



FARM and RANCH LANDS PROTECTION PROGRAM

Programmatic
Environmental Assessment

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TABLE OF CONTENTS

1.0 SECTION 1 - INTRODUCTION	1
1.1 DECISIONS TO BE MADE UNDER NEPA	1
1.2 CONSERVATION ASSISTANCE.....	2
1.3 FRPP OVERVIEW AND 2008 STATUTORY REQUIREMENTS SUMMARY	2
1.3.1 Mandatory Provisions Under Section 2401 of the Farm Bill.....	4
1.3.2 Cost Share Assistance.....	5
1.3.3 FRPP Eligible Lands.....	5
2.0 SECTION 2 – PURPOSE AND NEED FOR ACTION	6
3.0 SECTION 3 – ALTERNATIVES AND SCOPE OF ANALYSIS	7
3.1 ALTERNATIVES	7
3.2 PUBLIC PARTICIPATION AND SCOPING.....	7
4.0 SECTION 4 – ANTICIPATED ENVIRONMENTAL IMPACTS	8
4.1 APPROACH TO ANALYSIS	8
4.2 SOILS/LAND USE/PRIME AND UNIQUE AGRICULTURAL LANDS AND FORESTLAND.....	11
4.2.1 Resource Characterization	11
4.2.2 Alternative 1 – No Action Alternative	16
4.2.3 Alternative 2 – 2008 FRPP Requirements	16
4.3 WATER RESOURCES	16
4.3.1 Resource Characterization	16
4.3.2 Alternative 1 – No Action Alternative	20
4.3.3 Alternative 2 – 2008 FRPP Requirements	20
4.4 AIR QUALITY	21
4.4.1 Resource Characterization	21
4.4.2 Alternative 1 – No Action Alternative	29
4.4.3 Alternative 2 – 2008 FRPP Requirements	29
4.5 BIOLOGICAL RESOURCES	30
4.5.1 Resource Characterization	31
4.5.2 Alternative 1 – No Action Alternative	32
4.5.3 Alternative 2 – 2008 FRPP Requirements	33
4.6 CULTURAL RESOURCES.....	33
4.6.1 Resource Characterization	33
4.6.2 Alternative 1 – No Action Alternative	36
4.6.3 Alternative 2 – 2008 FRPP Requirements	36

4.7 ECONOMIC AND SOCIAL CONSIDERATIONS.....	36
4.7.1 Resource Base and Resource Condition Trends.....	37
4.7.2 Alternative 1 – No Action Alternative	38
4.7.3 Alternative 2 – 2008 FRPP Requirements	38
4.8 CUMULATIVE IMPACTS	39
5.0 SECTION 5 – LIST OF PERSONS AND AGENCIES CONSULTED	42
6.0 SECTION 6 - APPENDICES	43
APPENDIX A – ENVIRONMENTAL REVIEW INTRODUCTION	43
APPENDIX B – TYPES OF POTENTIAL IMPACTS	43
APPENDIX C – DURATION OF POTENTIAL IMPACTS	44
APPENDIX D – CONSERVATION PLANNING.....	44
APPENDIX E – CONSERVATION EFFECTS DIAGRAMS	45
APPENDIX F – INCORPORATION BY REFERENCE USED IN THIS ANALYSIS.....	47

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1.0 INTRODUCTION

In order to accomplish conservation goals on private and other non-Federal lands, the Natural Resources Conservation Service (NRCS) is authorized through Farm Bill legislation to use a broad range of programs to encourage the voluntary conservation of natural resources. Accordingly, Congress and United States Department of Agriculture (USDA) NRCS have recognized the importance of providing technical and financial assistance through conservation programs delivered at the State and local levels. National Farm Bill legislation establishes that financial assistance is to be provided to areas with the most pressing environmental resource concerns and provide the most protection of agriculture use and related conservation values.

The focus of this Programmatic environmental assessment (EA) is on the primary decision by NRCS for national rulemaking associated with Farm Bill conservation programs. Specifically, this Programmatic EA analyzes the potential environmental effects associated with national rulemaking for the Farmland Protection Program (FPP). The statutory name of the program is FPP; however, the 2003 rule introduced the name “Farm and Ranch Lands Protection Program” (FRPP) to more accurately reflect the scope and intent of the program. The program will continue to be referred to as the FRPP in the new rule and in this Programmatic EA.

1.1 Decisions to be Made Under NEPA

The proposed Federal action being considered by NRCS involves the promulgation of regulations to implement the FRPP under the 2008 Farm Bill (16 USC 3838i). Thus, this Programmatic EA is to evaluate the broad impacts of the program and provide information for the national rulemaking.

Originally, the FRPP was authorized by the Federal Agriculture Improvement and Reform Act of 1996, P.L. 104-127, April 4, 1996 (“the 1996 Act”), and was amended by the Farm Security and Rural Investment Act of 2002, P.L. 107-171, May 13, 2002 (“the 2002 Act”), and most recently by the Food, Conservation, and Energy Act of 2008, (P.L. 110-234) (hereafter referred to as “the 2008 Act”). As the proposed action is rulemaking for a national program, the analysis herein is referred to as a Programmatic EA that evaluates the potential environmental impacts at a broad program scale. NRCS is utilizing this Programmatic EA to assist the agency in determining whether promulgation of the proposed rule and implementation of FRPP will significantly affect the quality of the human environment, such that NRCS must prepare an Environmental Impact Statement (EIS). In accordance with the Council on Environmental Quality (CEQ) regulations at 40 CFR Part 1508.9, this Programmatic EA is “a concise public document that briefly provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.” In accordance with NRCS regulations that implement the National Environmental Policy Act (NEPA), this Programmatic EA contains the following information: a brief discussion of the need

for action and alternatives, a discussion of the anticipated environmental impacts, and a list of agencies and persons consulted (7 CFR Part 650.4(b)(2)).

The analysis herein analyzes potential environmental effects in a broad geographic and temporal context and evaluates the rulemaking for the national program as a whole. Consequently, the scope and range of potential environmental impacts are more qualitative in nature and relies on subsequent site-specific analysis produced by NRCS at a local level should the FRPP be implemented. Accordingly, the proposed Federal action involves no site-specific or ground-disturbing actions that will occur as an immediate or direct result of the proposed national rulemaking.

1.2 Conservation Assistance

Other Federal actions that may occur or may be taken to further implement the FRPP are subject to environmental review under NRCS regulations that implement NEPA.

Accordingly, actions that may be taken by NRCS State and local levels to further implement the FRPP will be able to tier to or incorporate by reference the general and broad scale analysis from this national Programmatic EA into more site-specific level analyses. Thus, any subsequent analyses that are prepared to implement FRPP at the State or local level will be meeting NEPA's intent by focusing in on the issues/concerns pertinent to that site-specific action.

Per NRCS regulations that implement NEPA at 7 CFR Part 650, site-specific environmental evaluations (EE) are developed for planning and financial assistance to develop conservation plans issued under the FRPP program by State or local offices. The EE evaluates conservation planning options developed to identify and address potential environmental resource concerns that may exist in the area of potential effect. The EE process is used to determine if protected resources occur on the property and if those resources have the potential to be affected by conservation actions. 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. It provides the documentation for 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. NRCS guidance on the site-specific environmental evaluation process and definitions of protected resources can be found in the NRCS National Environmental Compliance Handbook (USDA 2003) (see the Appendix for additional information related to this topic).

1.3 FRPP Overview and 2008 Statutory Requirements Summary

The 2008 Act resulted in changes to the program that are discussed below, including a provision that mandates the Secretary of Agriculture, within 90 days after the enactment of the 2008 Act, to promulgate regulations necessary to carry out the program.

Under the 2002 Act, NRCS, on behalf of the Secretary of Agriculture, was authorized to purchase conservation easements in FRPP for the purpose of protecting topsoil by limiting nonagricultural uses of the land. FRPP provides up to 50 percent of the appraised fair market value of the conservation easement. A participating eligible entity was required to provide a minimum of 25 percent, in cash, of the appraised fair market value of the conservation easement or 50 percent of the conservation easement's purchase price (appraised fair market value minus the landowner donation). Although bidding down is prohibited in the 2008 Farm Bill, some farmers and ranchers reduce the purchase price below the appraised fair market value of their operation in order to receive tax benefits.

All FRPP easements acquired are perpetual. To be eligible for FRPP assistance, a State, Tribal, or local governmental entity or non-governmental organization must have the staffing and financial capabilities to acquire, hold, and manage conservation easements. NRCS uses an Announcement of Program Funding process to solicit FRPP participation. Upon receipt of proposals from an eligible entity, NRCS evaluates and ranks the proposals and the parcels contained within the proposals. Once the proposals and their parcels are prioritized, USDA awards funds to eligible entities. Contribution agreements are signed between the selected cooperating entities and NRCS to obligate FRPP funds. It is the responsibility of the cooperating entity to hold, manage, and enforce acquired easements.

From 1996 to 2007, 49 States received nearly \$536 million in FRPP funds. Approximately 533,068 acres on 2,764 farms, with an estimated cumulative easement value of nearly \$1.6 billion, either have or are committed to have FRPP easements.

The demand for the program has exceeded available funds. For every Federal dollar invested through FRPP, an additional \$2 has been contributed by the participating State and local governmental entities, non-governmental organizations, and landowners.

Section 2401 of the 2008 Act reauthorized and amended the FRPP. NRCS proposes to promulgate program regulations through an interim final rule, with request for comment, incorporating these statutory changes into the FRPP's existing regulation, 7 CFR 1491. NRCS, using the funds and authorities of the Commodity Credit Corporation (CCC), administers FRPP as a voluntary program to help farmers and ranchers keep their land in agricultural production. Through the program, NRCS provides assistance to State, Tribal, local governments, and non-governmental organizations with existing farmland protection programs to purchase conservation easements or other interests in land. Section 2401 of the 2008 Act amends the purposes and manner in which NRCS works with eligible entities to protect agricultural lands and protect related conservation values.

The 2008 Act issues mandatory changes to FRPP and also gives the Secretary discretion to implement some of its provisions. Other minor technical corrections and updates may be included.

1.3.1 Mandatory Provisions Under Section 2401 of the Farm Bill

Section 2401(a). Amends the definitions of eligible entity and eligible land.
Section 2401(b). Expands the program’s purpose of protecting agricultural lands by limiting non-agricultural uses, realigns the program towards facilitating the purchase of conservation easements by eligible entities, places terms and conditions under which the assistance will be provided including the length of an agreement between the Agency and eligible entity, and requires the establishment of a process through which the Agency will certify eligible entities which meet established criteria.
Section 2401(b). Allows for the inclusion of forest land that contributes to the economic viability of an agricultural operation or serves as a buffer to protect an agricultural operation.
Section 2401(b). Prohibits the Secretary from assigning a higher priority to an application solely on the basis of lesser cost to the program (bidding down) in FRPP. This change is merely a change in numbering of an existing statutory requirement and will have no impact on the rule.
Section 2401(b). Requires the establishment of a certification process by which the Secretary will directly certify eligible entities, but does not require a particular process.
Section 2401(b). Requires that to be certified, an eligible entity must have a plan for administering easements consistent with FRPP purposes; the capacity and resources to monitor and enforce conservation easements, policies, and procedures to ensure long-term integrity of conservation easements; timely completion of acquisitions; and timely reporting of use of funds.
Section 2401(b). Requires that the Secretary hold a contingent right of enforcement, but facilitates the purchase of easements by third parties.
Section 2401(b). Requires that an eligible entity be authorized to use its own terms and conditions so long as such terms and conditions are consistent with the purposes of the program, permits effective enforcement of the conservation easement or other interest, and includes, among other terms, a limit on the impervious surfaces to be allowed that is consistent with the agricultural activities to be conducted.
Section 2401(b). Requires that effective on the date of enactment, the fair market value of the conservation easement or other interest in eligible land be determined on the basis of an appraisal using an industry approved method, selected by the eligible entity and approved by the Secretary.
Section 2708. Requires the Secretary to develop procedures to monitor compliance with program requirements, measure program performance, and demonstrate whether long-term conservation benefits are being achieved.

