of information to local Districts.

## **SECTION 5- STRUCTURE**

(a) This MOU provides a mechanism to enhance agency efficiency, build awareness and capacity at the local level, and provide for an effective voluntary means by which the goals of the ESA can be achieved.

(b) The Regional Director (FWS), Regional Administrator (NMFS), State Conservationist (NRCS), and Governor's Natural Resources Advisor (State) will comprise a steering committee to establish general standards and guidelines to guide the process outlined in this MOU and oversee its' implementation.

(c) An interagency technical advisory team, which includes but is not limited to, NRCS, FWS, NMFS and appropriate agencies of the State of California, will assist in the development of watershed plans to ensure their adequacy in addressing species of concern and established water quality objectives.

(d) Local Watershed groups, Coordinated Resource Management and Planning groups (CRMPs) and other entities, in coordination with Resource Conservation Districts, will play a key role in public outreach, provide for local stakeholders to take an active role in the planning process, and leverage opportunities for funding planned conservation measures.

(e) This MOU does not alter existing regulations, agency responsibilities and authorities. It specifically does not commit any agency to activities beyond the scope of their mission, funding and authorities. It is recognized that new funding and personnel will be necessary to carry out the responsibilities under this agreement.

## **AUTHORITIES**

The Federal agencies are authorized to enter into this MOU pursuant to the Endangered Species Act of 1973, as amended (16 U.S.C.; 1531-1544) and the Fish and Wildlife Coordination Act (16 U.S.C.; 661-667e). Under the ESA, the Secretary of the Interior, through the FWS, and the Secretary of Commerce, through the National Oceanic and Atmospheric Administration and NMFS, share the responsibilities for



ESA implementation, including the issuance of *biological opinions* and incidental take permits. It is the intent of both agencies to coordinate their respective responsibilities under the MOU to achieve maximum administrative efficiencies.

The NRCS is authorized under Public Law 74-46, 16 U.S.C;590 (a-f) to plan and carry out a national soil and water conservation program, and provide leadership in conservation, development, and productive use of the Nation's (non-Federal) soil, water and related resources.

The State of California is authorized under \_\_\_\_\_ to enter into this agreement with Federal agencies to plan and implement conservation measures.

**DURATION OF AGREEMENT**

This agreement becomes effective upon signature by all parties and remains in effect until modified by mutual consent or terminated with sixty days notice by any party. The action plans will be reviewed at least annually, and updated as necessary.

\_\_\_\_\_  
**State Conservationist**  
**Natural Resources Conservation Service** \_\_\_\_\_  
**DATE**

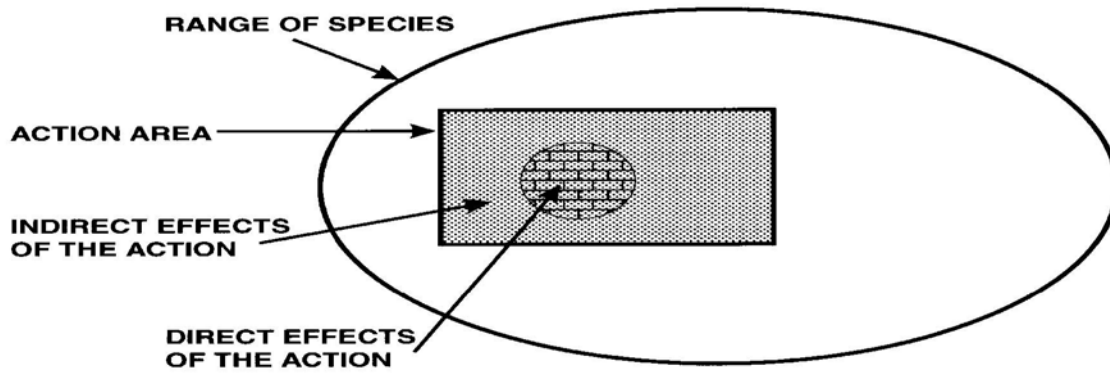
\_\_\_\_\_  
**Regional Administrator**  
**National Marine Fisheries Service** \_\_\_\_\_  
**DATE**

\_\_\_\_\_  
**Regional Director**  
**U.S. Fish and Wildlife Service** \_\_\_\_\_  
**DATE**

\_\_\_\_\_  
**Secretary, The Resources Agency**  
**State of California** \_\_\_\_\_  
**DATE**

\_\_\_\_\_  
**President**  
**California Association of**  
**Resource Conservation Districts** \_\_\_\_\_  
**DATE**

**610.145 Example of an Action Area Within the Species' Range**



(From the FWS/NMFS Endangered Species Consultation Handbook (1998))

## 610.146 Comparison of Conference & Consultation Provisions of ESA

	<b>CONFERENCE</b>	<b>CONSULTATION</b>
<b>Authority</b>	section 7(a)(4)	section 7(a)(2)
<b>When Required</b>	Federal action to fund, authorize or carry out an action likely to jeopardize <u>proposed</u> species or destroy or adversely modify <u>proposed</u> critical habitat	Federal action to fund, authorize or carry out an action which may affect <u>listed</u> species or <u>designated</u> critical habitat.
<b>Types of Procedures</b>	<b>Informal conference -</b> Informal discussions resulting in advisory recommendations on ways to minimize or avoid adverse effects, avoid jeopardy, or adverse modification. If the species is listed or the critical habitat is designated before the action is completed, the need for formal consultation must be determined.	<b>Informal consultation -</b> Informal discussions resulting in advisory recommendations on ways to avoid adverse effects. If adopted, may lead to a concurrence that the action is not likely to adversely affect the listed species/designated critical habitat. ESA obligation is completed, based on concurrence by the Services.

**Formal conference -**  
At the agency's request, and Service's concurrence, the formal process for consultation will be followed, resulting in an opinion that can stand as the biological opinion for the action if no significant new information or change in the action develops. The incidental take statement is not effective unless the Services adopt the conference opinion once the proposed species is listed.

**Formal consultation -**  
A formal process with regulated timeframes, that results in the development of a biological opinion and incidental take statement.

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**Agency Responsi-  
bilities**

**Formal conference -**  
None, but a prudent agency would adopt any reasonable and prudent alternatives and incidental take terms and conditions if the conference opinion is expected to be adopted as the biological opinion following listing.

**Formal Consultation -**  
Adopt the reasonable and prudent alternatives and incidental take terms and conditions, or do not undertake the action, or apply for an exemption.

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**CONFERENCE**

**CONSULTATION**

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**Irreversible and Irretrievable Commitment of Resources Precluding Formulation or Implementation of Reasonable and Prudent Alternatives - Section 7(d)**

Not applicable, but a prudent agency would not make such a resource commitment if the conference opinion is to be adopted as the biological opinion following listing.

Can not be made between the "may affect" finding and the conclusion of formal consultation.

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**Incidental Take**

**Informal conference -**  
Not required.

**Informal consultation -**  
Not required.

**Formal conference -**  
Required to be addressed in the conference opinion but not effective until adopted by the Services after the species is listed.

**Formal consultation -**  
Required except for plant species - anticipated incidental take may be zero.

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# How To Write a Better Biological Assessment

Courtesy of USFWS/NOAA Fisheries Advance Interagency Consultation Training " Study Guide for Arguing Well".

## Summary of this Study Guide

1. Consultations and the conclusions they are designed to produce should satisfy the characteristics of good arguments: their premises should be relevant, their premises should be acceptable, their premises should provide sufficient reason to accept their conclusions, and they should rebut any strong counter-arguments or challenges to their conclusions.
2. Service biologists should reconstruct arguments they make and arguments they receive using standard form, which clearly separate an argument's premises and conclusions from background information and other prose.
3. Once an argument has been reconstructed in standard form, arguments should be evaluated critically to determine whether they are acceptable as given, need to be made stronger, or need to be rejected
4. Causal arguments have a slightly different structure, but must satisfy the same criteria

## 1.0 Introduction

Section 7 of the Endangered Species Act of 1973, as amended, requires federal agencies, in consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (the Services), to insure that their actions are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat designated for those species<sup>1</sup>. Although the principles, practices and protocols applicable to section 7 consultations are identified in section 7 of the ESA, its implementing regulations, and the Interagency Consultation Handbook, section 7 consultations and consultations products are reviewed according to the arbitrary and capricious criteria of the Administrative Procedure Act<sup>2</sup> (hereafter APA). Under the APA, the conclusions of consultations would be arbitrary and capricious if:

1. we relied on factors which Congress did not intend us to consider,
2. we failed to consider an important aspect of a problem,
3. we offered an explanation for our conclusion that runs counter to the evidence before us,
4. we failed to articulate a rational connection between the facts that were found and the conclusions we reached in our biological opinion

<sup>1</sup> 16 U.S.C. 1539(a)(2)

<sup>2</sup> 5 U.S.C. 706



6 June 2005

## ADVANCED INTERAGENCY CONSULTATION

Under the authority of the APA, courts can hold unlawful and set aside any findings or conclusion that are found to be arbitrary and capricious. Given this standard, legally-defensible consultation should produce conclusions that are not arbitrary or capricious.

Every biological opinion or concurrence letter the Services issue consists of a conclusion: "not likely to adversely affect," "likely to adversely affect," "not likely to jeopardize," and "likely to jeopardize," etc. The Services' challenge is to make certain that these conclusions are not arbitrary or capricious. We meet this challenge by insuring that our conclusion in biological opinions, concurrence letters, and our other written documents represent a reasoned reflection of all of the evidence available. In any consultation, the reasons and evidence supporting our conclusions must include the best scientific and commercial data available, the status of listed resources, the environmental baseline for an action area, the effects of a proposed action, and cumulative effects. So, to avoid being arbitrary and capricious, any biological opinion or concurrence letter must consist of a conclusion supported by the reasons and evidence that led us to that conclusion.

This is the definition of "argument": a series of statements that provide reasons and evidence for other statements, which represent conclusions (in the language of argument, statements that provide reasons and evidence are called "premises").

We can distinguish between "good" arguments and "bad" arguments, "strong" arguments and "weak" arguments. "Good" arguments provide premises that are sufficient to support the acceptance of the argument's conclusion. "Bad" arguments do not. In addition to providing premises that are sufficient to support their conclusions, "strong" arguments also defend their conclusions against counter-arguments or challenges using other evidence.

There are numerous methods for determining whether an argument is a good one, some require an application of the rules of formal logic while others apply rules of informal logic. Regardless of the system of logic being applied, good arguments meet the following criteria:

1. their premises are relevant to the truth of the conclusion;
2. their premises are acceptable, believable, warranted;
3. their premises together constitute sufficient grounds for the truth of the conclusion; and
4. they provide an effective rebuttal to all reasonable challenges to the argument's conclusion

Arguments that satisfy these criteria are "good" ones and we should accept their conclusions. By extension, arguments that fail to satisfy these criteria are "bad" arguments and we should not accept the conclusions of such arguments.