1.3.2 Cost Share Assistance

To achieve the purposes of FRPP, the 2008 Act states that the Secretary of Agriculture shall facilitate and provide funding for the purchase of conservation easements or other interests in eligible land (Sec. 1238i (c) 16 U.S.C. 3838i).

1.3.3 FRPP Eligible Lands

The 2008 Act defines lands eligible for the program, in general, to include land on a farm or ranch that is subject to a pending offer for purchase from an eligible entity and has prime unique or other productive soil or contains historical or archeological resources or the protection of which will further a State or local policy consistent with the purposes of the program. This may include cropland, rangeland, pasture land, and forest land, provided the forest land contributes to the economic viability of an agricultural operation or serves as a buffer to protect an agricultural operation; and land that is incidental to previously described, if such land is necessary for the efficient administration of a conservation easement, as determined by the Secretary (Sec. 1238h(2) 16 U.S.C. 3838i).

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 without intolerable soil erosion, as determined by the Secretary of Agriculture. Prime farmland also includes land that possesses the above characteristics but is used to produce livestock or timber. It does not include land already in or committed to urban development or water storage.

Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops, as determined by the Secretary. 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. Other productive soils include farmland that is other than prime, or unique farmland that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops. The appropriate State or unit of local government makes this determination along with the concurrence of the Secretary.

For lands containing historical or archeological resources protected under FRPP, in order to be eligible for enrollment in the program, the historical and archaeological resources must be:

- Listed in the National Register of Historic Places (established under the National Historic Preservation Act (NHPA), 16 U.S.C. Section 470, et seq.);
or

- Formally determined eligible for listing in the National Register of Historic Places (by the State Historic Preservation Officer (SHPO)), or Tribal Historic Preservation Officer (THPO), and/or the Keeper of the National Register in accordance with Section 106 of the NHPA); or
- Formally listed in the State or Tribal Register of Historic Places of the SHPO (designated under Section 101(b)(1)(B) of the NHPA) or the THPO (designated under Section 101(d)(1)(C) of the NHPA); or
- Included in the SHPO or THPO inventory with written justification as to why it meets National Register of Historic Places criteria.

2.0 PURPOSE AND NEED FOR ACTION

The purpose of the FRPP is to enable NRCS to provide Federal assistance to reduce the conversion of productive farm and ranch land to non-agricultural uses.

NRCS' underlying need for action (rule promulgation) is to implement the FRPP according to the statutory requirements mandated by Congress in the 2008 Act. The need to which the program is responding is the need to purchase conservation easements or other interests as authorized by Congress in order to:

- Help protect the Nation's agriculture use related conservation values and provide the food and fiber necessary for the continued welfare of the people of the United States;
- Slow the irrevocable conversion of the Nation's farmland from actual or potential agricultural use to nonagricultural use;
- Maintain the ability of the United States to produce food and fiber in sufficient quantities to meet domestic needs and the demands of our export markets;
- Sustain rural economic stability and development;
- Maintain, restore, and enhance ecosystems;
- Protect historic landscapes and scenic beauty.

A major and critical part of the United States agricultural system faces an uncertain future resulting from land use changes in the urban fringe (rural agricultural land experiencing pressure from suburban development). Urbanization is rapidly moving beyond the suburbs. As a result, competition has developed for uses of agricultural land. Land allocated to farming provides a flow of both market and non-market benefits to society (e.g., crop production and open space). Developers acquiring agricultural lands for home and commercial construction, on the other hand, seek these same lands.

From 1996 to 2007, 49 States received nearly \$536 million in FRPP funds. Approximately 533,068 acres on 2,764 farms, with an estimated cumulative easement value of nearly \$1.6 billion, either have or are committed to have FRPP easements. The demand for the program has exceeded available funds. For every Federal dollar invested through FRPP, an additional \$2 has been contributed by the participating State and local governmental entities, nongovernmental organizations, and landowners.

3.0 ALTERNATIVES AND SCOPE OF ANALYSIS

3.1 Alternatives

According to the 2008 Farm Bill legislation, NRCS is to promulgate regulations for reauthorizing and implementing FRPP. Accordingly, alternatives have been developed that address how FRPP may or may not be implemented. Under NEPA, the alternatives analyzed help to inform the decisionmaker and the public about the courses of action the agency has considered in arriving at a particular decision. The No-Action Alternative is required under NEPA to be evaluated to provide the baseline upon which to evaluate the relative merits and disadvantages of the action alternatives carried forward for analysis. The alternatives evaluated in this Programmatic EA include the following:

- Alternative 1: No Action – No Implementation of FRPP
- Alternative 2: Agency Preferred Alternative – 2008 FRPP Requirements

3.2 Public Participation and Scoping

NRCS has used issues and concerns raised through farm policy public meetings to help scope out the issues to be analyzed in detail and of concern to the public. This section contains a summary of the issues raised by the public and that are addressed in this Programmatic EA.

In fulfilling the spirit and intent of NEPA “to encourage and facilitate public involvement in decisions which affect the quality of the human environment,” NRCS held 52 public meetings throughout the United States concerning farm policy issues. The comments provided on the programs and legislation for the 2008 Act has helped the agency focus on the public’s concerns and issues. Consequently, NRCS has been able to use these public meetings to identify “what are and what are not the real issues” to be analyzed in this Programmatic EA (1500.5(d)). The issues raised by the public have helped NRCS fulfill one of NEPA’s goals which is to have environmental analyses evaluate “environmental issues deserving of study (and to) deemphasize insignificant issues,” thereby “making the NEPA process more useful to decisionmakers and the public” (1500.4(g) and 1500.2(B)).

Listed below are primary general issues raised by the public which have helped to focus the scope of this Programmatic EA in addition to those identified by NRCS for analysis.

- Many noted that urban sprawl is one of the biggest concerns facing American agriculture. The public expressed general support for addressing the urbanization and fragmentation of both forest and farm lands.
- There was general support for continuing the FRPP at increased program funding levels.
- Some commenting felt that easement programs need to be targeted to East and West coast farmland areas that are under considerable development pressure, such as the DelMarva Peninsula or areas near Federal lands.
- A few people commented that an overall agriculture easement program should be developed as a part of the new Farm Bill. This program will allow farmers to agree to an agriculture easement to satisfy increased loan obligations brought about by maturing shared appreciation agreements.

The analysis herein provides general information from a national perspective on the potential environmental impacts of the implementation of FRPP and the conservation practices sometimes associated with the implementation of FRPP on highly erodible lands.

4.0 ANTICIPATED ENVIRONMENTAL IMPACTS

4.1 Approach to Analysis

The following sections are organized so that the anticipated broad concerns being addressed coincide with the suggested national format for the documentation of the EE process used for conservation planning as described in the National Environmental Compliance Handbook and by the National NRCS-CPA-52 Environmental Evaluation. The intent of this document is not to address the site-specific impacts, but overall program application consistent with programmatic analyses for national programs. NRCS will address site-specific impacts through the NRCS conservation planning natural resource problem-solving and management process. The process integrates economic, social, and ecological considerations to meet private and public needs. The expected physical effects of conservation practices are assessed in the context of ecological, economic, and social considerations as documented locally in the Field Office Technical Guide (FOTG). The expected impacts of those effects on natural resource quality, economic needs, and social objectives are then used to help develop and evaluate management alternatives.

The NRCS site-specific planning process is completed before NRCS provides financial assistance under the program. The complete list of NRCS soil, water, air, plants, and human (SWAPA+H) national resource concerns and their potential effects considered for analysis are incorporated by reference into this analysis and can be found at ftp://ftp-fc.sc.egov.usda.gov/NHQ/ecs/CPPE/cppe-spreadsheet/updated-version/CPPE_National.xls.

Additionally, Special Environmental Concerns (SEC) identified in NRCS regulations (7 CFR § 650), environmental laws, and executive orders were considered for analysis. The impacts to the SECs are directly addressed in the planning process and the impacts associated with this programmatic analysis will focus on the general SWAPA+H categories for which the SEC are a part.

Overall, the site-specific planning process will address and consider all aspects of impacts and review for additional concerns or issues and follow NRCS policy to avoid, minimize, or mitigate. Thus, there should be no threat of a violation of Federal, State, or local law or other requirements for the protection of the environment as a result of implementing the FRPP according to the regulation set forth in the rule.

The NRCS Programs Manual (GM 440, Part 519.61) states that conservation plans will be developed using the procedures and specifications outlined in the FOTG and the National Planning Procedures Handbook (NPPH). The NPPH requires that EEs, which may lead to an EA or EIS, be conducted for all NRCS planning activities and will be used to help determine the level of NEPA documentation required.

FRPP only provides funding for the purchase of easements; however, for FRPP properties where highly erodible lands are present, a site-specific conservation plan and associated conservation practices are required. Conservation plans are prepared by NRCS field office employees with Conservation Operations funding. Landowners can apply for cost-sharing to implement the conservation plan under other Farm Bill programs. Table 1 provides a listing of common conservation practices used in conservation plans for highly erodible lands. Each conservation plan will utilize different combinations of practices depending on the requirements of a State, recommendations of the local FOTG, and the management needs of the farm or ranch operation. NRCS anticipates that future easements on FRPP properties with highly erodible lands will utilize similar conservation practices.

Table 1. Conservation Practices and Practice Codes Applied Under FRPP on Highly Erodible Lands¹

<i>Animal Trails and Walkways</i> (575)	<i>Pasture and Hay Planting</i> (512)
<i>Brush Management</i> (314)	<i>Pipeline</i> (516)
<i>Closure of Waste Impoundment</i> (360)	<i>Prescribed Grazing</i> (528)
<i>Comprehensive Nutrient Management Plan</i> (100)	<i>Range Seeding</i>
<i>Conservation Crop Rotation</i> (328)	<i>Residue and Tillage Management, Mulch Till</i> (345)
<i>Contour Farming</i> (330)	<i>Residue and Tillage Management, No Till</i> (329)
<i>Cover Crop</i> (340)	<i>Riparian Forest Buffers</i> (391)
<i>Diversion</i> (362)	<i>Roof Runoff Structure</i> (558)
<i>Fence</i> (382)	<i>Stripcropping, Contour</i> (585)
<i>Field Border</i> (386)	<i>Terrace</i> (600)
<i>Filter Strip</i> (393)	<i>Underground Outlet</i> (620)
<i>Firebreak</i> (394)	<i>Upland Wildlife Habitat Management</i> (645)
<i>Forage Harvest Management</i> (511)	<i>Waste Storage Facility</i> (359)
<i>Forest Stand Improvement</i> (666)	<i>Waste Utilization</i> (633)
<i>Grassed Waterway</i> (412)	<i>Wastewater Treatment Strip</i> (635)
<i>Irrigation Water Management</i> (449)	<i>Watering Facility</i> (614)
<i>Lined Waterway or Outlet</i> (468)	<i>Wetland Wildlife Habitat Management</i> (644)
<i>Nutrient Management</i> (590)	

¹ Practice numbers are assigned by NRCS for ease of reference and are found in the NRCS National FOTG.