We can fulfill our consultations to provide biological opinions and other consultation documents that are legally-defensible — that is, conclusions that are not arbitrary or capricious — by consciously treating them as arguments. If those arguments satisfy the criteria, criteria of good arguments, we will have provided conclusions that should be accepted because they are rational, supported by the available evidence, and more rational than alternative conclusions. If our consultation documents do not satisfy these criteria, we will have failed to articulate a rational connection between the facts that were found and the conclusions we reached (which probably fails to satisfy the last APA criterion). In the latter case, our conclusions may be arbitrary or capricious.

This study guide is intended to help consulting biologists argue well. It begins by discussing the role of consultations in the process of building the arguments the Services must provide to support our conclusions. This discussion is followed by a detailed exploration of the criteria of arguments, generally, and good arguments in particular. The study guide then discusses the special requirements of causal arguments, which are important to any consultation.

At the same time, this study guide has important limitations. This study guide is designed to supplement the materials presented in the Advanced Section 7 class, it was not designed as a textbook on argumentation or the different philosophies of logic, the different practices and methods associated with those philosophies, rhetoric, or critical reasoning. Readers interested in gaining more depth in any of these subjects should refer to the list of references contained in the Further Reading section at the end of the guide.

## **2.0 The Role of Consultation in Developing Arguments**

The Services consult with other federal agencies to identify the potential consequences of federal actions on listed species and designated critical habitat and help resolve those conflicts. Ideal consultations represent objective inquiries to identify an Action's potential direct and indirect effects on listed resources. As objective inquiries, consultations should adhere to the general principles of intellectual inquiry: the fallibility principle, the truth-seeking principle, the clarity principle, and the burden of proof principle.

Although they may not be achievable in particular consultations, these principles would create the conditions that would result in ideal section 7 consultations because their presence or absence in a consultation will reflect the degree of cooperativeness among the parties to a consultation. When the different participants approach a consultation with these principles, the consultation will contain a high degree of cooperativeness. When the different participants approach a consultation without these principles, the consultation will contain a low degree of cooperativeness or it may be adversarial. Regardless of the attitudes of other participants, Service representatives should always strive to apply these principles when they engage in consultations.

### **2.1 The Fallibility Principle**

Fallibility represents an honest recognition of the limits of human understanding and knowledge of the world in which we exist; that time and future evidence may demonstrate that any human idea, conclusion, or proposition may turn out to be incorrect regardless of how rational the idea, conclusion, or proposition may seem when it is articulated. This principle requires us to accept that we may be wrong about our ideas, conclusions, or propositions, regardless of the care we put into developing them.

Section 7 of the ESA and its implementing regulations recognize the fallibility of consultation. The original language of section 7(a)(2) of the ESA required federal agencies to insure that their actions "will not" jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat. That standard required the Services to be certain and highly confident of their conclusions, a standard that the Services and federal agencies had difficulty achieving.

ADVANCED INTERAGENCY CONSULTATION

In 1979, Congress amended section 7(a)(2) of the ESA to require federal agencies to insure that their actions "are not likely" to jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat<sup>3</sup>. These amendments also required the Services and federal agencies to use the best scientific and commercial data available to reach conclusions in consultations. The 1986 regulations followed this reasoning to their logical conclusion by requiring the Services and federal agencies to reinitiate formal consultation when new information reveals effects of an action that may affect listed species or critical habitat in a manner or to an extent not previously considered<sup>4</sup>.

These changes to the original consultation process accept that consultations are fallible: that the conclusions of consultations depend on the evidence available to the Services and federal agencies during a consultation. As a result, any consultation can produce conclusions that are rational at the time of a consultation, but may be incorrect in the face of new evidence. Therefore, during a consultation, the Services, Action Agencies, and Applicants must acknowledge that their starting positions may not withstand rigorous examination of the evidence available and that future evidence may cause them to reach different conclusions.

2.2 The Truth-Seeking Principle

In an effective consultation, participants should be committed to the task of searching for the true consequences of an Action on listed resources (at least they should be committed to searching for the consequences with the strongest support in the evidence available). Therefore, participants in consultations should be willing to seriously examine alternative positions, look for insights from other participants, and allow other participants to present arguments for or raise objections to any position or conclusion disputed in a consultation. The truth-seeking principle is essential to any objective inquiry because anyone who seeks the truth recognizes that they cannot discover the truth by ignoring counter-evidence.

The truth-seeking principle is important to consultations because of the issues at risk in any consultation. If a consultation concludes that listed resources are likely to experience a particular consequence ("likely to be adversely affected," "likely to be jeopardized," etc) and that conclusion reflects the true experiences of the listed resources, then the consultation will have found the "truth," which we define as a statement that corresponds with the actual state of nature (cell (a) of the following table). The same would apply to consultations that correctly conclude that listed resources are not likely to experience particular consequences (cell (d) of the table).

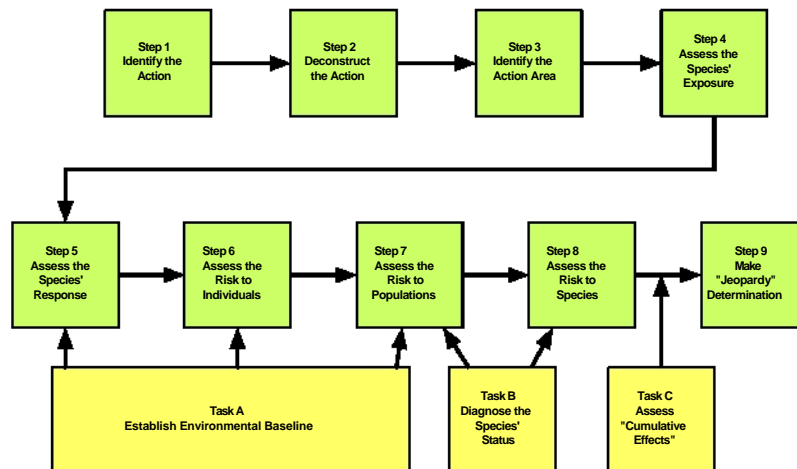
		Listed Resources Actually Experience	
		Increased Risk	No Increased Risk
Consultation Outcome	"Likely to"	True Positive (a)	False Positive (b)
	"Not likely to"	False Negative (c)	True Negative (d)

<sup>3</sup> H.R. Conf. Rep. No. 697, 96th Cong., 1st Sess. 12 (1979)

<sup>4</sup> 50 CFR 402.16(b)



**Figure 1. An illustration of the steps of the assessment framework for section 7 consultations showing the various steps of a consultation process**



The same is not true of consultations that conclude that listed resources are not likely to experience particular consequences when, in fact, those consequences are likely (cell (c) of the table). In these circumstances, consultations fail to protect listed resources when protection is warranted. These consultations place listed resources at greater risk of extinction. Conversely, consultations that conclude that listed resources are likely to experience particular consequences when, in fact, those consequences are not likely (cell (b) of the table) protect listed resources when protection is not warranted. These consultations are likely to impose requirements on Action Agencies, Applicants, or both, when such requirements are not necessary.

### 2.3 The Clarity Principle

In a consultation, as in any argument, we need to make certain that our assertions, defenses, and attacks should be free of linguistic confusion or vagueness. For the same reasons, assertions should be separated from one another to avoid creating complex arguments. This is an important principle to remember, particularly because many Action Agencies, Applicants, and other observers have viewed consultations as black boxes resulting from vague terminology, indefinite standards, and opaque process.

The terminology associated with the assessment framework presented in this class (see Figure 1) and the framework itself are designed to provide the clarity that is essential to an inquiry that involves several participants. For example, the Services' prior use of the term "effect" is ambiguous because an "effect" can represent the consequences of an Action on the environment of an Action Area, the exposure of threatened or endangered species to those consequences, the response of threatened or endangered species given their exposure, the risks those responses represent to the species, or any combination of these alternatives. Introducing the terms "exposure," "response," and "risk" into the lexicon of consultation and treating each as a separate, logical step eliminates potential confusion or vagueness that might exist without them. At the same time, the analyses

associated with the different steps of the assessment framework are designed to eliminate some of the general confusion and ambiguity that surrounded section 7 consultations themselves.

In any consultation, the Services need to remember the numerous technical terms associated with consultation, ecology, and related sciences. Many of these terms have many different technical definitions or technical definition that are different from common usage (think of terms like "habitat," "ecosystem," or "take"). Any of these terms can become sources of confusion in consultation and the Services should always be prepared to clarify those terms for Action Agencies, Applicants, and other participants in consultations.

### 2.4 The Burden of Proof Principle

As in any argument, each participant in a consultation is responsible for explaining the reasoning and evidence (premises) supporting their position and for defending that position. To comply with this principle, Action Agencies and Applicants (if any) are responsible for providing details about proposed Actions, the purpose of a proposed Action, the statutory authority, etc. as well as any reasons and evidence supporting any "no effect," "not likely to adversely affect," or "likely to adversely affect" determinations they may have reached in other phases of a consultation. Similarly, the Services are responsible for providing the reasons and evidence supporting any conclusions we reach in any phase of a consultation on an Action.

## 3.0 Argument

As discussed in the Introduction to this Study Guide, the term "argument" is "a group of statements (premises) that provide rational support or evidence for another statement (the conclusion). Another definition of argument is "a conclusion or judgment that results from reasoned reflection of evidence." The following example from a biological assessment illustrates a basic argument

### Example 1

The proposed bridge replacement will be completed between September 15 and November 1. The least Bell's vireo nesting season typically occurs in the spring and summer, between March 15 and September 15. Because the project will occur outside of the species' nesting season, noise from construction activity will not disturb nesting birds.

The concluding statement (conclusion) of this paragraph is "noise from construction activity will not disturb nesting birds" (least Bell's vireos). The reason (premise) that is offered to explain why this conclusion is rational is "the project will occur outside of the vireo's nesting season." The other statements (premises) represent evidence that makes a reader more likely to accept the reason: (a) the bridge replacement will be completed between September 15 and November 1 and (b) least Bell's vireo typically nest between March 15 and September 15.