There are no direct environmental impacts to the quality of the human environment from the purchase of easements for the FRPP program. However, there is the potential for indirect and cumulative effects associated with the application of associated conservation practices on acreage enrolled in the program with highly erodible lands (see the Appendix for discussion of network effects diagrams).

This Programmatic EA analyzes the implementation of FRPP as required by Congress. The analysis, herein, provides general information from a national perspective on the

potential environmental impacts associated with the implementation of FRPP and the application of conservation practices normally associated with FRPP. A short resource characterization of the resource concern analyzed is presented first, followed by a broad analysis of anticipated impacts.

The analysis presents information in a quantitative manner where possible. Otherwise, qualitative best professional judgment and assessment is provided by the interdisciplinary team preparing this Programmatic EA. Accordingly, this analysis characterizes impacts in broad scale terms consistent with national rulemaking and NEPA regulations and guidance. Also, consistent with CEQ and NRCS regulations implementing NEPA, NRCS will undertake additional environmental review at subsequent stages of program implementation and associated conservation planning.

4.2 Soils/Land Use/Prime and Unique Agricultural Lands and Forestland

4.2.1 Resource Characterization

Farm and ranch lands have a higher percentage of permeable surfaces than developed areas. These permeable surfaces allow more water to infiltrate into the soil rather than flow across the surface and into streams. Areas such as parking lots yield up to 16 times more surface flow than farms and ranches.¹ Lands maintained in vegetation help to maintain stream integrity and riparian ecosystems by regulating base flows and peak discharges that directly affect water quality and indirectly reduce costs for manmade systems that artificially manage the watershed. By limiting the amount of impervious surface and runoff in a watershed, the pollution of streams and waterways are reduced by reducing the transport of sediments, bacteria, nutrients, and metals. The more water retained on the land and allowed to absorb into the soil, the greater the capacity for recharging underground aquifers. The more water that flows across the surface of the land into streams, the greater the risk for flooding and soil erosion exists.

Soil resources for this analysis include those soils used for the normal production of agricultural commodities, forage, and livestock. Soils are formed mainly by the weathering of rocks, the decaying of plant matter, and the deposition of materials such as chemical and organic fertilizers. Soils are differentiated based on characteristics such as particle size, texture, and color and classified taxonomically into soil orders based on observable properties such as organic matter content and degree of soil profile development. Soil resources are greatly influenced by factors such as climate, soil properties, vegetative cover, and erodibility potential. Soil quality describes how well soil functions to sustain biological productivity, regulate and partition soil water and solutes, filter and buffer organic and inorganic materials, store and cycle nutrients and carbon, and provide stability and support for plants or structures for human habitation

¹ (In Hirschhorn, as cited in *Maintaining Farm and Forest Lands in Rapidly Growing Areas*, p. 10.)

(modified from Seybold et al, 1998). Soil quality is evaluated using inherent and dynamic soil properties.²

Inherent soil properties are generally not affected by human management and include soil texture, depth to bedrock and type of clay, cation exchange capacity, and drainage class. In contrast, dynamic soil properties can change over months to years in response to management and land use. Dynamic soil properties include organic matter, soil structure, infiltration, and water and nutrient holding capacity. Dynamic soil properties are influenced by the type, diversity, and amount of vegetative cover. The use of high residue crops, cover crops and crop rotations on cropland, and management to maintain recommended minimum forage heights on grazing lands generally increase soil quality by providing protective soil cover and organic matter. Dynamic soil properties are also influenced by soil disturbance. For example, tillage accelerates decomposition of organic matter and prevents its accumulation, thereby reducing soil stability and soil quality and increasing soil susceptibility to water and wind erosion. Conservation technical and financial assistance provided through Farm Bill implementation helps agricultural producers address these and other soil quality resource concerns.

Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops is designated as Prime Farmland. It has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management. Land other than prime farmland that is used for the production of specific high value food and fiber crops is designated as Unique Farmland. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce economically sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods. Examples of crops are tree nuts, olives, cranberries, citrus and other fruits, and vegetables.

The Nation's privately owned lands constitute a tremendous resource that yields food and fiber, as well as the livelihood and recreation for private land users. About 71 percent of the 1.9 billion acres across the contiguous 48 States is in non-Federal, rural land uses, nearly 1.4 billion acres. Non-Federal rural lands are predominantly forest land (406 million acres), rangeland (405 million acres), and cropland (368 million acres). The Nation's private lands constitute a tremendous resource that yields food and fiber, as well as the livelihood and recreation for private land users.

² Seybold reference is: Seybold, C.A., M.J. Mausbach, D.L. Karlen, and H.H. Rogers. 1998. Quantification of soil quality. In *Soil Processes and the Carbon Cycle*. R. Lal, J.M. Kimble, R.F. Follett, and B.A. Stewart, eds. CRC Press, Boca Raton, FL]

Table 4-1. Major Agricultural and Other Land Uses in the U.S³

<i>Cropland</i>	<i>368 million acres</i>
<i>Pastureland</i>	<i>117 million acres</i>
<i>Rangeland</i>	<i>405 million acres</i>
<i>Hayland</i>	<i>Included in cropland</i>
<i>Forestland</i>	<i>406 Million acres</i>
<i>Other lands (homesteads, feedlots, etc.)</i>	<i>82 million acres*</i>

* Includes 31.5 million acres in the Conservation Reserve Program (CRP) that are not cropped and currently under vegetative cover.

Much of the non-Federal rural land has resource problems and limitations that decrease their productive use, cause damages, and reduce efficiency in the agricultural sector. As such, there is a strong need for environmental conservation practices to be applied to help address the resource concerns associated with various land uses. Lands that are converted to urban development represent an almost irreplaceable loss of the potential productive uses of that land. Urban development leads to increased pollution concerns from pollutants in stormwater runoff to increased vehicular use and resulting greenhouse gas (GHG) emissions. Approximately 58 percent of America’s county governments are seriously concerned over the loss of farmland due to expected growth in the future.⁴

Forestlands, as well as trees and forests on other agricultural lands, provide clean air; carbon sequestration; climate change buffering; flood protection; wildlife habitat; and recreation and aesthetic enjoyment. Healthy forestlands are also vital to clean and abundant supplies of water. Forests and forest products also provide economic, energy, and other benefits.

A total of 7,347,000 acres of prime farmland were developed between 1982 and 1997. According to USDA's National Resources Inventory (NRI), urban and built-up areas increased from 65.3 million acres in 1992 to 79 million acres in 1997. The location of these acres correlates closely to those areas identified in Figure 4-1 as having high vulnerability for conversion because they are located near urban centers. In those areas where conversion occurs, farming operations may become less economically viable due to nuisance conflicts, fewer acres being available for leasing, and a loss of agricultural infrastructure for processing, marketing, etc.

³ Source: USDA-NRCS 2003 National Resources Inventory
<http://www.nrcs.usda.gov/technical/NRI/nri03landuse-mrb.html>

⁴Maintaining Farm and Forest Lands on Rapidly Growing Areas, p. 4

Figure 4-1. Acres of Prime Farmland Converted to Developed Land, 1982 – 1997
(Each red dot represents 2,000 acres of newly developed land)

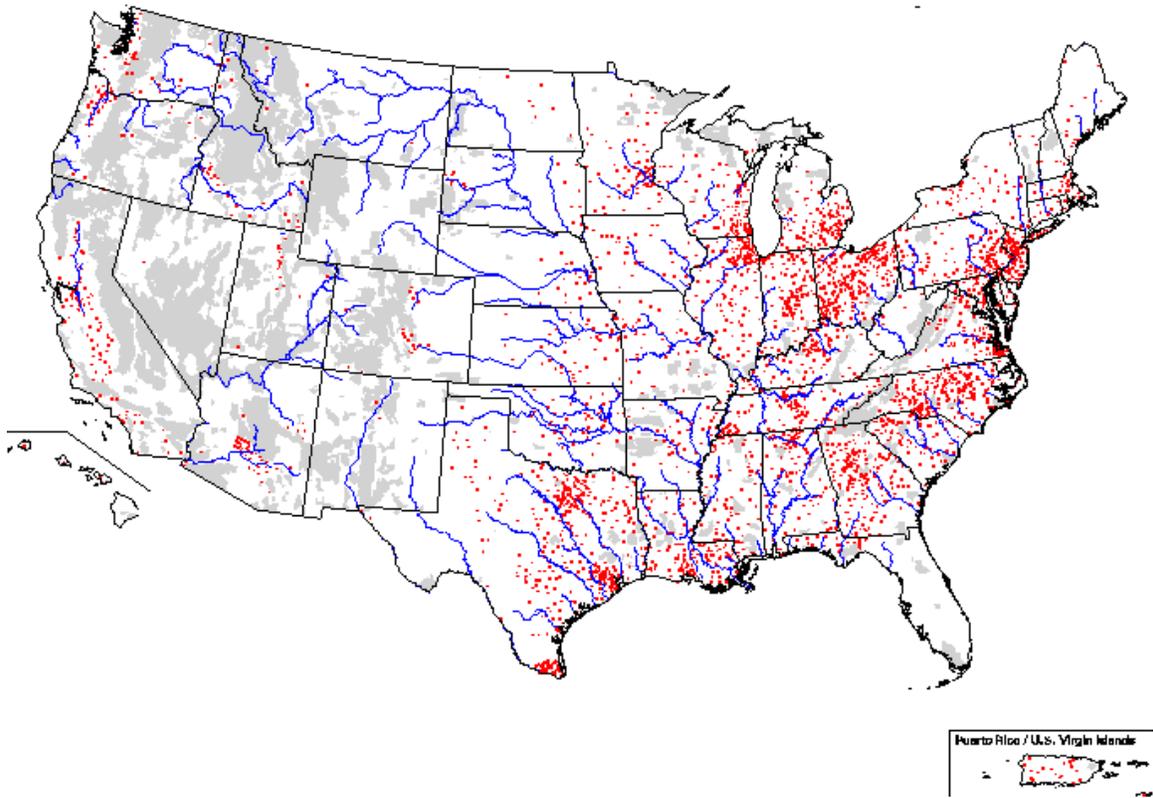
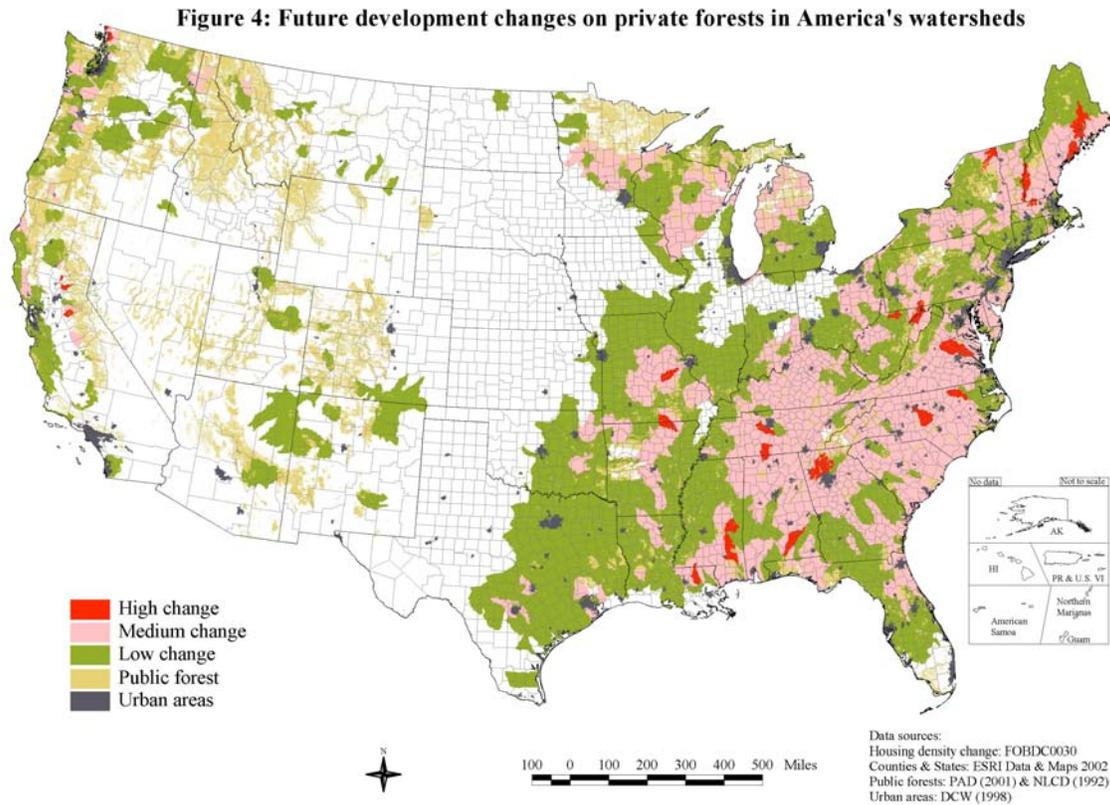