If a statement appears without explicit or implicit reasons or evidence to support it, then the statement is not an argument. The statement may articulate an opinion or position, but it is not an argument unless it is supported by reason or evidence. At the same time, an "opinion" (as that term is used in normal conversation) becomes an "argument" when it is supported by reasons or evidence (in normal conversation, we might call this a "reasoned opinion"). In that sense, biological opinions are not "opinions," as that term is commonly defined, they are arguments: conclusions

resulting from reasoned reflection of the available evidence. Similarly, most of the documents associated with section 7 consultations represent arguments:

- the conclusions of biological assessments (an Action Agency must *conclude* that their action is or is not likely to adversely affect listed resources and provide reasons and evidence to support for their conclusion)
- requests for formal consultation (an Action Agency has *concluded* that their action "may affect" or "is likely to adversely affect" listed resources and provide reasons and evidence to support their conclusion as part of their request for consultation)
- the conclusions of the Service's concurrence or non-concurrence letters (the Services *conclude* that we can accept or reject an Action Agency's "likely to adversely affect" or "not likely to adversely affect" conclusion and we must provide the reasons and evidence that support those conclusions)

#### 4.0 Attributes of Good Arguments

As a general matter, an argument should resolve an issue in dispute if the reasons and evidence supporting the argument's conclusions can be successfully defended by an argument that uses (a) relevant and (b) acceptable premises that together (c) provide sufficient grounds to support the conclusion and (d) constitute an effective and stronger rebuttal to the alternative. Good arguments, which are designed to find the truth of and resolve issues in dispute, have all of these four attributes: their premises are relevant, their premises are acceptable, their premises provide sufficient support for their conclusions, and they rebut counter-arguments and other challenges. Arguments that do not satisfy these four criteria are not good arguments and we should not accept their conclusions as given. The following narratives explore these different criteria in more detail.

##### 4.1 Relevance Criterion

To comply with the relevance criterion, arguments for or against a conclusion should contain only reasons and evidence that are directly related to a particular conclusion. This does not mean that every piece of information we provide in consultation must be relevant to a particular conclusion. Some of the information the Services include in our biological opinions and concurrence letters (or Action Agencies include in their biological assessments) are offered as background or provide context for Action Agencies, Applicants, and other readers. However, background or contextual information are rarely reasons or evidence that support a particular conclusion.

Reasons and evidence offered in support of particular conclusions — whether those conclusions are designed to establish a species' status, the impact of an environmental baseline, or a species' response to a habitat change — should be relevant to the conclusion they are designed to support.

What reasons or evidence are irrelevant to a conclusion in a consultation? At a minimum, reasons or evidence representing issues that Congress did not intend us to consider in a consultation (for example, political or economic reasons) would be irrelevant to our conclusions in a consultation and would fail to satisfy the relevance criterion. Mitigative measures might also be irrelevant to the conclusion of a consultation if (a) their benefits are likely to be realized long after the species they are intended to benefit is likely to be extinct or (b) they benefit the most robust populations of a species while the action they are associated with harms populations that cannot withstand further

disruption. Similarly, a biologist's personal feelings about the merits (or lack thereof) of an action or an Action Agency's personal feelings about the merits of protecting a listed species often form premises that are irrelevant to the conclusions of a consultation.

#### 4.2 Acceptability Criterion

To comply with the acceptability criterion, arguments for or against a conclusion should use reasons and evidence that we can accept as factually true (see Box 1). If a premise is false, it would be unacceptable. The following example illustrates this criterion

##### **Example 2**

A power company argues that modifying operations to a run-of-the-river flow regime will adversely affect bald eagles. The company cites studies that identify bald eagles downstream from the dam eating suckers killed when the river below the dam is dewatered.

The company concludes that if the river is never dewatered, the suckers will not die, and the bald eagles will starve.

One premise of this argument is not stated, but is critical: bald eagles only eat dead suckers. This premise is unacceptable because it is false. Without this premise, the company has not support for its conclusion. Its options are to revise the conclusion to conform with the evidence, provide other reasons or evidence that might support its conclusion, or offer the conclusion as unsupported opinion or speculation.

Premises should be acceptable if they have any of these attributes in Box 1.A. Premises would be unacceptable if they have any of the attributed in Box 1.B. Returning to Example 2, the premise implicit in the company's argument has attributes B.1, B.2, B.4 and B.7. This example also illustrates the best way of defeating an argument while remaining rational in the process: demonstrate that one or more of the premises necessary for a conclusion are false or unacceptable rather than challenge the argument's conclusion.

#### 4.3 Sufficiency Criterion

To comply with the sufficiency criterion, arguments for or against a conclusion or proposition should provide reasons and evidence that are sufficient in number, kind, and weight to support the acceptance of the conclusion or proposition. In any argument, this is probably the most difficult criterion to satisfy because the reasons and evidence that would be sufficient to support one conclusion may not be sufficient to support another conclusion. Usually, there is no single or simple answer to the question "When are my reasons and evidence sufficient to support my conclusion?"

It is often easier to explain when reasons and evidence would not be sufficient in number, kind, and weight to support a conclusion. If we base a conclusion on a *portion* of the available evidence (for example, only the evidence that supports conclusion or evidence that does not support the conclusion), rather than the *totality* of that evidence, our argument would not satisfy the sufficiency criterion (it might also fail to satisfy the rebuttal criterion as well because someone could offer the evidence we omitted or neglected to support their counter-arguments).

When presenting an argument to support a jeopardy determination, for example, it may be sufficient to present evidence of biologically important reductions in a species' abundance or increases

**Box 1. List of criteria that determine when we should accept premises as acceptable (A) or reject them as unacceptable (B)**

**A. Criteria of Acceptable Premises**

1. A claim that is a matter of undisputed common knowledge or accepted scientific practice or principle;
2. A claim that represents a literal interpretation of federal law, regulation, agency policy, or uncontroverted opinion from a federal court of law;
3. A claim that is adequately defended elsewhere in the record of a consultation, final NEPA documents associated with an action under consultation, or other agency documents developed to support its official record on an action;
4. A claim or conclusion that is supported by the best scientific and commercial data available;
5. An uncontroverted report in a paper in a peer-reviewed journal article;
6. A claim that is a statement of facts from a biologist's personal knowledge, observation, or data;
7. A relatively minor claim that one has no reason to question and that seems to be a reasonable assumption in the context of the argument presented to support the conclusion of a consultation.

**B. Criteria of Unacceptable Premises**

1. A claim that contradicts the evidence, a well-established claim, accepted scientific practice or principle, or a credible source;
2. A claim that is inconsistent with one's own personal knowledge or observations;
3. A claim that contradicts other premises of the argument or the conclusions of other documents reviewed during a consultation (for example, NEPA documents);
4. A questionable claim that is not adequately defended by the best scientific and commercial data available;
5. A claim that is linguistically confusing
6. A claim that is no different from the conclusion that it is used to support;
7. A claim that is based on a usually unstated but highly questionable assumption.

in a species' declining trend while ignoring evidence of increased variance in the species' abundance or trend. Based on the literature available on factors that contribute to a species' extinction risk, population abundance and trend explain most of a species' risk of extinction. Given that literature, variance should always increase a species' extinction risk so ignoring variance would not necessary lead to a false jeopardy conclusion. By extension, an argument that supported a jeopardy conclusion *could* safely ignore variance and still be sufficient to support its conclusion (the different population variables that are known to contribute to the extinction risks of different species are discussed further in the Risk Analysis Study Guide).

At the same time, a "no jeopardy" argument that relied on changes in a species' abundance and trend, but ignored changes in variance in population abundance and trend would probably underestimate a species' actual extinction risks. Therefore, an argument supporting a "no jeopardy" conclusion *could not* safely ignore variance in population abundance and trend and still be considered sufficient to support its conclusion.

A large body of knowledge is available that would help the Services establish that our reasons and evidence are sufficient to support our conclusions in section 7 consultations: prior consultations; prior cases of species and populations that have declined, collapsed, or become extinct; and the

body of scientific knowledge on the response of natural populations to human activities. For example, there are numerous quantitative and qualitative studies of how changes in variables that define a population's ecology contribute to a species' or population's extinction risk (for example, see Dennis *et al.* 1991; Fagan *et al.* 1999, 2001; O'Grady *et al.* 2004. Also see Risk Analysis Study Guide). These studies provide examples of changes in population variables that are sufficient to increase the extinction risks of many species of plants and animals (and since they are published in peer-reviewed journals, they should meet the criterion of acceptability).

The Services should rely on these data to help establish the sufficiency of the reasons and evidence we present in particular consultations. The Services should also rely on the large number of consultations we have conducted on different federal actions (including the incidental take statements contained in the biological opinions that concluded these consultations), monitoring reports from those consultations, and documents associated with federal, state, local, and private endangered species programs (recovery actions, status assessments, conservation plans, etc.) to establish the sufficiency of the reasons and evidence that support their conclusions.

#### 4.4 Rebuttal Criterion

To comply with the rebuttal criterion, arguments for or against a conclusion or proposition should effectively rebut all strong challenges or counter-arguments. An argument is a strong challenge or counter-argument when it provides reasons and evidence that are relevant to the conclusions of the counter-argument and that may be acceptable and sufficient to support the counter-argument's conclusions.

We can return to Example 2 (Page 8) to illustrate the role of the rebuttal criterion in argument,

A power company argues that modifying operations to a run-of-the-river flow regime will adversely affect bald eagles. The company cites studies that identify bald eagles downstream from the dam eating suckers killed when the river below the dam is dewatered.

The company concludes that if the river is never dewatered, the suckers will not die, and the bald eagles will starve.

If the power company wanted to improve its argument, it would have recognized the implicit premise necessary to support their conclusion (their conclusion is valid if and only if bald eagles eat only dead suckers), anticipated an obvious counter-argument (bald eagles eat more than dead suckers), and provided reasons and evidence to rebut this counter-argument.

In most consultations, Action Agencies or Applicants have arguments that counter the Services' arguments, even though the Services may not recognize those counter-arguments. For example, when the Services do not concur with an Action Agency's "not likely to adversely affect" determination, the Action Agency's conclusion remains a counter-argument that warrants a rebuttal. When the Services issue a "no jeopardy" or "jeopardy" biological opinion, there are often strong arguments that support the alternative "jeopardy" or "no jeopardy" conclusions. In each of these instances, the Services increase support for our conclusions when we acknowledge the arguments that support these alternative conclusions, analyze and evaluate those arguments, and provide reasoned responses to them.

The purpose of rebutting an argument is to demonstrate that argument in support of our conclusion or proposition has greater support in reasons and evidence than the arguments that would lead to alternative conclusions. If we are objective in our evaluation of the arguments that support alternative conclusions, we must also accept that those arguments may, in fact, be stronger than our own arguments. In that instance, when we rebut counter-arguments, we should be open to the possibility of having to accept the conclusion the counter-argument supports.

The record supporting biological opinions or concurrence letters should demonstrate that the Services considered arguments (reasons and evidence) that support alternatives to the conclusion we have provided. The record should also demonstrate that the conclusion we reached had the greatest support in the best scientific and commercial data available.

## 5.0 Reconstructing Arguments

Because people tend to accept conclusions or assertions that agree with their prior beliefs and reject conclusions or assertions that do not agree with those beliefs, to evaluate an argument objectively, we cannot be concerned about whether we are inclined to believe a conclusion or claim. Our sole concern must be whether it is rational to believe or accept the conclusion on the grounds provided by the argument. Often, the most difficult part of evaluating an argument is suspending our prior beliefs and focusing on the argument actually presented to support a conclusion instead of on the conclusion itself.