Figure 4-2 depicts the percentage of watersheds with private forests that are projected to shift from rural to exurban by 2030. A total of 22.5 million acres across the country are projected to shift land use types from rural to exurban by 2030. Twenty-seven watersheds contain forests projected to experience this shift on more than 10 to 20 percent of their area. The greatest impact would be in the Northeast and the South.

Figure 4-2.⁵ Future Development Changes on Private Forestland



⁵ Forests on The Edge-Housing Development on America's Private Forests, USDA Forest Service, General Technical Report PNW-GTR-636, May 2005

4.2.2 Alternative 1: No Action – No Implementation of FRPP

Alternative 1 would result in potential degradation of soils and private agricultural and non-Federal lands. This potentially could occur due to landowners selling their ranch and farmland and these areas being converted to non-agricultural uses such as residential and commercial development. If FRPP were not implemented, there would be an increased likelihood that prime and unique farmlands could be converted to other uses. With development encroaching on many agricultural lands, the attraction to sell for development is increasing. As such, there is a likelihood that lands could shift from being prime and unique agricultural lands to that of urban development, resulting in a loss of the resource to produce agricultural goods. In addition, farms and ranches not enrolled in FRPP may be less likely to implement a conservation plan on highly erodible land.

4.2.3 Alternative 2: Agency Preferred Alternative – 2008 FRPP Requirements

Continuation of FRPP as proposed in the 2008 Farm Bill would result in the enrollment of additional lands in the FRPP program and reduce the potential for conversion to developed uses. As a result, there is the potential for beneficial long-term impacts on soil resources. FRPP requires the implementation of conservation practices on easement properties containing highly erodible land. Therefore, there is the potential for localized benefits to the environment from the implementation of those conservation practices. There may be, however, minor short term adverse impacts to soil resources associated with the implementation of conservation practices and continued normal farming and ranching operations (see Appendix for discussion of network effects diagrams). This program is specifically designed to address important land and soil resources and provide a program opportunity to protect those resources.

4.3 Water Resources

4.3.1 Resource Characterization

Farm and ranch lands have a higher percentage of permeable surfaces than developed areas. These permeable surfaces allow more water to infiltrate into the soil rather than flow across on the surface and into streams. Areas such as parking lots yield up to 16 times more surface flow than farms and ranches (In Hirschhorn, as cited in *Maintaining Farm and Forest Lands in Rapidly Growing Areas*, p.10). Lands maintained in vegetation help to maintain stream integrity and riparian ecosystems by regulating base flows and peak discharges that directly affect water quality and indirectly reduce costs for manmade systems that artificially manage the watershed. Healthy forestlands are vital to clean and abundant supplies of water. Approximately two-thirds of the Nation's freshwater resources originate on forested lands. Some 180 million people in over 68,000

communities rely on these forested lands to capture and filter their drinking water. Water quantity and quality are threatened by changes in climate, population, and land use.

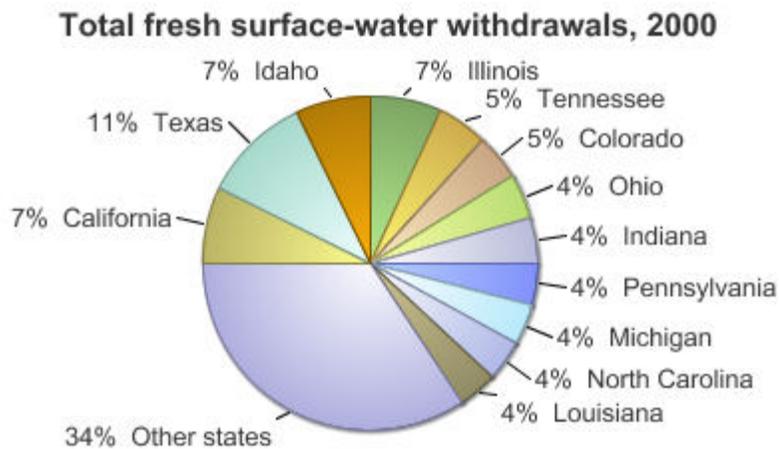
By limiting the amount of impervious surface and runoff in a watershed, the pollution of streams and waterways are reduced by reducing the transport of sediments, bacteria, nutrients, and metals. The more water that is retained on the land and allowed to absorb into the soil, the greater the capacity for recharging underground aquifers. The more water that flows across the surface of the land and into streams, the greater the risk for flooding and soil erosion. For this review, water resources include surface water, groundwater, wetlands, and floodplains.

Surface Water

Surface water includes streams and rivers, lakes, and reservoirs. Surface runoff, the part of the precipitation, snow melt, or irrigation water that appears in uncontrolled surface streams, rivers, drains, or sewers (U.S. Geological Survey [USGS] 2005) can affect surface water quality by depositing sediment, minerals, or contaminants into surface water bodies. Surface runoff is influenced by meteorological factors such as rainfall intensity and duration and physical factors such as vegetation, soil type, and topography.

Surface water in rivers, streams, creeks, lakes, and reservoirs supports everyday life through uses such as drinking water and other public uses, irrigation, and industrial uses. Of all the water used in the United States in 2000 (about 408 billion gallons per day), about 64 percent came from fresh surface water sources (USGS 2005). Figure 4.3 shows surface water withdrawals throughout the United States.

Figure 4-3. Total Fresh Surface Water Withdrawals, 2000⁶



⁶ Source: USGS 2005

Because of the large dependency on surface water for everyday use, surface water quality is of great importance. Runoff from farmlands may contain sediment, pesticides, and fertilizers that can flow to surface waters, adversely affecting the water quality needed to support beneficial uses of the water body such as aquatic ecosystems, human uses of the water, and agriculture.

Groundwater

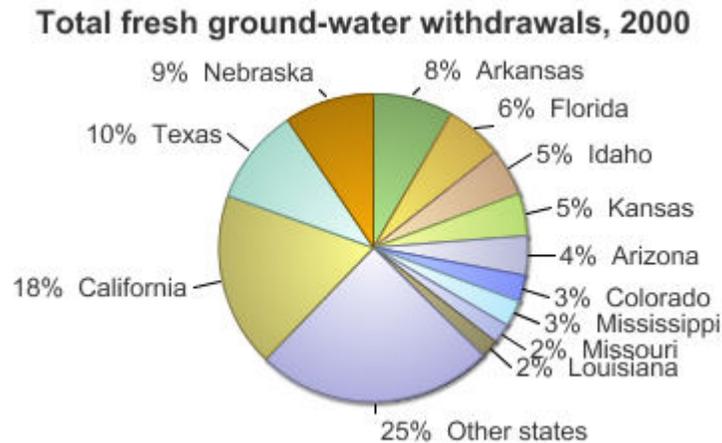
Groundwater refers to subsurface hydrologic resources that are used for domestic, agricultural, and industrial purposes. Groundwater is stored in natural geologic formations called aquifers. In areas with few or no alternative sources to the groundwater resource, an aquifer may be designated as a sole source aquifer (also known as a well head protection area) by the Environmental Protection Agency (EPA), which requires EPA to review any proposed projects that are receiving Federal financial assistance within the designated areas (EPA 2006b).

Groundwater is an important resource as it supplies water to people in areas with insufficient surface water. In 2000, approximately 70 billion gallons of groundwater were consumed daily (USGS 2005a). The majority of groundwater withdrawals, 68 percent, were used for irrigation; 19 percent were used for public purposes, mainly to supply drinking water (USGS 2005a).

Figure 4.4 shows groundwater withdrawals throughout the United States, California uses the greatest amount of groundwater relative to all other States.

Groundwater is also ecologically important because it supplies water to wetlands, and through groundwater-surface water interaction, groundwater contributes flow to surface water bodies.

Figure 4-4. Total Fresh Ground Water Withdrawals, 2000 ⁷



Groundwater levels vary seasonally and annually depending on hydrologic conditions. If withdrawals are greater than recharge, groundwater levels may decline. Maintaining groundwater levels at a sustainable level is an important management issue throughout the country.

Wetlands

Wetlands are defined in the statute as “areas that have a predominance of hydric soils that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions, except lands in Alaska identified as having high potential for agricultural development and a predominance of permafrost soils.” Wetlands can be associated with groundwater or surface water and are identified based on specific soil, hydrology, and vegetation criteria defined in the U.S. Army Corps of Engineers (USACE) regional and 1987 manuals.

Wetlands often support plant and animal life, provide flood protection, and improve water quality as water filters through the wetland and store carbon in plants. Many activities in wetlands are regulated under Section 404 of the Clean Water Act by the USACE, and USDA program participants must comply with the wetland compliance (Swampbuster) provisions of the Food Security Act of 1985. The Act requires NRCS to delineate and certify wetlands located on land subject to the wetland conservation (WC) provisions on a farm or ranch in order to establish a producer’s eligibility for certain USDA program benefits (16 U.S.C. Sec. 3822; 7 CFR 12.30).

⁷ Source: USGS 2005a

Floodplains

Floodplains are flat or nearly flat land that border rivers, streams, oceans, lakes, or other bodies of standing water and experience periodic flooding. Floodplains are important resources because they provide flood and erosion control, support plant and animal life, help maintain water quality, and contribute to sustaining groundwater levels. Floodplains also provide habitat for plant and animal species, recreational opportunities, and aesthetic benefits.