Evaluating arguments can also be difficult because most authors, in their normal writing, don't clearly identify their premises and their conclusions. Some authors identify their conclusions with words like "therefore," "in conclusion," "as a result," etc. (sometimes these words introduce sentences unconnected to an author's true conclusion), but most authors usually don't explicitly highlight the reasons or evidence that support their conclusion. Further, most authors include information that does not support their argument, but is offered as background material or context for the argument. Nevertheless, to evaluate any argument we need to identify an argument's conclusion(s) and distinguish the conclusion from the reasons and evidence offered to support the conclusion.

Reconstructing arguments into what is called "standard form" makes it easier to distinguish an argument's premises from its conclusion; it also makes it easier to eliminate background and other material that is not necessary to support a conclusion (and that often disguises a conclusion). The standard form of arguments looks like

- |    |                       |
|----|-----------------------|
| 1. | Premise 1             |
| 2. | Premise 2 3.          |
|    | Premise 3             |
|    | _____                 |
| 4. | <b>So:</b> conclusion |

This example illustrates several traditions associated with presenting arguments in standard form. First, each premise is normally listed separately and numbered to make it easier to discuss the premises while evaluating the argument. Second, the conclusion is normally separated from the premises by a ruling line (an "inference bar"). Third, the conclusion is normally introduced with a

term like "Therefore" or "So" (in this text, we will introduce conclusions with the term "So:" highlighted in bold and separated by a ruling line to distinguish it from other premises).

Finally, different arguments will have different numbers of premises. Although this example of an argument in standard form has three premises, there is no particular limit in the number of premises an argument might contain. Some arguments may only have one premise, other arguments may have tens or hundreds of premises (depending on how you count its premises, the U.S. Declaration of Independence has 31 premises supporting its conclusion). It is also traditional to include a premise that explains how and why the reasons and evidence presented in the argument combine to provide rational support for the conclusion (we illustrate this in the next example).

It takes practice to reconstruct arguments, but standard form has several benefits over normal prose. In addition to making it easier to evaluate arguments, reconstructing arguments in standard form protects us against our biases, particularly our tendency to accept conclusions that confirm our prior beliefs and reject those that do not. By forcing us to examine the structure of an argument without the surrounding prose, reconstructing arguments in standard form helps us see past the strength of an author's words to examine the strength of the author's argument.

When we reconstruct arguments, particularly arguments we may not agree with, the **Principle of Charity** is important: we need to *present an argument in the strongest possible form that is consistent with the original author's purpose*. If we are uncertain about an author's intentions in an argument or think parts of their argument are implicit, we must give the author the benefit of the doubt when we reconstruct their argument. For example, if an argument includes implicit premises, we should include those premises in our reconstruction, but enclose our addition in parentheses to distinguish it as something we have added.

We illustrate the process of reconstructing an argument in standard form using an argument from the Consultation Handbook (page 3-8):

### Example 3

Inasmuch as distributional information on many rare species is incomplete or imprecise, it is not currently possible to provide a definitive finding relative to small whorled pogonia in the permit area. Therefore, in situations such as this, where an endangered species is known to occur in similar habitats nearby, a qualified botanist should survey the following proposed alignments prior to construction activities: alignment sections with corresponding numbers 11 - 20 (no Figure identified) and Nos. 37 - 39 (Fig. 35). A survey for the small whorled pogonia should be conducted by a botanist familiar with this species and should occur in July or August to ensure best survey conditions.

This paragraph contains a very specific conclusion ("Therefore,... a qualified botanist should survey the following proposed alignments...") that is supported by several reasons and evidence presented in the different sentences of the paragraph. So the paragraph contains all elements required of an argument. The paragraph also contains another feature of arguments called a connecting premise or warrant: a statement of general circumstances from which the Services make a general inference (this circumstance is captured in the second sentence of the paragraph "...in situations such as this, where an endangered species is known to occur in similar habitats



nearby...."). Warrants do not always appear in every argument, but they can provide more support for an argument's conclusions when they appear in an argument.

The argument contained in this paragraph, reconstructed in standard form, appears as.

1. Since distributional information on many rare species is incomplete or imprecise
  2. and the Service cannot conclude that small whorled pogonia do not occur in the permit area
  3. and small whorled pogonia are known to occur near the permit area
  4. and small whorled pogonia occur in habitat similar to those in the permit area
  5. (when distributional information on a threatened or endangered species is incomplete, and the Services cannot rule out a species' occurrence in an Action Area because the species is known to occur near an Action Area, and is known to occupy habitats similar to those in an Action Area, an Action Agency should conduct surveys by qualified personnel to determine whether the species occurs in the Action Area)
- 
6. **So:** a qualified botanist should survey the following alignments prior to construction activities

Example 3 (above) illustrates the reconstruction of an argument that appeared in a consultation into standard form. Premise 5 of this reconstruction illustrates the practice of enclosing an additional premise in parentheses to distinguish it as something we have added. The statement in parentheses is not part of the original text; it is included in the reconstructed argument because it explains why the other premises constitute reasons for the conclusion. Without this premise, readers may not understand how to think about the problem; how and why the reasons and evidence contained in the other premises provide rational support for the conclusion.

Also note that Premise 5 of the reconstructed argument does not represent an explicit premise of the original argument, but provides an explanation of why the other premises are good reasons for accepting the conclusion. This kind of premise is often called a "warrant": a premise that explains why the other reasons and evidence combine to form a satisfactory reason for accepting an argument's conclusion. We can also think of warrants as "conceptual models" of arguments; they identify how reasons and evidence combine to support a conclusion. Some arguments require explicit warrants while others do not; the more complex an argument or the more complex the subject matter of an argument, the more important a warrant becomes.

Once we have reconstructed an argument in standard form, we then evaluate the argument using the four criteria of a good argument:

1. their premises are relevant to the truth of the conclusion;
2. their premises are acceptable, believable, warranted;
3. their premises together constitute sufficient grounds for the truth of the conclusion; and
4. they provide an effective rebuttal to all reasonable challenges to the argument's conclusion

To evaluate an argument, first eliminate any premises that are not relevant to the conclusion (supported by an explanation of why those premises are not relevant). Then we eliminate any of the

remaining premises that are not acceptable (supported by an explanation of why they were considered unacceptable). Finally, we decide whether the reasons and evidence that remain are sufficient to accept the conclusion. If they are not, then we should reconsider the conclusion.

If our reasons and evidence are sufficient to support our conclusion, then we must rebut challenges to our argument or our conclusion. We use the same procedure when we prepare a rebuttal: reconstruct the counter-argument in standard form, remove premises that are not relevant and any premises that are not acceptable (with explanations of why any premises have been removed). Then we decide whether the reasons and evidence that remain are sufficient to accept the conclusion. When we decide that the premise of a counter-argument is not relevant or acceptable, or that the premises are not sufficient to support the argument's conclusion, the reasoning that supports these decisions forms our rebuttal to the counter-argument.

If we concluded that a counter-argument was sufficiently strong even after our rebuttal, we could compare the sufficiency of the argument that supports our proposed conclusion with the sufficiency of the argument that support alternative conclusions. Using a "strength of evidence" approach to section 7 determinations (jeopardy/no jeopardy; destruction or adverse modification/no destruction or adverse modification), the conclusion that has the strongest supporting argument should form the basis for our determination. That is, we should consider a consultation resolved if the reasons and evidence supporting one of four possible outcomes — "jeopardy" or "no jeopardy"; "destruction or adverse modification" or not — can be successfully defended by an argument that uses relevant and acceptable premises that together provide sufficient grounds to support the conclusion and provides an effective and stronger rebuttal to the alternative.

Unless someone — Action Agency, Applicant, or other parties to a consultation — demonstrates that these conditions have not been met, they should accept the conclusion of a consultation and consider the issue to be settled for all practical purposes. In the absence of a successful argument for an alternative conclusion, a rational person will accept the conclusion that is supported by the best of the arguments presented.

### Example 4: An Argument From a Technical Assistance Letter

A paragraph from a technical assistance letter issued by the U.S. Fish and Wildlife Service illustrates the process of reconstructing an argument and evaluating it using the four criteria we have just discussed: the relevance criterion, acceptability criterion, sufficiency criterion, and rebuttal criterion. In its original form, the paragraph appeared as

#### **Example 4**

Streambank and riparian damage caused by grazing livestock has affected and continues to impact Lahontan cutthroat trout. For example, a recent survey found many stream reaches had raw, actively eroding cutbanks and little riparian vegetation. Excessive grazing within the riparian area can lead to increased sedimentation, which causes mortality of embryos and fry through suffocation in the substrate. The proposed action will allow grazing in riparian areas within the range of the Lahontan cutthroat trout. Therefore, continued grazing is likely to adversely affect Lahontan cutthroat trout through mortality of embryos and fry.

This paragraph contains two arguments that support two different conclusions. The first argument is

1. A recent survey found many stream reaches had raw, actively eroding cutbanks and little riparian vegetation
  2. (Since actively eroding cutbanks and little riparian vegetation is evidence of streambank and riparian damage caused by livestock)
  3. (and since eroding cutbanks and little riparian vegetation is evidence of increased sedimentation in streams that impacts Lahontan cutthroat trout)
- 
4. **So:** Streambank and riparian damage caused by grazing livestock has affected and continues to impact Lahontan cutthroat trout

This argument appeared to have been intended to demonstrate that livestock grazing results in streambank erosion and damage to riparian vegetation which results in increased sedimentation that has adverse consequences for Lahontan cutthroat trout. The nature of the statement suggests that this argument paints a general picture of threats to the trout generally. Applying the principle of charity to the first argument, we needed to add two premises that were implicit in the original statement. Following tradition, both of the implicit premises are enclosed in parentheses.

The second argument, which is specific to a particular action, would be reconstructed as

1. The proposed action will allow grazing in riparian areas within the range of Lahontan cutthroat trout
  2. Excessive grazing in riparian area can cause increased sedimentation
  3. Increased sedimentation can suffocate embryos and fry causing mortality
- 
4. **So:** The proposed action is likely to adversely affect Lahontan cutthroat trout

Both of the premises initially appear to be relevant to the conclusion. Premises 2 and 3 of the reconstructed argument — excessive grazing can increase sedimentation and increased sedimentation can suffocate and kill embryos and fry — do not satisfy the acceptability criterion. Both Premises 2 and 3 may be true (and, therefore, acceptable) as general statements, they are not necessarily true (and, therefore, not necessarily acceptable) in this particular case. That is, while Premise 2 may be true when grazing is "excessive," it does not follow that it is true when grazing is not "excessive." While Premise 3 may be true for some level of increased sedimentation, it does not follow that it is true at any level of increased sedimentation.