4.3.2 Alternative 1: No Action – No Implementation of FRPP

Under the No-Action Alternative, there is a potential for direct adverse impacts to water resources. Farm and ranch lands that may contain groundwater recharge areas, wetlands, and floodplains that may have been protected under the program, may be converted to urban or other uses.

As rural agricultural land is converted to more intensive human uses, the quality of surface waters is affected. Because conservation measures are normally used to reduce erosion on highly erodible cropland, short term sediment production normally increases when the cropland is converted to urban uses. Erosion from construction sites increases siltation of adjacent water bodies. This increased siltation causes increased turbidity and temperature. Generally over the long term, sedimentation will decrease with the maturation of the urban use. As the intensity of the use increases, impervious surface increases. As impervious surface area increases, there is a corresponding increase in storm runoff and associated pollutants, such as heavy metals, salts, and oils.

FRPP requires the implementation of a conservation plan on highly erodible land. The conservation practices in the conservation plan are designed to improve surface water quality; control excessive runoff, flooding, or ponding; control surface water flows; reduce pollutant loadings of pesticides in ground and surface water; reduce pathogens in surface water and groundwater; and reduce suspended solids in surface water. The Resource Characterization section incorporated and described many of the values and functions that are positively impacted by conservation of resources. It is beyond the scope of this analysis to quantify the potential adverse impacts to these resources as agricultural producers may still use the conservation technical assistance provided by NRCS to employ conservation practices regardless of whether financial assistance is provided to the producer or properties enrolled in FRPP.

4.3.3 Alternative 2: Agency Preferred Alternative – 2008 FRPP Requirements

There is likely to be beneficial indirect effects on surface water quality, ground water, wetlands functions and values, and floodplains which could occur with the additional enrollment of acreage and implementation of conservation practices by FRPP

participants. Farm and ranch lands enrolled in FRPP will continue to provide permeable surfaces and reduced runoff in comparison to developed areas. Most conservation practices associated with FRPP easements are intended to reduce erosion and also reduce runoff and pollutants carried by runoff from the fields in which they are implemented. Crop rotation, contour farming, contour strip-cropping, diversions, terraces, and grassed waterways all reduce surface runoff. Other practices are designed to filter polluted runoff. The riparian forest buffer conservation practice is designed to protect surface water quality by filtering out sediment, organic materials, fertilizers, pesticides, and other pollutants before they reach the adjacent water body. Other conservation practices designed to protect and restore surface water quality include re-establishment of permanent vegetation that reduces the potential for wind and water erosion that could transport sediment to nearby waterways.

There is the potential for minor indirect short term and localized negative impacts to surface water quality, groundwater, wetlands, and floodplains as it relates to continued farming operations and implementation of conservation practices depending on the area of the country where the conservation practices are applied. However, the site-specific environmental evaluation that is prepared as part of the conservation planning process would take into account this potential impact and provide the means to avoid or mitigate any minor or temporary negative impacts to water resources.

4.4 Air Quality

4.4.1 Resource Characterization

The Clean Air Act (CAA) is the primary Federal law that protects the Nation's air quality for the purposes of public health and welfare. NRCS, as a conservation agency, supports the CAA and the protection of air resources, in general, through four air quality resource concern components: particulate matter (PM), ozone (O₃) precursors, GHGs, and odor.

National Ambient Air Quality Standards

The CAA requires EPA to establish National Ambient Air Quality Standards (NAAQS) for six pollutants. They are particle pollution (often referred to as PM), ground-level ozone, carbon monoxide (CO), sulfur oxides (SO_x), nitrogen oxides (NO_x), and lead. EPA has promulgated the current NAAQS in 40 CFR Part 50.

The EPA calls these six pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria (science-based guidelines) for setting permissible levels. The set of limits based on human health is called primary standards. Another set of limits intended to prevent environmental and property damage is called secondary standards. The primary standard represents 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.

A geographic area that meets or has air quality better than the primary standard (or is unclassifiable) is called an attainment area. Areas that do not meet the standards or contribute pollution to nearby areas are called nonattainment areas. Nonattainment areas that have air quality data showing attainment, in accordance with requirements applicable to the relevant NAAQS, and have been redesignated to attainment are called maintenance areas, because the emission control strategies used to reach attainment status are still required to “maintain” the positive effect on air quality in those areas. An area may be designated attainment for some pollutants and nonattainment for others.

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 NAAQS. Nonattainment areas typically have more stringent control and permitting requirements than attainment areas.

Implications for agriculture: State and local air quality agencies are required to consider all sources (including agriculture) for a particular pollutant when determining how to bring an area into compliance with a NAAQS. Tribal air quality agencies may also regulate sources of air pollution, however, where they do not, EPA is the regulatory agency in Indian Country. Therefore, if an agricultural operation is found to cause or contribute to an exceedance of the NAAQS, additional regulatory controls may be mandated for the agricultural source.

Criteria Pollutants

Particulate matter is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles.

The size of particles is directly linked to their potential for causing health problems. EPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects.

EPA groups particle pollution into two categories:

"Inhalable coarse particles," such as those found near roadways and dusty industries, are larger than 2.5 micrometers but not larger than 10 micrometers in diameter.

"Fine particles," such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as

forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air.

Thus, sources that emit PM as well as certain precursors that contribute to the formation of PM (e.g., NO_x and sulfur dioxide (SO₂)) may be regulated. Additionally, some areas may regulate volatile organic compounds (VOC) and ammonia as precursors to formation of fine particles (PM_{2.5}), if these pollutants significantly contribute to formation of PM_{2.5} for a particular area.

Ozone is not emitted directly from air pollutant emission sources. Rather, it is formed in the atmosphere via chemical reactions. As such, emissions of VOC and NO_x are regulated as precursors to ozone formation.

Implications for agriculture: The major criteria pollutants of concern for agriculture are PM and ozone. Agricultural operations can contribute to ozone and particulate matter concentrations via emissions of VOC, NO_x, direct PM, and ammonia. All biological organisms emit VOC, and VOC is also emitted during the breakdown or combustion of biological materials. NO_x is generally associated with combustion (e.g., farm vehicle, tractor, and irrigation engines) as well as with agricultural burning. 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. The criteria pollutants CO, NO_x, SO_x, and lead are typically products of combustion.

Air Toxic Pollutants

Toxic air pollutants, also known as hazardous air pollutants (HAPs), are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. EPA is working with State, local, and Tribal governments to reduce air toxics releases of 188 pollutants to the environment. Examples of toxic air pollutants include benzene, which is found in gasoline; perchlorethylene, which is emitted from some dry cleaning facilities; methylene chloride, which is used as a solvent and paint stripper by a number of industries; and methanol which may be emitted from certain agricultural operations.

Implications for agriculture: Agricultural operations can emit HAPs. In fact, many VOC are HAPs. However, there is no evidence to date that agricultural production operations are major sources of HAPs. Additionally, the vast majority of HAPs that could be emitted from agricultural production operations are the result of natural biological processes (i.e., the natural microbial decomposition of organic material). Since agricultural production HAPs are naturally-occurring, the level of HAP emissions from agricultural operations are relatively small, and potential control of these HAPs would mirror VOC emissions mitigation

strategies, NRCS has not specifically prioritized the control of HAP emissions from agricultural production operations.

Regional Haze Rule (RHR)

The CAA sets forth a national goal for visibility which is the “prevention of any future, and the remedying of any existing, impairment of visibility in Class I areas which impairment results from manmade air pollution.” There are 156 Class I areas across the country, including many well-known national parks and wilderness areas. Regional haze is visibility impairment caused by the cumulative air pollutant emissions from numerous sources over a wide geographic area. In 1999, EPA promulgated the Regional Haze Regulations under 40 CFR Part 51 to protect and improve the visibility at these Class I areas.

Implications for agriculture: Particulate matter is the major source of visibility impairment in Class I areas. Agricultural operations can contribute to particulate matter concentrations via direct emissions of PM and secondary formation of PM from precursor gases such as VOC, NO_x, and ammonia.

State and Tribal Implementation Plans (SIPs/TIPs)

EPA can delegate authority to implement the CAA requirements to State and Tribal air quality agencies. In order to accomplish this purpose, State agencies are required to develop SIPs and Tribes may develop TIPs⁸. A SIP/TIP is the collection of regulations a State or Tribal air quality agency uses to address air quality concerns in its area. SIP/TIP regulations developed with adequate public review and comment, and have been approved by EPA, are considered federally enforceable.

Among other air quality regulations, SIPs/TIPs generally include regulations regarding:

- Construction permits
- Emission standards for certain sources and pollutants

The CAA grants EPA the authority to approve State/Tribal operating permit programs outside of the SIP/TIP and the resulting operating permits are federally enforceable.

SIPs/TIPs may also contain other regulations that are not specifically required under the CAA, such as odor regulations, and these regulations do not necessarily have to be approved by EPA. However, any SIP/TIP regulations that are not approved by EPA are not considered federally enforceable.

⁸ EPA is the regulatory authority if the tribe is unable to develop a TIP.

Implications for agriculture: A SIP/TIP is a mechanism by which State and Tribal air quality agencies can address local air quality concerns. The extent to which a particular SIP/TIP may impact agricultural operations in that area is directly related to the local air quality issues. For example, a State with a large population of animal feeding operations may have a SIP regulation that addresses odors from these operations. Alternatively, States with a significant amount of agriculture in a nonattainment area (such as California's San Joaquin Valley) may develop SIP regulations limiting the emissions from, or mandating regulatory controls for agricultural sources. In fact, the San Joaquin Valley Air Pollution Control District has developed a SIP regulation whereby agricultural operations must select a certain number of specified Conservation Management Practices to reduce emissions of PM₁₀.

General Conformity

Federal actions within a nonattainment or maintenance area must conform to the appropriate SIP requirements. Thus, the Determining Conformity of General Federal Actions to State or Federal Implementation Plans ("General Conformity") Rule was promulgated under 40 CFR Parts 6, 51, and 93. General Conformity applies to all actions supported, funded, or permitted by the Federal government within a nonattainment or maintenance area.

Implications for agriculture: Federal funds under Farm Bill programs are sometimes used to apply conservation practices on the ground and, as such, are subject to General Conformity if the conservation practices are applied in a nonattainment or maintenance area. Most conservation practices mitigate impacts to air quality and thus can be presumed to conform to General Conformity requirements.

Greenhouse Gases and Carbon Sequestration

GHG emissions are a global concern, and while agricultural emissions of GHGs are minor compared to other sectors (such as industry, transportation, and electric generation), agriculture is both a source of and an important means of reducing GHGs. Carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) are the primary GHGs of concern from agricultural operations. However, agriculture is also an important means of reducing GHG through soil carbon sequestration. Anthropogenic sources of CO₂ in agriculture are from combustion processes and soil tillage. Nitrous oxide is emitted due to nitrogen conversion processes in the soil and manure piles, and methane is primarily from animal production and manure storage. Conservation tillage practices, nutrient management, manure management, and anaerobic digesters are some of the conservation practices that can mitigate these emissions. Conservation tillage practices will, in particular, enhance soil carbon sequestration. Although GHGs are not currently regulated

under the CAA, State, local, and Tribal governments may develop regulations concerning emissions of GHGs.

Odors

Odor is not regulated under the CAA. However, State, local, and Tribal governments may develop regulations regarding odors. The main classes of odorous compounds produced by agricultural sources are VOC, odorous sulfur compounds, and ammonia. Agricultural odors typically arise from animal operations, manure management, and land application of manure. Conservation practices such as feed management, nutrient management, manure management, lagoon covers, and anaerobic digesters can reduce the production and emission of odorous compounds.