In addition, both premises deal with possibilities ("excessive grazing *can* increase sedimentation"; "increased sedimentation can suffocate embryos...") which do not provide sufficient grounds for believing that increased sedimentation is *probable* or that the increased sedimentation as a result of the proposed action is *likely* to be sufficient to suffocate or kill young fish. To support premise 3, the argument would have to establish that increased sedimentation associated with the proposed action would be sufficient to suffocate and kill young fish given ambient levels of suspended sediment. As a result, these two premises might be sufficient to support a conclusion that asserts only possibility (that is, "may affect"), but they are not sufficient to support a conclusion that asserts probability ("likely to adversely affect"). We could also use this reasoning to argue that both premises are not relevant because they do not constitute reasons or evidence for the conclusion.

Finally, the argument does not satisfy the rebuttal criterion because of these problems. As given, it does not rebut challenges to the acceptability or sufficiency of its premises. As a result, an Action Agency or Applicant could build a counter-argument on more acceptable premises that would be sufficient to support an argument for the opposite conclusion: the proposed action "may affect" but is "not likely to adversely affect" listed resources.

We would not call this a good argument. It would have to be supplemented with additional reasons or evidence to support its conclusion. The argument would need to (a) be supplemented by additional premises that establish the probability of the consequences they assert or (b) have its conclusion revised to "may" rather than "is likely." If additional premises could not be added so that the argument's conclusion was rational, then the conclusion should change to "possible, but not likely" to make it compatible with the available evidence.

### Example 5: An Argument From a Biological Opinion

Another example uses a conclusion from a "no jeopardy" biological opinion to illustrate the process of reconstructing and evaluating arguments. In its original form (the original text has been modified to make the text somewhat anonymous), the conclusion appeared as

#### **Example 5**

After reviewing the best available scientific and commercial information regarding the biological requirements and the status of the listed coho salmon considered in this Opinion, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, NOAA Fisheries concludes that the action, as proposed, is not likely to jeopardize the continued existence of these species, and is not likely to destroy or adversely modify designated critical habitat.

These conclusions are based on the following considerations: (1) Action Agency will use Integrated Pest Management to ensure that a combination of all available pest control strategies, including pesticide alternatives, are applied to keep pests below treatment thresholds while reducing the need for pesticide applications; (2) when chemical use is required, Action Agency will select the pesticide formula that is least toxic for fish and aquatic life while achieving management needs; (3) the application of chemicals will be timed to coincide with weather conditions that are least likely to result in riparian and aquatic contamination; (4) broad non-spray buffers will be observed to reduce the likelihood of significant quantities of pesticide will be transported to riparian and aquatic systems through drift, surface runoff, and groundwater runoff; (5) chemicals will be applied using precise methods designed to reduce the amount of pesticide loss; (6) a comprehensive sampling, monitoring, and analysis protocol will be used to ensure that the behavior and transport of chemicals in the environment are as predicted; (7) the proposed action includes an explicit process to quickly modify the proposed action based on any significant new information that may be developed through consultations now underway with EPA regarding the effects of pesticides proposed for use during management of the land management area; and (8) all fertilizer applications will be applied at environmentally optimum rates designed to reduce the presence of fertilizer products in drainage water delivered to surface and groundwater systems.

**Box 2. Reconstruction of the argument presented in Example 5 (supporting the conclusion of a biological opinion for threatened coho salmon) reconstructed in standard form. See the text for an evaluation of this argument.**

1. The Action Agency proposes to use pesticides, fungicide, herbicides, and fertilizers over a five-year period as part of its management of a seed orchard
2. and the Action Agency proposes to reduce the probability of exposing listed coho to these pesticides, fungicide, herbicides, and fertilizers and a reduced forage base by using Integrated Pest Management to reduce the need for pesticide applications; selecting the pesticide formula that is least toxic for fish and aquatic life; timing its application of chemicals to coincide with weather conditions that are least likely to contaminate riparian and aquatic areas in the Action Area; observing broad non-spray buffers to reduce the likelihood of significant quantities of pesticide being transported to riparian and aquatic systems through drift, surface runoff, and groundwater runoff; applying chemicals using precise methods designed to reduce the amount of pesticide loss; implementing a comprehensive sampling, monitoring, and analysis protocol to ensure that the chemical's fate and transport occurs as predicted; modifying their chemical application based on significant new information generated by consultation with the Environmental Protection Agency; timing its application of chemicals to coincide with weather conditions that are least likely to contaminate riparian and aquatic areas in the Action Area [a conclusion supported by the Description of the Proposed Action]
3. (when an Action Agency proposes to use Integrated Pest Management to reduce the need for pesticide applications; selecting the pesticide formula that is least toxic for fish and aquatic life; times its application of chemicals to coincide with weather conditions that are least likely to contaminate riparian and aquatic areas in the Action Area; observes broad non-spray buffers to reduce the likelihood of significant quantities of pesticide being transported to riparian and aquatic systems through drift, surface runoff, and groundwater runoff; applies chemicals using precise methods designed to reduce the amount of pesticide loss; implements a comprehensive sampling, monitoring, and analysis protocol to ensure that the chemical's fate and transport occurs as predicted; modifies its chemical application based on significant new information generated by consultation with the EPA; times its application of chemicals to coincide with weather conditions that are least likely to contaminate riparian and aquatic areas in the Action Area to reduce the probability of exposing listed species to pesticides, herbicides, and fertilizers, the Action is not likely to appreciably reduce the likelihood of both the survival and recovery of listed coho salmon in the wild by reducing their reproduction, numbers, or distribution)
4. **So:** the Action Agency's proposal to use pesticides, fungicide, herbicides, and fertilizers over a five-year period as part of its management of a seed orchard is not likely to jeopardize the continued existence of listed coho in the wild by reducing the reproduction, numbers, or distribution of listed coho salmon

The first paragraph of the original explanation is standard language from the Consultation Handbook which reinforces the Services' regulatory obligation to consider a listed species' status, the environmental baseline of an action area, the effects of an action (as defined in regulation), and cumulative effects when reaching a conclusion in an opinion. The second paragraph of the text provides the argument that supports the "no jeopardy" conclusion.

Since the variables mentioned in the first paragraph — the species' status, the environmental baseline of the action area, etc. — were not offered as either explicit or implicit premises that informed the "no jeopardy" conclusion, they are not included in the reconstructed argument (Box 2, page 17) rather than as premises of the reconstructed argument itself (because they are not included, they are treated as background information for the argument). Consistent with the principle of charity, other versions of the reconstructed argument included these variables, but their inclusion had no effect on the acceptability of the conclusion.

Although the third premise of the reconstructed argument is only a minor modification of the second premise, the details were included to comply with the principle of charity because the argument implies that the second premise is a good reason for accepting the conclusion because the set of mitigative measures reduce the probability of exposing coho salmon to toxic chemicals and that reduction is sufficient to avoid the jeopardy outcome. We could have plausibly written Premise 3 as

When an Action Agency proposes measures that reduce the probability of exposing listed species to an Action's effects on the environment, the Action is not likely to appreciably reduce the likelihood of both the survival and recovery of listed coho salmon in the wild by reducing their reproduction, numbers, or distribution

but that reconstruction would be obviously false (it does not follow that proposing to reduce the probability of exposing threatened or endangered species to an Action's effects on the environment renders an Action unlikely to jeopardize those species) and very easy to reject as unacceptable. As a result, such a reconstruction would not satisfy the Principle of Charity. The reconstruction in Box 2 is charitable because the premise may not be generally true, but might be true because the specific measures are, in fact, sufficient to insure that the set of pesticides, herbicides, fungicides, and fertilizers the Action Agency proposes to use are not likely to jeopardize the continued existence of listed coho salmon. This premise may not be true or acceptable in its generalized form, but it may be true or acceptable in its specific form, which is why the premise is presented in the latter form to satisfy the principle of charity.

We leave readers to decide if this premise is still acceptable. If it is acceptable, is it sufficient to support the argument's conclusion? If it is not acceptable, does the argument provide sufficient reason to support its conclusion?

Reconstructing arguments in standard form is useful for several reasons. First, it clears the argument of material that does not support a conclusion and often disguises a good argument. Second, using standard form makes it easier to discover where an author didn't provide sufficient evidence to support a conclusion. Finally, the practice of reconstructing arguments in standard form and examining them helps us distinguish good arguments from poor ones. The more we practice this part of argumentation, the better we become at developing our own arguments. Arguments fall into certain patterns. By first composing our arguments in standard form, we can make sure they follow one of the correct patterns before inserting them into the text of our biological opinions.

## 8.0 Causal Argument

The Services, Action Agencies, and Applicants have to offer, rebut, and defend causal arguments at almost every step of a consultation. Indirect effects, which are effects "that are caused by the proposed action and are later in time, but still are reasonably certain to occur," are one of the few elements of a consultation that require the Services to make explicit causal arguments. In most other respects, causal arguments are implicit: developing the status of listed species requires the Services and Action Agencies to identify the causes of species' declines; developing environmental baselines for action areas require the Services and Action Agencies to identify the impacts "caused" by a suite of federal, state, or private actions; the response analyses prescribed by the risk assessment framework for jeopardy analyses are designed to identify the responses "caused" by a species' exposure to an action's stressors; incidental take statements require the Services to identify the different forms of "take" that are unintentionally "caused" by federal actions.

Similarly, many of the conclusions of consultation implicitly assert that an action "caused" an "effect" or an intended or unintended consequence. When the Services conclude that an action "is likely to adversely affect" listed species or critical habitat, we are asserting that "the action is likely to *cause* effects that are likely to have adverse consequence for a listed species. When the Services conclude that an action is "likely to jeopardize a listed species," we are asserting that an action is not only adverse, it is expected to *cause* a threatened or endangered species to face an appreciably greater risk of extinction (or an appreciably lower risk of being conserved).

Causal arguments have different requirements than non-causal arguments for two primary reasons. First, our species (and other sentient species) do not observe or measure "causation," we infer "causation" from events we observe or measure. If we witnessed an automobile pile-up, we would observe a series of interactions between a number of drivers and their automobiles; from those observations, we might conclude that one or more of the participants "caused" the entire incident. In this instance, we would not observe an "event" called "causation," we would have inferred a cause from the events we had observed.

Second, psychologists have identified numerous biases in human perception of causal relationships. Our species tends to perceive events or conditions that occur immediately before an effect as causal rather than events that are separated from their effects. We tend to perceive events that occur as causal rather than events that do not occur. We tend to treat phenomena that are surprising as causal agents and ignore routine phenomena. We tend to focus on causal agents that confirm our assumptions rather than causal agents that do not. We look for causes whose magnitude is proportional to their effect. Finally, we tend to search for a single causal agent rather and often fail to recognize the causal role of sets of events or conditions.

These biases complicate the process of getting others to recognize the relevance of the premises of causal arguments, getting them to accept those premises, getting them to recognize when premises are sufficient and when counter-arguments have been successfully rebutted. For these reasons, causal arguments are more difficult to offer and defend than non-causal arguments.

Different applied sciences use various approaches for establishing or detecting causal relationships (that is, for relating causes to their effects) and making causal arguments about those relationships. We first discuss two concepts, "necessary conditions" and "sufficient condition," because of their

central role in causal discussion and causal argument. We conclude this section with a discussion of the standard form of causal arguments.

### 6.1 Cause as a "Necessary" Condition, a "Sufficient" Condition, or Both

The concepts "necessary condition" (or "necessary cause") and "sufficient condition" (or "sufficient cause") anchor most discussions of causal relationships regardless of whether they are actually mentioned in those discussions. A phenomenon is a "necessary condition" (or cause) for an effect when it must be present for an effect or consequence to occur. A phenomenon is a "sufficient condition" (or "sufficient cause") when its presence inevitably produces an effect or consequence.

Put another way, in the absence of a "necessary condition," an effect will not occur, even if the presence of the necessary condition does not make the effect inevitable (another causal agent might need to be present for an effect to occur). In the presence of a "sufficient condition" an effect will occur, even if the absence of the sufficient condition does not preclude the effect or consequence (the presence of another causal agent might still produce the effect). We can use "fire" to illustrate the meaning of these terms. Oxygen is a common example of a necessary condition for fire: in the absence of oxygen, fire will not occur, but the mere presence of oxygen is not sufficient for fire to occur.

#### 1. *A Causal Agent (C) is a Necessary Condition and a Sufficient Condition for Effect (E)*

In this instance, a causal agent (C) and an effect (E) are always present together and nothing but that causal agent is needed to produce the effect. This circumstance is one of the most restrictive causal relationships because it describes a relationship in which one causal agent and only one causal agent produces a particular effect or consequence. We rarely encounter this kind of causal relationship in ecology or biology because most living systems evolved with redundant processes and pathways in order to adapt to changing environments. Unfortunately, many people consider this the only valid causal relationship.

#### 2. *C is a Necessary Condition but C is not a Sufficient Condition for E*

In this instance, C must be present when E is present, but E is not inevitable when C is present. As a result, some additional factor(s) must also be present to produce the effect. The necessary condition is a pre-requisite for an effects, but other pre-requisite conditions are also necessary. Our earlier example of the causal relationship between oxygen and fire illustrates this circumstance. Oxygen is a necessary condition for fire; in the absence of oxygen, fire will not occur, but the mere presence of oxygen is not sufficient for fire to occur.

The following examples also illustrate this causal relationship

- To recover sea turtles, it is necessary to protect their nesting beaches (this statement means that if we do not protect their nesting beaches we will not recover sea turtles, but protecting nesting beaches is not enough to recover sea turtles)
- To recover spotted owls, it is necessary to protect late successional reserves

#### 3. *C is not a Necessary Condition but C is a Sufficient Condition for E*

In this instance, when C is present, E is always present. However, other causal agents might also produce the effect (which is the same as saying "other causal agents might also be sufficient to produce the effect"). This describes one of the most common causal relationships in ecology and



biology. For example, harvesting adult animals in excess of recruitment rates is sufficient to cause a population to decline, but is not a necessary condition for population decline: we can cause a populations to decline without over-harvesting adults (for example, we can introduce diseases that kill all juveniles or we could over-harvest eggs and cause the same population to decline).

The following examples also illustrate this causal relationship

- Preventing the death of two, adult female northern right whales per year is sufficient to prevent the species from further declines
- Killing two adult, female Malaysian leatherback turtles is sufficient to increase the population's risk of extinction
- Killing four sub-adult, female Malaysian leatherback turtles is sufficient to increase the population's extinction risk

#### 4. *C is neither a Necessary Condition nor a Sufficient Condition for E*

This relationship describes correlation rather than causation: C may or may not be present when E is present so we cannot assume that C caused E. Under these conditions, if a putative causal agent is present with an effect, some additional causal factor must also be present for the effect to have occurred. It is important to note that a putative causal agent may be neither necessary nor sufficient for an effect, but it may be a necessary for an effect because it is a catalyst or acts through interactions. This situation is important in most practical applications, particular in ecological applications (the reasons for this statement should become apparent in the next section).

## 6.2 Causal Scenarios

Thus far, this discussion has focused on relationships between a single causal agent ("necessary condition," "sufficient condition," or both) and a single effect or consequence. A reader would be justified in challenging this material because it has limited practical application because most causal situations involve more than one causal agent and several possible outcomes. We call these situations "causal scenarios" and we will demonstrate how to apply the concept of "necessary conditions" and "sufficient conditions" to these scenarios.

For example, consider the following situation. After investigating a fire at a store that was being remodeled, a fire inspector concludes that a short circuit caused the fire. Upon hearing this announcement, the electrical contractor asserts that the store would not have caught fire if the painting contractor had not left flammable material near the short circuit. Upon hearing this, the painting contractor asserts that the stores would not have caught fire if the owner had not disabled the sprinkler system before letting the contracts. What caused the fire?

When the inspector said "a short circuit caused the fire" it is clear that the short circuit was neither necessary nor sufficient for the fire (the short circuit was not necessary for the fire because a lit cigarette could have provided a spark; the short circuit was not sufficient for the fire because a fire might not have occurred without the presence of oxygen and flammable material). Rather, the inspector's statement means that the short circuit was a necessary component of a particular set of conditions (flammable material near the short circuit, no sprinkler system, etc.) that were sufficient for the fire.

So the statement "a short circuit caused the house fire" is more properly read to mean "the presence of a short circuit next to flammable material with no fire sprinkler made the fire almost certain." Using the terms we have introduced previously, we would say the short circuit was a necessary part of a complex scenario that was itself unnecessary but was sufficient for the fire. We recommend studying this statement carefully because it describes the most common causal situation we encounter in consultations and most other environmental problems.

Stearns and Stearns<sup>5</sup> provide an ecological example of this kind of causal scenario in their description of the Laysan honeycreeper (*Himateone sanguinea freethi*). In the early 1900s, an entrepreneur introduced rabbits to Laysan Island that destroyed the vegetation on the island. Without vegetation, the honeycreeper's nests suffered in the face of egg predators like Bristle-thighed curlews and turnstones. In 1923, a biological survey concluded that the honeycreeper population had declined to about 3 birds. Shortly after the survey, the last 3 honeycreepers disappeared during a sandstorm and the subspecies became extinct.

What caused the honeycreeper's extinction? The entrepreneur, the rabbits, the predatory birds, or the sandstorm? By themselves, each of these potential causal agents was neither *necessary* nor *sufficient* to cause the honeycreeper's extinction; but they acted together to create a scenario in which the extinction was virtually guaranteed (if the sandstorm had not occurred, the birds were prone to extinction from inbreeding depression or demographic accident).

When we describe these kinds of scenarios, it is important to recognize that they usually consist of phenomena or conditions that must be present combined with phenomena or conditions that must be absent at the same time. In the example of the store fire, the spark and flammable material had to be present, but the sprinkler system had to be absent in order to produce the fire. In the example of the honeycreeper, the rabbits, the loss of cover and nest sites, the predatory birds, and the sandstorm had to be present, but the *absence* of immigration or suitable habitat on a nearby island were also factors in the species' extinction.

The principle applies to most other ecological situations. When the Services and Action Agencies argue that habitat modification "caused" a population to collapse or become extinct, the scenario we create will include conditions that must be present (the availability of food becomes limiting, loss of cover makes the species vulnerable to predators, competitors, parasites, or harmful temperatures, etc.) combined with conditions that must be absent (the availability of suitable, alternative sites with food resources, cover, etc.) for our statement to be true.

When the Services conclude that an Action "is likely to jeopardize a threatened or endangered species," we make the same assertion as the fire inspector. We rarely mean that the Action is necessary and sufficient for the jeopardy conclusion (although some actions are sufficient to produce that result). We usually mean that the direct and indirect effects of an Action, when conjoined with a species' status, environmental baseline, cumulative effects, and background conditions (like the laws of physics, bioenergetics, principles of population dynamics, etc.) form a scenario that is reasonably expected to appreciably reduce the species' likelihood of surviving and recovering in the wild.

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<sup>5</sup> S.C. Stearns and Stearns, B.P. 1999. Watching from the edge of extinction. Yale University Press; New Haven, Connecticut.

Actions, then, are often necessary parts of complex scenarios that include the direct and indirect Effects of the Action and: a listed resource's status (given the consequences of prior natural and anthropogenic phenomena across the resource's range); the environmental baseline (given the consequences of prior, contemporaneous, future natural, and future anthropogenic phenomena in an Action Area that are not State, local, or private); cumulative effects to form complex scenario sufficient to produce an outcome. Our argument becomes stronger when we can establish that other scenarios that might also be sufficient to produce the outcome, which do not include the Action, are not likely to occur in the Action Area.

### 6.3 Standard Form of Causal Arguments

The standard form for causal arguments, like the causal arguments themselves, has two primary differences from the standard form for non-causal arguments. The first difference appears in the major premises of these causal arguments which have three basic components: a causal agent (denoted C), an effect or consequence (denoted E), and a population, set of conditions, or circumstances in which the causal relationship applies (denoted P). The major premises of causal arguments will generally assume the form

C causes E in population P

The last element of these premises — the population or set of conditions or circumstances in which a causal relationship holds — provides critical context for causal arguments. Causal arguments that do not identify (explicitly or implicitly) a relevant population are easy to challenge because a factor that is causal in one population may not be causal in another. For example,

Demographic stochasticity *causes* increased extinction risk in small populations but

Demographic stochasticity *does not cause* increased extinction risk in large populations

Stress responses cause pathologies in some individuals, but not others. Human disturbance causes some animals to abandon a site under some circumstances, but not others. Small population sizes cause inbreeding depression in some species, but not others. Habitat alteration causes population declines under some circumstances, but not others. In ecology, biology, and physiology, many phenomena are limited to specific circumstances or conditions; good, causal arguments will specify those limits.

The second difference between causal and non-causal arguments appears in the structure of the arguments themselves. So far, we have established that there are several possible relationships between a putative cause and an effect. If we know that two factors, A and B, are positively correlated in population P, then only four causal connections can exist between A and B:

1. A causes B in P
2. B causes A in P
3. Some third factor independently causes A and B in P. That is, some third factor, C, causes A and also causes B, but there is no direct causal relationship between A and B
4. There is no causal connection between A and B in P (the correlation is accidental).

More than one of these alternatives may be true at a particular time, in a particular population, or under particular circumstances, so they are not exclusive. Since there are only four possible alter-

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native explanations, a good causal argument will eliminate (rebut) the different causal possibilities to establish the sufficiency (or lack thereof) of a particular causal conclusion (alternatives 1 and 2 might both be true — two phenomena are mutually causal — and may be treated as a fifth alternative). With this knowledge, we can construct the following standard form for causal arguments

1. C is positively correlated with E in P
2. If C is positively correlated with E in P, then either the causal factors are reversed in this correlation (E causes C in P), or the correlation is the result of a common cause (a third factor causes both C and E and C and E have no direct causal relationship), or the correlation is accidental (C and E are causally independent), or C causes E in P
3. The causal factors are not reversed
4. The correlation is not the result of a common cause
5. The correlation is not accidental **So:** C
6. causes E in P.