Baseline Environment

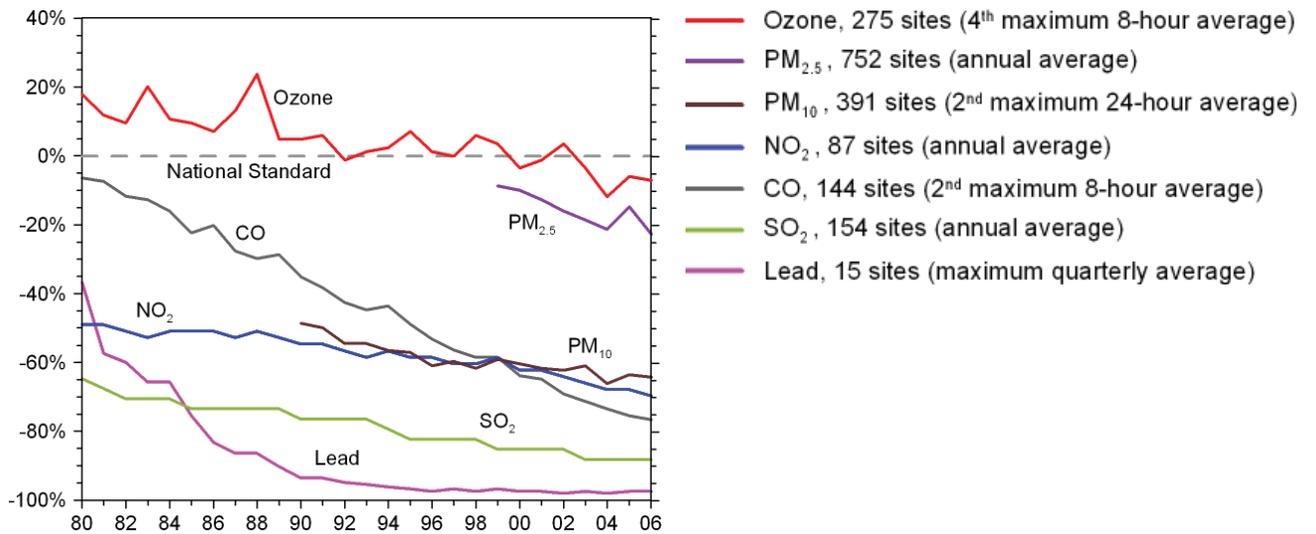
Cleaner cars, industries, and consumer products have contributed to cleaner air for much of the United States. Since 1980, nationwide air quality, measured at more than a thousand locations across the country, has improved significantly for all six criteria pollutants.

Figure 4-5 shows national trends in the six principal pollutants (those for which NAAQS were established) relative to their air quality standards, as measured by monitors located across the country. Most pollutants show a steady decline throughout the time period with a couple of exceptions. Ozone declined in the 1980s, leveled off in the 1990s, and showed a notable decline after 2002.

Most of the pollutants show a smooth, gradual downward trend from year to year, while ozone and PM_{2.5} trends are not smooth and show year-to-year influences of weather conditions which contribute to their formation.

All of the six principal pollutants show improvement (decline in ambient air concentrations) over the 27-year period. While progress has been made nationally, there are still areas that have local air quality problems caused by one or more pollutants. Ozone and fine particle pollution continues to present air quality concerns throughout much of the United States, with many monitors measuring concentrations above or close below NAAQS.

Figure 4-5. Comparison of National Levels of the Six Principal Pollutants to National Ambient Air Quality Standards, 1980-2006



National levels are averages across all sites with complete data for the time period.

Note: Air quality data for PM₁₀ and PM_{2.5} start in 1990 and 1999, respectively.

Source: <http://www.epa.gov/air/airtrends/2007/>

Impacts to air resources would be considered significant if there were exceedances of NAAQS for PM, ozone precursors, GHGs, or odor.

Permits

Depending on the extent of work conducted under the practices, air quality permits may be required from the State, Tribe or EPA. The completion of a site-specific EE would determine the appropriate air quality permit that may be required to be obtained by the producer prior to receiving any financial assistance from NRCS.

Permit Programs

There are two main types of permits that are used to establish emission limits for a source – construction permits and operating permits.

Construction Permits

Construction permits are used to establish emission limits for new air pollutant emission sources or changes to existing sources. As such, they are also referred to as New Source Review (NSR) permits. Certain construction permits are federally mandated and are

referred to as Federal construction permits. Federally mandated construction permits are issued under the "major NSR" program. Air pollutant emission sources that are not required to obtain Federal construction permits are typically subject to a State or Tribal construction permit system referred to as "minor NSR." Both Federal and State or Tribal construction permits are typically issued by the State or Tribal air quality agency.

The level of construction permitting required depends on the sum of a pollutant's potential to emit from all air pollutant emission sources at a site. Most agricultural operations do not qualify as major stationary sources under the Federal guidelines and are subject instead to State or Tribal construction permitting (minor NSR). However, large agricultural operations, especially in nonattainment areas, may qualify as major stationary sources that are subject to Federal permitting requirements.

State or Tribal Construction Permits

Projects for which a Federal construction permit is not required must still typically obtain some form of authorization prior to initiating construction. This authorization usually is received in the form of a State or Tribal construction permit. The type, complexity, and stringency of these authorizations/permits varies widely among regulatory agencies and is dependent upon the types of air pollutant emission sources under review and the type and amount of emissions increases associated with the proposed project.

Implications for agriculture: Most agricultural operations are not major stationary sources and are not required to obtain Federal construction permits. However, depending upon the SIP/TIP regulations in effect for the area in which the operation is located, many agricultural operations are now required to obtain some form of State or Tribal permit or authorization prior to initial construction or initiating a modification of an existing source. For example, a dairy that is considering the installation of an anaerobic digester may be required to obtain a permit for the digester and any other modifications associated with that project. Additionally, many State regulatory agencies now require permits for AFOs prior to constructing the facility.

Operating Permits

Operating permits authorize the operation of air pollutant emission sources following the completion of construction or modification of the sources. Existing sources may also be required to obtain an operating permit in order to authorize continued operation of the site. As with construction permits, certain sites may also be required to obtain a Federal operating permit. Air pollutant emission sources that are not required to obtain a Federal operating permit are typically subject to a State or Tribal operating permit. However, most agricultural production operations are not currently subject to Federal operating permit requirements.

State or Tribal Operating Permits

Sites for which a Federal operating permit is not required must still typically obtain some form of authorization to operate. This authorization is usually received in the form of a State or Tribal operating permit. As with State and Tribal construction permits, the type, complexity, and stringency of State and Tribal operating permits varies widely among regulatory agencies and is dependent upon the types of air pollutant emission sources, as well as the type and amount of pollutants emitted from those sources at the site.

Implications for agriculture: Agricultural operations that are required to obtain construction permits are typically required to obtain operating permits upon completion of the new construction or modification. Additionally, larger operations, especially in nonattainment areas, may be determined to be major sources and subject to Federal operating permit requirements. For example, several dairies in the South Coast Air Quality Management District in California have been required to obtain Federal operating permits.

4.4.2 Alternative 1: No Action – No Implementation of FRPP

It would be anticipated that air pollutants could increase, to a minor degree, due to conversion of agricultural lands to urban uses. Lands converted to developed uses will likely have increased vehicular use and the associated emissions of pollutants. Developed areas generally require more electricity which results in increased emissions of pollutants from power generation plants. It is beyond the scope of this analysis to quantify the potential adverse impacts to these resources as agricultural producers may apply conservation practices regardless of whether or not the farm or ranch is enrolled in FRPP. Agricultural producers may still use the conservation technical assistance provided by NRCS to employ conservation practices such as Nutrient Management, Waste Utilization, Waste Storage Structure, and Residue and Tillage Management to help avoid, mitigate, enhance, protect, and improve the quality of the environment for these resources. Farm and ranch lands not enrolled in FRPP may be less likely to have conservation plan implementation.

4.4.3 Alternative 2: Agency Preferred Alternative – 2008 FRPP Requirements

It is anticipated that implementation of Alternative 2 will result in minor emissions of air pollutants associated with the continued operation of farms and ranches. It will also result in short term localized minor impacts to air quality related to the implementation of conservation practices mandated by the conservation plan on highly erodible lands and depending on the area of the country where the conservation practices are applied. However, it is anticipated that the benefits gained by implementing conservation

practices will exceed the impacts related to the operation of farms and ranches or potential short term localized negative impacts from the implementation of conservation practices. Maintaining the farms and ranches in agriculture will avoid the pollutants generated by developed land uses.

Depending on the extent of work conducted under the practices, air quality permits may be required from the State or EPA. The completion of a site-specific environmental evaluation would determine the appropriate air quality permit that may be required to be obtained by the producer prior to receiving any financial assistance from NRCS.

4.5 Biological

4.5.1 Resource Characterization

There are certain plant and animal species that are given some level of Federal protection due to factors such as their importance, rarity, and declining numbers. The primary Federal laws protecting these species are the Migratory Bird Treaty Act (MBTA), the Endangered Species Act (ESA), and the Magnuson Stevens Fishery Management and Conservation Act (MSFMCA). There are 609 animal species and 744 plant species that are listed as endangered or threatened in the United States (6/23/08 Fish and Wildlife Service (FWS) under the ESA).

The conservation planning process involves site-specific environmental evaluations that help NRCS and landowners determine the presence or absence of these species and applicable critical habitats on private and non-Federal lands. If species are present, the NRCS planner determines whether an impact to the species or critical habitat may result from the planned activities. Where possible, impacts are identified, financial assistance is planned, and applicable procedures for interagency consultation under the ESA are followed.

Maintaining lands in agricultural production will protect biodiversity by providing habitat for fish and wildlife including endangered and threatened species. Maintaining ecosystem continuity by reducing habitat fragmentation contributes to species diversity and vigor by maintaining habitat for intermixing and for escape from catastrophic events such as wildfire. The fragmentation and loss of existing habitat are among the leading causes of species extinction. For example, in parts of southern California, urban sprawl has contributed to the listing of 60 endangered or threatened species (Maintaining Farm and Forest Lands in Rapidly Growing Areas, p. 10). The FRPP will also ensure that all wetlands on lands enrolled in the program are protected by limiting the potential for development. Lands in FRPP must also comply with the wetland compliance (Swampbuster) provisions of the Farm Bill. Many wetlands act to filter floodwaters and recharge ground water supplies, as well as provide fish and wildlife habitat.

Development can also disturb, modify, or convert the structure and function of existing habitats. Insecticides and fertilizers used on lawns are sometimes applied at significantly greater rates than on agricultural land resulting in nutrient over-enrichment or contamination of nearby water bodies and associated aquatic habitats. Well-planned developments sometimes preserve an area of protected green space or parkland. This creates mini-ecosystems where some native species can flourish. However, most native species experience unfavorable changes in habitat quality and quantity along with an increase in competition from exotic species and predation from domestic animals such as house cats.

Fragmentation of habitat is one of the primary factors threatening the preservation of biodiversity. The effects of fragmentation on biodiversity include:

- A reduction in total habitat area. Habitats that have been broken up into smaller units generally support fewer native species and smaller populations of the same species than larger units;
- The loss of species requiring large habitats or having specific habitat requirements that can no longer be met, such as interior habitat dwellers; and
- An increase in exotic species at the expense of native and interior species as changes in microclimate occur along power line corridors, roads, and areas of urban development. The edges of fragmented habitats are exposed to wildlife species, vehicles, and wind that introduce exotic species to the habitats.

4.5.2 Alternative 1: No Action – No Implementation of FRPP

Under the No-Action Alternative, there is a potential for adverse impacts to vegetation, wildlife, and protected species due to the program not being implemented. Land potentially eligible for enrollment in the program may be converted to non-agricultural uses. Landowners of farms and ranches that are not converted for development may or may not apply conservation practices designed to avoid, mitigate, enhance, and improve the quality of plant diversity; productivity; control of invasive species; increased enhancement for pollinator habitat; protection and restoration of endangered and threatened plant species; enhancing habitat for fish and wildlife; reducing the potential for habitat fragmentation; protection and restoration of critical habitat; and protection and restoration of endangered and threatened species.

It is beyond the scope of this analysis to quantify the potential adverse impacts to these resources as agricultural producers may apply conservation practices regardless of whether or not the farm or ranch is enrolled in FRPP. Agricultural producers may still use the conservation technical assistance provided by NRCS to employ conservation practices such as Early Successional Habitat Development, Upland Wildlife

Management, and Wetland Enhancement to help avoid, mitigate, enhance, protect, and improve the quality of the environment for these resources.

The Wildlife Society (TWS) in conjunction with NRCS' Conservation Effects Assessment Project (CEAP) released their joint report on the findings of multiple studies that evaluated the effects of conservation practices on fish and wildlife in September 2007. The findings of the "Fish and Wildlife Response to Farm Bill Conservation Practices," September 2007 and 2000-2005 reports, are summarized below and incorporated by reference (40 CFR Part 1502.2) from the reports and website at (<http://www.nrcs.usda.gov/Technical/nri/ceap/wildlife.html>). On this website there are numerous other scientific journals and studies further supporting the conservation benefits associated with conservation practices.

Primary Conclusions

- Wildlife consideration in planning conservation practices is key to achieving wildlife benefits.
- Wildlife response to grass establishment is significant, but variable by species, cover, and management.
- Linear practices such as fencing and riparian buffers provide high wildlife use, and with proper planning and management, conservation practices can result in substantial landscape biodiversity benefit.
- Wetland establishment practices are associated with substantial wildlife benefit.
- Aquatic conservation practices show to benefit species, but landscape factors must be considered.

4.5.3 Alternative 2: Agency Preferred Alternative – 2008 FRPP Requirements

Lands protected under the FRPP would be more likely to implement conservation practices on highly erodible lands to protect important species. It is likely for there to be beneficial indirect effects on vegetation, wildlife, and protected species from the implementation of conservation practices by FRPP participants. Many practices such as Brush Management (on grasslands), Wetland Wildlife Habitat Management, Upland Wildlife Management, and Riparian Forest Buffer are designed to improve, protect, enhance, and restore habitat for endangered, threatened, and declining species. FRPP requires the implementation of a conservation plan on highly erodible land. The practices in those conservation plans reduce soil erosion and sedimentation and protect aquatic habitat. Proper farm and ranch management maintains plant cover in optimum condition. The plant cover provides food and cover for wildlife and controls invasive weeds (see the discussion of benefits that would be lost with Alternative 1 to see beneficial impacts of implementing this alternative).

The purchase of easements under FRPP does not require permit authorization. However, if there is a conservation plan requiring practices to be applied, ESA authorization may be necessary. NRCS will also conduct Section 7 consultations at a site-specific level when endangered and threatened species are determined to be present on the property. Through the Section 7 process, NRCS will determine whether the proposed action(s) may result in a “no effect,” “not likely to adversely affect,” or is “likely to adversely affect” endangered or threatened species requiring additionally analysis and documentation (Biological Assessment and Biological Opinion) and possible issuance of an incidental take permit by the FWS. If a Section 7 consultation determines that the proposed conservation practice(s) is (are) determined to be actions that either are “not likely to adversely affect” or “likely to adversely affect” an endangered or threatened species, then a site-specific Section 7 consultation would be required. If a State has developed a Section 7 Programmatic Consultation, then certain conservation practices may have been determined to be within category of actions that have been determined to result in “no effect” to the endangered or threatened species. As such, there would be no need to further consult with the FWS and/or the National Marine Fisheries Service (NMFS) under Section 7 to implement the conservation practice(s). Any Section 7 Programmatic Consultation that has been concurred to by the FWS and/or NMFS may delineate reasonable and prudent conservation measures that may need to be implemented in conjunction with conservation practices, even for actions determined to have “no effect” to endangered and threatened species.

4.6 Cultural Resources

4.6.1 Resource Characterization

Cultural resources are not defined in any of the historic preservation legislation nor NEPA; however, the term is used throughout the Federal Government to refer to historic, prehistoric, traditional, aesthetic, and cultural aspects of the human environment (see also the definition of human environment in NEPA). In NRCS, the term is generally used to refer to any historic or archaeological property that has been identified during planning or to refer to “historic properties” as defined by the Advisory Council on Historic Preservation (ACHP) for implementation of Section 106 of the NHPA (36 CFR Part 800).

Cultural resources that are listed in or eligible for listing in the National Register of Historic Places (National Register) are called *historic properties* under NHPA, as amended (16 U.S.C. 470w, definitions).

Eligibility evaluation criteria for historic properties are defined by the regulations for the NHPA’s National Register of Historic Places program (36 CFR Part 60.4 criteria for evaluation) and expanded in the ACHP’s regulations as: “any prehistoric or historic district, site, building, structure, or object, included on, or eligible for inclusion on the

National Register of Historic Places.” This term includes artifacts, records, and remains that are related to and located within such properties. The term also includes historic and cultural landscapes, properties, and places of traditional and cultural importance to an American Indian Tribe or Native Hawaiian organization and that meet the National Register criteria.

To be eligible for inclusion in the National Register, a historic property should demonstrate significance in American history architecture, archeology, engineering, and culture and be present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association that:

- (a) are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) are associated with the lives of persons significant in our past; or
- (c) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) have yielded, or may be likely to yield, information important in prehistory or history.

Criteria considerations: Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- a. A religious property deriving primary significance from architectural or artistic distinction or historical importance.
- b. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event.
- c. A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his or her productive life.
- d. A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events.

- e. A reconstructed building when accurately executed in a suitable environment and presented in dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived.
- f. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance.
- g. A property achieving significance within the past 50 years if it is of exceptional importance.

Evaluating the effects to such historic properties that are protected under Section 106 of the NHPA and other cultural resources protected under related authorities and NEPA itself, must be addressed under the NEPA process (40 CFR Part 1502.25). The regulations that implement Section 106 of the NHPA, requires Federal agencies to consider the effects of proposed actions on properties listed in or eligible for listing in the National Register in consultation with SHPOs, American Indian Tribal governments (and their THPOs), Native Hawaiian Organizations, and other identified consulting parties that have an interest in the lands on which the action is to take place. Many cultural resources and historic properties have been identified and evaluated in advance of construction projects, particularly since the passage of the NHPA. However, many areas, especially in regions that have rural agricultural communities, have never been inventoried to determine what cultural resources and historic properties are present.

The baseline cultural environment includes a complex and extensive array of historic and prehistoric districts, sites, buildings, structures, landscapes, and objects. This environment encompasses and represents the full timeframe, range, and diversity of human occupation in the United States. These cultural and historical foundations of the Nation are protected, appropriately, as a living part of our community life and heritage development in order to give a sense of place and orientation to all American people.

As Sections 1 and 2 of the NHPA states, "...[protection] of this irreplaceable [human] heritage is in the public interest so that its vital legacy of cultural, educational, aesthetic, inspirational, economic, and energy benefits will be maintained and enriched for future generations of Americans...It shall be 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...foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations...provide leadership...in partnership with States, Indian tribes, Native Hawaiians, and local governments...contribute to the preservation of non-Federally owned prehistoric and historic resources and give maximum encouragement to organizations and individuals undertaking preservation by private means...."

This baseline cultural environment may be best protected by identification of its component parts (districts, buildings, structures, sites, and landscapes), consultation with

appropriate parties, and treatment through the NEPA and NHPA review processes as a dynamic and adaptive part of our current human environment.

4.6.2 Alternative 1: No Action – No Implementation of FRPP

Under the No-Action Alternative, there is a potential for direct adverse impacts to cultural resources due to the program not being implemented. Lands potentially eligible for enrollment in the program may be converted to non-agricultural uses and cultural resources destroyed. Landowners of farms and ranches that are not converted for development may or may not apply for assistance under other Farm Bill programs. These landowners may not be aware of, or choose not to preserve cultural resources on their property.

It is beyond the scope of this analysis to quantify the potential adverse impacts to these resources as agricultural producers may choose to protect cultural resources regardless of whether or not the farm or ranch is enrolled in FRPP. Agricultural producers may still use the conservation technical assistance provided by NRCS which would result in the identification and in some cases, protection of cultural resources.

4.6.3 Alternative 2: Agency Preferred Alternative – 2008 FRPP Requirements

In general, farmland protection easements and management of those easements consistent with the regulations and stipulations in the easement deeds in a sustainable fashion has the effect of protecting cultural resources and historic properties, prime agricultural soils, and ecosystem health. Publication of the rule does not directly result in an impact to the quality of the human environment, but enrollment of land in the FRPP does result in a restriction on future development, as well as application of a conservation plan to the land under an easement. It may also result in protection of some historic resources that might otherwise be destroyed. Thus, national implementation of the FRPP would likely cause beneficial effects to cultural resources.

4.7 Economic and Social Considerations

This section contains an overview of the issues that have been analyzed in detail with specific models as part of the Farmland Protection Program Benefit-Cost Assessment, USDA, NRCS, July 2008.

Social and economic changes over the past 50 years have influenced the rate at which land is converted to non-agricultural uses. Some of these influences include: population growth and the desire for larger housing lots, new schools and other public infrastructure, and greater economic prosperity, coupled with advances that lowered transportation costs. Some statistics highlight these underlying trends: (1) between 1960 and 1990, metropolitan area population grew by 50 percent while the acreage of developed land

increased 100 percent; (2) from 1982-1997; the United States population grew by 17 percent while urbanized land grew by 47 percent. Over the past 20 years, the acreage per person for new housing almost doubled; since 1994, 10+ acre housing lots have accounted for 55 percent of the land developed; (3) an estimated one-fifth of the Nation's 250 million acres of prime agricultural land is considered at risk for development because of its proximity to the Nation's 100 largest cities; (4) about 45 percent of new construction between the years 1994 and 1997 occurred in rural areas, with nearly 80 percent of that land bordering urban areas; and (5) The National Homebuilder's Association forecasts that 1.3 to 1.5 million new homes will be built each year through 2010.

4.7.1 Resource Base and Resource Condition Trends

The resource base consists of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Although recent energy price increases may reduce the demand for larger homes placed farther from residents' work sites, past trends suggest that current development patterns could continue for some time in many areas. There is no evidence that large tracts of farmland are no longer affected by development pressure. Past studies indicate that Prime and Important Farmlands were being converted for nonagricultural uses at a rate of two to four times than that of other lands. The rate of conversion of prime land was 30 percent faster, proportionally, than the rate for non-prime rural land from 1992-1997. This results in marginal land, which requires more resources like water, being put into agricultural production.