We return to Example 4 (Page 14) to illustrate the application of these principles to an argument in consultation. That example consisted of the following conclusion from the technical assistance letter, with :

Streambank and riparian damage caused by grazing livestock has affected and continues to impact Lahontan cutthroat trout. For example, a recent survey found many stream reaches had raw, actively eroding cutbanks and little riparian vegetation. Excessive grazing within the riparian area can lead to increased sedimentation, which causes mortality of embryos and fry through suffocation in the substrate. The proposed action will allow grazing in riparian areas within the range of the Lahontan cutthroat trout. Therefore, continued grazing is likely to adversely affect Lahontan cutthroat trout through mortality of embryos and fry.

When we reconstructed this paragraph, we divided it into two separate arguments. The first argument, which is contained in the first three sentences, was offered to establish a causal relationship between livestock grazing, erosion, damage to riparian vegetation, increased sedimentation, and harm to Lahontan cutthroat trout. The argument contained in the last three sentences appeared to have been offered to establish a causal relationship between the proposed action and the probable responses of the trout in the future. We reconstructed the first argument as

1. A recent survey found many stream reaches had raw, actively eroding cutbanks and little riparian vegetation
2. (since actively eroding cutbanks and little riparian vegetation is evidence of streambank and riparian damage caused by livestock)
3. (and since eroding cutbanks and little riparian vegetation is evidence of increased sedimentation in streams that impacts Lahontan cutthroat trout)
4. **So:** Streambank and riparian damage caused by grazing livestock has affected and continues to impact Lahontan cutthroat trout

Although we did not evaluate this part of the overall argument earlier, we evaluate it now in light of the material we have just presented on causal argument. The premises in this argument have the three elements of causal premises — cause, effect, and population. That is, "livestock (C) cause erosion (E) in streambanks (P)" so they have the proper structure of premises in causal arguments.

Although the premises have the correct structure, the argument does not. Livestock grazing is not a necessary condition for actively eroding cutbanks or little riparian vegetation, so other phenomena might have caused these conditions in the survey area. Therefore, eroding cutbanks and little riparian vegetation might be evidence of damage caused by livestock. but they are also evidence of causal agents unrelated to livestock. The argument establishes a potential correlation between livestock grazing, eroding cutbanks, and little riparian vegetation, but it is not sufficient to establish a causal relationship between these phenomena. If we reconstructed this statement in the standard form for causal arguments, the result would appear as

1. Livestock grazing (C) is positively correlated with erosion (E) in streambanks (P)
2. If C is positively correlated with E in P, then either the causal factors are reversed in this correlation (E causes C in P), or the correlation is the result of a common cause (a third factor causes both C and E and C and E have no direct causal relationship), or the correlation is accidental (C and E are causally independent), or C causes E in P
3. The causal factors are not reversed
4. The correlation is not the result of a common cause
5. The correlation is not accidental So: C
6. causes E in P.

In this situation, we do not need to demonstrate that the potential causal factors are reversed or that they are products of a common cause (it would be illogical to suggest that streamback erosion causes livestock grazing or that livestock grazing and streamback erosion have a common cause); so Premises 3 and 4 are irrelevant to the argument in this circumstance. That leaves Premise 5: we must argue that the relationship is not accidental or mere coincidence. Unless we supplement this argument to establish that the correlation between livestock grazing, eroding cutbanks, and little riparian vegetation is not accidental — that they are not caused by something unrelated to livestock grazing — the argument does not provide sufficient grounds for its conclusion.

This points to an important difference between causal and non-causal arguments: for causal argument to meet the sufficiency criterion of good argument, they must rebut counter-arguments based on Premises 3, 4, and 5 of the standard form of causal arguments.

## 7.0 Extended Arguments

Many of the arguments the Services and Action Agencies must develop and critically evaluate are properly called "extended arguments." An extended argument for a conclusion is one that contains one or more sub-arguments which provide reasons and evidence for conclusions (called "intermediate conclusions") that are then used as premises in subsequent arguments. The assessment framework that forms the foundation for the Advanced Section 7 Training (see Figure 1) represents an extended argument. Exposure analyses are designed to form an argument that allows us to reach rational conclusions about the individuals that would co-occur in space and time with the stressors or subsidies produced by an action, the populations those individuals represent, the dura-

tion of their exposure, etc. Response analyses begin with the conclusions of our exposure sub-arguments and extend them so we can make inferences about the probable responses of the individuals that have been exposed. Risk analyses then take the conclusions of our response analyses and extend them so we can make inferences about the probable consequences of exposure for the fitness of the individuals that have been exposed, the viability of the populations those individuals represent, and the viability of the species those populations comprise.

The arguments that must support our jeopardy or destruction or adverse modification conclusions are extended arguments. The variables the Services are required to consider — the status of the listed resources, the environmental baseline of an action area, the effects of an action, and cumulative effects — are part of those extended arguments. The rules of good arguments apply to extended arguments as well as any other form of argument, reconstructing them just requires more time and care to insure that the entire argument, as well as each step of it, satisfy the criteria of good arguments. The narratives that follow present and discuss extended arguments that should support jeopardy and destruction or adverse modification conclusions on biological opinions.

### 7.1 Jeopardy Arguments as Extended Arguments

Section 7 of the Endangered Species Act of 1973, as amended, requires federal agencies, in consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service, to insure that their actions are not likely to jeopardize the continued existence of threatened or endangered species. In regulation, the Services defined "jeopardize the continued existence of" as "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species" (we will not address the proper interpretation of the jeopardy standard in this Study Guide; the issue is addressed in the Risk Analysis Study Guide). By regulation, the Services are also required to consider a listed species' status, the environmental baseline of an action area, the effects of an action (as defined in regulation), and cumulative effects when deciding whether an action is or is not likely to jeopardize listed species.

Jeopardy determinations are one of the most important conclusions of any consultation. As discussed in the introduction to this study guide, to insure compliance with the APA, the Services must insure our jeopardy determinations are not arbitrary or capricious. We achieve this outcome by insuring that (a) we did not rely on factors which Congress did not intend us to consider, (b) we did not fail to consider an important aspect of a problem, (c) we offer an explanation for our conclusion that does not run counter to the evidence before us, and (d) we did not fail to articulate a rational connection between our facts and our "jeopardy" or "no jeopardy" conclusion.

Our best strategy for insuring compliance with these requirements is to treat each jeopardy or no jeopardy determination as an argument that must satisfy the criteria of good arguments that we have discussed thus far. When we develop and present those arguments, we can use one of three approaches:

- we can argue to a "jeopardy" conclusion,
- we can argue to a "no jeopardy" conclusion, or
- we can argue to both conclusions and accept the argument that has strongest support in the available evidence.

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**Box 3. An extended argument for a "jeopardy" or "no jeopardy" conclusion presented in standard form**


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1. The proposed action's effects are distributed over a particular area at particular times [a conclusion supported by (biological assessment, informal consultation or other document)]
  2. and listed species are likely to be exposed to those effects at particular levels, in a particular area, at particular times [a conclusion supported by (name supporting document)]
  3. and the listed species has (background extinction risk or persistence probability) [a conclusion supported by "Status" sub-argument]
  4. and the populations in the Action Area have (status, trend, demographic condition, and background extinction risk) [a conclusion supported by "Environmental Baseline" sub-argument]
  5. and the individuals in the Action Area have (antecedent physical, physiological, and behavioral condition) [a conclusion supported by "Environmental Baseline" sub-argument]
  6. and the individuals in the Action Area are also expected to be experience changes in fitness in response to the effects of the action [a conclusion supported by "Effects of the Action" sub-argument]
  7. and the populations in the Action Area are also expected to be experience changes in viability in response to cumulative effects [a conclusion supported by "Cumulative Effects" sub-argument]
  8. and those changes in population viability (are/are not) sufficient to appreciably increase the extinction risk (or reduce the likelihood of conserving) the species those populations comprise [a conclusion supported by risk portion of the "Effects of the Action" sub-argument]
  9. and since (general inferences we make from this set of circumstances using principles of the biology and ecology of populations, particularly that of small or declining populations; our prior experience; etc.)
  10. and (rebuttal to arguments supporting alternative conclusion)
- 
11. **So:** the Service concludes that the Action (is/is not likely) to jeopardize the continued existence of the listed species by reducing the reproduction, numbers, or distribution of that species
- 

Historically, the Services seem to have taken one of the first two approaches to developing arguments in biological opinions. Arguments to "jeopardy" conclusions seem to accept that the purpose of biological opinions is to demonstrate that federal action are not likely to jeopardize the continued existence of those species. Arguments to "no jeopardy" conclusions seem to accept that the purpose of biological opinions is to demonstrate that federal action are not likely to jeopardize the continued existence of those species.

Both of these approaches to presenting arguments to support "jeopardy" or "no jeopardy" determinations do not rebut arguments that might support the alternative conclusion (that is, "jeopardy" arguments might not evaluate the reasons and evidence to determine if they might support "no jeopardy" conclusions; "no jeopardy" arguments might not evaluate the reasons and evidence to determine if they might support "jeopardy" conclusions). Arguments to both conclusions make neither assumption and rely on the strength of the evidence to decide which conclusion has the most rational support in the available evidence.

The latter approach is called a "strength of the evidence" approach to decision-making. The four criteria of good arguments introduced in this Study Guide are designed to produce conclusions that have the strongest support in the evidence if, and only if, arguers satisfy the rebuttal criterion.

**Box 4. An extended argument for a "destruction or adverse modification" or "no destruction or adverse modification" conclusion presented in standard form**

1. The proposed action's effects are distributed over a particular area at particular times [a conclusion supported by (biological assessment, informal consultation or other document)]
  2. and designated critical habitat is likely to be exposed to those effects at particular levels, in a particular area, at particular times [a conclusion supported by (name supporting document)]
  3. and the designated critical habitat has (background conservation value) [a conclusion supported by "Status" sub-argument]
  4. and the sites of the designated area in the Action Area have (conservation value based on the quality, quantity, or availability of constituent elements) [a conclusion supported by "Environmental Baseline" sub-argument]
  5. and the constituent elements in the Action Area is also expected to be experience changes in quality, quantity, or availability in response to the effects of the action [a conclusion supported by "Effects of the Action" sub-argument]
  6. and the sites of the designated area also expected to be experience changes in conservation value in response to cumulative effects [a conclusion supported by "Cumulative Effects" sub-argument]
  7. and those changes in the conservation value (are/are not) sufficient to appreciably reduce the conservation value of the entire designated critical habitat [a conclusion supported by risk portion of the "Effects of the Action" sub-argument]
  8. and since (general inferences we make from this set of circumstances using principles of the biology and ecology of populations, particularly that of small or declining populations; our prior experience; etc.)
  9. and (rebuttal to arguments supporting alternative conclusion)
- 
10. **So:** the Service concludes that the Action (is/is not likely) to result in the destruction or adverse modification of designated critical habitat by appreciably reducing it value for the conservation of listed species

7.2 Destruction or Adverse Modification Argument as Extended Arguments

Section 7 of the Endangered Species Act of 1973, as amended, also requires federal agencies, in consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service, to insure that their actions are not likely to result in the destruction or adverse modification of critical habitat designated for threatened or endangered species.

Destruction or adverse modification determinations are also the most important conclusion of any consultation. As discussed in the introduction to this study guide, to insure compliance with the APA, the Services must insure that these determinations are not arbitrary or capricious, which we achieve by insuring that (a) we did not rely on factors which Congress did not intend us to consider, (b) we did not fail to consider an important aspect of a problem, (c) we offer an explanation for our conclusion that does not run counter to the evidence before us, and (d) we did not fail to articulate a rational connection between our facts and our "destruction or adverse modification" conclusions.

Our best strategy for insuring compliance with these requirements it to treat each destruction or adverse modification determination as an argument that must satisfy the criteria of good arguments that we have discussed thus far. Like "jeopardy" arguments, when we develop and present argu-



ments to support our "destruction or adverse modification" determinations, we can use one of three approaches:

- we can argue to a "destruction or adverse modification" conclusion,
- we can argue to a "no destruction or adverse modification" conclusion, or
- we can argue to both conclusions and accept the argument that has strongest support in the available evidence.

It is important to note the differences between the two arguments contained in Boxes 3 and 4. The arguments that support "jeopardy" determinations must address consequences for listed individuals, the populations those individuals represent, and the listed species those populations comprise (Premises 6, 7, and 8 of Box 3). Even "habitat-based" jeopardy arguments must ultimately demonstrate that listed individuals, the populations those individuals represent, and the species those population comprise are or are not likely to experience reductions in their likelihood of both surviving and recovering in the wild. Compare this to the premises of the arguments that support "destruction or adverse modification" determinations, which address the quality, quantity, and availability of constituent elements, sites, and a critical habitat designation. Note that this argument can safely ignore those considerations and meet the sufficiency criterion of good arguments.

## **8.0 Resolving Arguments**

There is a legal limit on the duration of section 7 consultations. This limits the amount of time that is available to the Services and Action Agencies to gather and critically evaluate evidence and reach conclusions based on that evidence. As a result, it will often be important to know when the matters in a consultation can be considered resolved and consultation concluded.

Based on principles articulated by Damer (2001) and Feldman (1999) we should consider a consultation resolved if the reasons and evidence supporting the three different outcomes that must be decided in consultations — "likely to adversely affect" or "not likely to adversely affect"; "jeopardy" or "no jeopardy"; "destruction or adverse modification" or not — can be successfully defended by an argument that uses relevant and acceptable premises that together provide sufficient grounds to support the conclusion and provides an effective and stronger rebuttal to the alternative. Unless an Action Agency, Applicant, or other participant in a consultation demonstrates that these conditions have not been met, the Services will have reached a legally-defensible conclusion to a consultation.

Even when the Services apply these principles to a consultation, some degree of uncertainty about the truth or falsity of our conclusion will remain. That situation is not unique to consultation; it is common to any situation that requires anyone to make inferences about future conditions based on an incomplete knowledge of the future. Remember the fallibility principle, which requires us to accept that we may be wrong about our ideas, conclusions, or propositions, regardless of the care we put into developing them. Nevertheless, by applying the principles described in this Study Guide we can produce conclusions that are rational to accept as true given the evidence available.

### Literature Cited and Further Reading

This study guide integrates ideas, principles, practices, and materials from a large number of sources, many of them are contained in the following list of references. In particular, **Bowell and Kemp (2002)**, **Damer (2001)**, and **Feldman (1999)** provided the criteria of good arguments and rules of conduct for argument-based inquiries form the foundation of the material contained in this study guide. **Damer (2001)** and **Feldman (1999)** were the source of the material on causal arguments while **Einhorn and Hogarth (1986)** were the source of the material on causal scenarios. The sources that were particularly important to developing this study guide are highlighted in bold.

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**Exercises**

**Exercise 1. Reconstruct the argument contained in the following sections of your biological opinion:**

1. The Status of the Resource. Select at least one listed resource from the Status of the Listed Resource section of your biological opinion.
  - a. Does the biological opinion reach a conclusion about the status of the listed resource?
  - b. What is the conclusion?
  - c. What reasons or evidence (premises) support that conclusion?
  - d. Reconstruct the argument in standard form. Is the argument that supports the conclusion a "good" argument?
5. The Environmental Baseline
  - a. Does the biological opinion reach a conclusion about the impact of the environmental baseline on listed resources?
  - b. What is the conclusion?
  - c. What reasons or evidence (premises) support that conclusion?
  - d. Reconstruct the argument in standard form. Is the argument that supports the conclusion a "good" argument?
5. The Conclusion. Select at least one conclusion listed resource
  - a. What conclusion does the biological opinion reach?
  - b. What reasons or evidence (premises) support that conclusion?
  - c. Reconstruct the argument in standard form and evaluate the it using the four criteria of a good argument: the premises are relevant, the premises are acceptable, the premises are sufficient, and the argument rebuts counter arguments.
  - d. Given the evidence contained in the paragraph, would it be more reasonable to expect the conclusion to be true than it would be expect the conclusion to be false?
  - e. Explain your answer to Question 6.

**Exercise 2. Reconstruct the following paragraph in standard form and evaluate the result**

It has long been recognized that the Indiana bat requires winter sites that are disturbance free and do not experience freezing temperatures, particularly because of the species' vulnerability when large numbers of individuals are gathered in discrete areas of the hibernacula. Protection of only one life stage (hibernacula) is not adequate to ensure the survival and recovery of this species since the threat of disturbance and vandalism has apparently been abated, yet the range-wide population trend continues to decrease. All other life stages (i.e. migration, fall swarming, raising of young), particularly the birthing and raising of young requires a high level of protection too. The destruction of forest habitat could have a serious impact Indiana bat populations (U.S. Fish and Wildlife Service 1983). Therefore, adequate summer maternity habitat (roosts with appropriate microclimatic conditions for raising young, adequate foraging area, etc.) is crucial to ensure critical recruitment. Because of the colonial nature of the species and the ability for a female Indiana bat to only give birth to one pup annually, protection of maternity colonies is essential for the survival and recovery of this species. A maternity colony, or nursery area, refers to the area where pregnant female bats congregate to give birth and care for their young (Hill and Smith 1986).

1. Does this paragraph reach a conclusion?
2. What is the conclusion?
3. Does this paragraph provide reasons or evidence to support that conclusion?
4. What reasons or evidence (premises) does the paragraph offer to support its conclusion?
5. Reconstruct the argument in standard form and evaluate the it using the four criteria of a good argument: the premises are relevant, the premises are acceptable, the premises are sufficient, and the argument rebuts counter arguments.
6. Given the evidence contained in the paragraph, would it be more reasonable to expect the conclusion to be true than it would be expect the conclusion to be false?
7. Explain your answer to Question 6.

**Exercise 3. Reconstruct the following paragraph in standard form and evaluate the result**

The most likely proximate hypothesis for the demise of the Squirrel Valley population is starvation. That is, the blatant disturbance to a key portion of the animals' food resource base (seeds of native plants) made it impossible for many individuals (especially young and old females) to reproduce effectively and then store enough fat to survive 7-8 months in hibernation. Over the longer term, it is possible that the population was caught in an evolutionary trap. In congeneric ground squirrels, condition of the native vegetation at spring emergence is a reliable cue of whether there will be sufficient forage to support reproduction and prehibernatory fattening. The *S. b. brunneus* at Squirrel Valley did not receive an early-season cue that their food base would be nutritionally inadequate (lacking in seeds) and, in many years, unavailable (dried up or eaten by livestock) later in the active season. Thus, they did not respond adaptively to impending food-plant failure by reducing litter sizes or curtailing reproduction in order to fatten early. The consequence may have been increased overwinter mortality, especially for the youngest and oldest females, i.e., those that bore the greatest physiological burdens of gestation and lactation.

1. Does this paragraph reach a conclusion?
2. What is the conclusion?
3. Does this paragraph provide reasons or evidence to support that conclusion?
4. What reasons or evidence (premises) does the paragraph offer to support its conclusion?
5. Reconstruct the argument in standard form and evaluate the it using the four criteria of a good argument: the premises are relevant, the premises are acceptable, the premises are sufficient, and the argument rebuts counter arguments.
6. Given the evidence contained in the paragraph, would it be more reasonable to expect the conclusion to be true than it would be expect the conclusion to be false?
7. Explain your answer to Question 6.

**Exercise 4. Reconstruct the following paragraph in standard form and evaluate the result**

...variation in individual fitness of flycatchers probably translates to variation in responses to habitat loss/degradation and subsequent survivorship and reproductive success. Thus, not all flycatchers are likely to perish as a result of displacement [due to habitat loss] and not all flycatchers are likely to fail to attract mates and breed [after dispersal]. The more likely result would be a regional phenomenon of "loss-disperse-decrease" whereby: (1) large habitat patches occupied by the larger breeding groups are lost either by stochastic (e.g., fire) or deterministic processes (e.g., permitted Federal action); (2) surviving birds are forced to disperse elsewhere, most likely into smaller habitat patches; and (3) this dispersal causes decreases in the probabilities of survival, of obtaining mates, and of reproducing successfully. This hypothesis is based on the assumption that there is a negative relationship between habitat isolation and flycatcher survival and reproduction. This phenomenon could actually lead to a short-term increase in the number of sites occupied regionally while masking an overall, long-term decrease in population size and fecundity.

Dispersal due to habitat loss is not unique to Lake Mead, but has also been documented at Lake Isabella on the South Fork Kern River in California (Whitfield and Strong 1995), at Elephant Butte Reservoir on the Rio Grande in New Mexico (Hubbard 1987), and is anticipated to occur at the Roosevelt Lake breeding sites in Arizona (USFWS 1996). These areas represent some of the largest known riparian habitat patches in the Southwest. In some cases the habitat modifications (i.e., inundation) occurred during the breeding season. Thus, flycatchers were, in all likelihood, forced to disperse to smaller patches potentially incurring increased risk of predation, increased competition for suitable habitat elsewhere, and delayed or foregone breeding opportunities.

1.

2.3.4.

5.

6.

7.



Does this paragraph reach a conclusion?

What is the conclusion?

Does this paragraph provide reasons or evidence to support that conclusion?

What reasons or evidence (premises) does the paragraph offer to support its conclusion?

Reconstruct the argument in standard form and evaluate the it using the four criteria of a good argument: the premises are relevant, the premises are acceptable, the premises are sufficient, and the argument rebuts counter arguments.

Given the evidence contained in the paragraph, would it be more reasonable to expect the conclusion to be true than it would be expect the conclusion to be false?

Explain your answer to Question