The threat of conversion of farm and ranch land varies depending on locality. Land use on farms and ranches typically includes: cropland, hay land, grazing land, forest land, and land supporting the farm or ranch that are incidental to the operation (wetlands, farm headquarters, and wildlife land). Increasingly, agricultural lands are on a collision course with development from urban influenced areas and other forces. This translates into our source of food, especially those that are best grown locally, being in the path of development. In general, the US rate of conversion of farm and ranch land was 51 percent faster in the 1990s (1982-1992) than in the 1980s (1982-1992). This high rate of loss for 1992-1997 translated into 1.2 million acres per year of land conversion.

In the Benefit-Cost Assessment for FRPP, Environmental Goods and Services (EGS) from current land use was compared with the expected flow if the land was converted to non-agricultural use. Highlights of many of these EGS and concerns include:

- Water Management and Quality
- Recognition of Prime and State-wide Important and Unique Soils
- Wildlife Habitat
- Air Quality

- Lower Public Infrastructural Needs
- Lower Private Infrastructural Needs
- Potentially Lower/Higher Transportation Costs by Society
- Protection of Historic and Archaeological Properties That are Listed in or Eligible for Listing in the National Register of Historic Places
- Food Diversity and Security

Some effects analyzed were:

- Intergenerational Wealth Transfer
- Displacement Effect
- Location Specific Benefits
- High- and Low-Density Willingness To Pay (WTP) Estimates Used
- Number of Households Affected in High- and Low-Density Development Scenarios
- Proportion of Farmland Facing High- and Low-Density Development Pressures

4.7.2 Alternative 1: No Action – No Implementation of FRPP

The local community benefits indirectly from the program through the conservation and maintenance of the productive capability of the land. As farm and ranch land is developed, income from farming operations is lost although associated construction revenues are realized. Communities spend an average of \$1.16 to provide services to urban and suburban areas for every \$1.00 of taxes collected because the developed areas require infrastructure to serve the increased population. Alternative 1 would result in greater local expenditures for government services than anticipated tax revenues.

4.7.3 Alternative 2: Agency Preferred Alternative – 2008 FRPP Requirements

Benefits of this alternative include the protection and/or development of environmental resources and values identified in the resource characterizations section. The local community benefits indirectly from the program through the conservation and maintenance of the productive capability of the land. Communities spend an average of \$0.37 to provide services to rural areas for every \$1.00 of taxes collected. The rural communities actually finance the services that are provided to developed areas in the communities.

Overall, the past program performance of FRPP suggests it easily produces a net positive benefit cost ratio if one places a high value on the amenity value of protected farmland. In 2007, the FRPP enrolled 54,490 acres of farm and ranch land at a cost of \$85 million of a total estimated value of \$230 million (with landowners and other entities picking up the difference). On average, the net benefit of FRPP to society, using the high WTP estimate, totaled roughly \$295 million on average (\$125 million if all areas faced low-density development pressures and \$465 million if all areas faced high-density development pressures).

FRPP has a special role to play in farmland protection. FRPP leverages its money with other entities to allow them to place more conservation easements on valuable farmland and allow agricultural producers to invest in their agricultural operation. Surveys have indicated that agricultural producers who have easement-protected lands reinvested at least some of the money from the sales into their operations, such as paying off mortgages or loans, purchasing equipment, improving buildings, and/or spending money on other farm business purposes. For example, “69 percent of the respondents said that they spent most of their proceeds on agricultural expenses or spent as much on farm business-related items as on personal or household needs.” (AFT, An Evaluation of the Federal Farm and Ranch Lands Protection Program, May 2006.)

In addition to providing an opportunity for FRPP participants to re-invest in farm operation, FRPP potentially assists farmers to purchase the land in the future at a somewhat lower price and provides an opportunity for transferring knowledge, skills, and innovation to the next generation of farmers. Finally, FRPP helps secure any NRCS investments in conservation practices that agricultural producers on easement-protected farmlands could have taken on as a participant in another NRCS program.

4.8 Cumulative Impacts

Cumulative effects of the FRPP should result in a general increase in the quality of natural resources, especially in cases where there are conservation practices applied to easement lands as is the case with highly erodible land. Otherwise, in cases where easement lands enrolled in FRPP are adjacent to other lands in easements, or that have lands enrolled in other conservation programs, the lands will have net overall beneficial cumulative impacts for soils, water, air, plants, animals, and human resources. Since lands are enrolled in FRPP as easements, there would not be adverse negative cumulative environmental impacts associated with FRPP, except for minor, localized, and temporary impacts associated with conservation practices applied on lands that are highly erodible lands requiring the implementation of a conservation plan.

Under an easement in FRPP, the quality of surface waters will be maintained due to stabilized nutrient loading and run-off rates, especially for waters designated for fishing and swimming uses. Habitat quality and quantity are improved as lands are protected from fragmentation and permanent alteration. Most all of the practices in conservation

plans that are implemented for highly erodible lands under FRPP are designed to manipulate ground cover in some fashion resulting in improvements to air quality either by the reduction of GHG emissions or reduction of particulate matter. Income and income stability are generally improved as practices are designed to provide long-term sustainability and reduction of maintenance costs.

Conversion of agricultural uses involves more than the urban and suburban impacts of increased traffic stresses on existing utilities and infrastructure. It alters the structure and function of the natural environment and other factors important to quality of life. For example, increased areas of rooftops, pavement, and other impervious surfaces affect the hydrology of the watershed by increasing the volume and the velocities of surface flows of precipitation. This can lead to increases in the frequency and duration of flooding events. There is also less opportunity for natural water filtration and ground water recharge.

If no action were taken to implement the FRPP as proposed, productive crop and ranch land will continue to be lost. Land will continue to be converted to urban and suburban development. The cumulative impacts of this conversion will cause dramatic changes to natural ecosystems and social structures. Farmers and ranchers have long been some of the best stewards of the environment since their livelihood is, to a large degree, dependent on the condition of their natural resources. Without the FRPP, opportunities for these stewards to continue protecting the Nation's natural resources will be lost. When development occurs on prime and important farmland, it indirectly reduces the productive potential of surrounding agricultural land by limiting its current or future use. In fact, impacts on the converted tract itself may be small in comparison to the current and future consequences impacting adjacent farmland. As an example, restrictions may be imposed on farming activities out of concern for the health, safety, and welfare of the growing non-farming population. The applications of pesticides or manure near residential areas are two such activities for which society may demand new regulations. Residents of developed areas may consider the noise of irrigation pumps or grain dryers and the dust from tillage operations nuisances that must be regulated. Imposition of such regulations can make it more expensive to farm and reduce the viability of the farming operation.

Even when an area's proportion of agricultural land remains high, it can be fragmented into smaller scattered parcels, and consequently farmers may be prevented from employing newer technologies that require more land to achieve full economies of scale. Such restrictions reduce efficiency and increase production costs, and could lead to premature idling of land.

Maintaining lands in agricultural production will protect biodiversity by providing habitat for fish and wildlife including endangered and threatened species. Maintaining ecosystem continuity by reducing habitat fragmentation, contributes to species diversity and vigor by maintaining habitat for intermixing and for escape from catastrophic events

such as wildfire. The fragmentation and loss of existing habitat are among the leading causes of species extinction. For example, in parts of southern California, urban sprawl has contributed to the listing of 60 endangered or threatened species.⁹ FRPP will ensure that all wetlands on lands enrolled in the program are protected by limiting the potential for development. Lands in FRPP must also comply with the wetland compliance (Swampbuster) provisions of the Farm Bill. Many wetlands act to filter floodwaters and recharge ground water supplies, as well as provide fish and wildlife habitat. It is anticipated that there will be a positive cumulative beneficial impact to all environmental resources analyzed in Section 4, with only minor localized negative impacts to these resources.

⁹ Maintaining Farm and Forest Lands in Rapidly Growing Areas, p. 10.

5.0 PERSONS AND AGENCIES CONSULTED

As stated in Section 3.4 of this EA, 52 Farm Bill forums were held throughout the United States, while others submitted comments through the website and through the mail. For information regarding these activities go to the link below:

<http://www.fas.usda.gov/info/factsheets/FB2007/farmbill2007forums.asp>

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6.0 APPENDICES

Appendix A

Environmental Review Introduction

NEPA requires that Federal agencies “ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken (1500.1(b)).” The NEPA process is “intended to help public officials make decisions that are based on (an) understanding of environmental consequences, and take(ing) actions that protect, restore, and enhance the environment (1500.1(c)).” NEPA’s purpose is “not to generate paperwork-even excellent paperwork-but to foster excellent action (1500.1(c)).” NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail. The regulations that govern the implementation of NEPA for NRCS actions include those promulgated by the CEQ at 40 CFR Part 1500-1508 and the agency’s own specific regulations implementing NEPA at 7 CFR Part 650.

An environmental review under NEPA is required when there is a “major Federal action” that an agency is proposing to take. The CEQ and NRCS regulations implementing NEPA define "major Federal action" to include activities over which Federal agencies have control, including promulgation of regulations in which they exercise discretion. An agency may prepare either an EIS or an EA to evaluate the potential environmental impacts of a proposed Federal action. Typically, an EIS is prepared when it is anticipated that the proposed Federal action will have potentially significant and adverse environmental impacts to the quality of the human environment. An EA can be prepared to aid in the agency’s decision making process when an EIS is not necessary, or to assist with preparation of an EIS when it is determined that one is necessary.

The action and no action alternatives are evaluated to determine the potential impacts to the human and natural environments. The potential impacts are described by the following characteristics: type (direct, indirect, or cumulative), duration (short or long term), and significance.

Appendix B

Types of Potential Impacts

Direct, indirect, and cumulative impacts are defined at 40 CFR Part 1508.7 and 40 CFR Part 1508.8 and also defined below. These impacts are used to describe the timing and proximity of potential impacts on the affected/baseline environment only; they have no bearing on the significance of the potential impacts, as described below, and are used only to describe or characterize the nature of the potential impacts. Cumulative impacts are discussed in detail in Section 4.8.

- **Direct Impact:** A potential impact caused by the proposed action that occurs at the time and place of the action.
- **Indirect Impacts:** A potential impact caused or induced by the proposed action that occurs later in time, but is still reasonably foreseeable to occur.
- **Cumulative Impact:** The impact on the environment resulting from the incremental effect of the proposed action added to other past, present, or reasonably foreseeable actions.

Appendix C

Duration of Potential Impacts

The duration of potential impacts to the environmental resources can be defined as either short term or long term. In general, the impacts of construction of conservation practices would be short term, whereas the impacts of the conservation plan would be long term.

Appendix D

Conservation Planning

NRCS provides technical and financial assistance for the implementation of conservation easements, practices, and systems to mitigate environmental and public health risks that may exist on private or non-Federal lands. These conservation practices are developed through a multi-disciplinary science-based process in order to maximize the success and minimize the risk of failure of the conservation practice. NRCS practice standards are established at a national level, and set the minimum level of acceptable quality for planning, designing, installing, operating, and maintaining conservation practices. At a minimum, each conservation practice standard includes the definition and purposes of the practice, identification of the conditions in which the conservation practice applies, and the criteria supporting each purpose. When a conservation practice standard is developed or revised, NRCS publishes a notice in the *Federal Register* of the availability of the standard for review and comment for a period of not less than 30 days from the date of publication. Standards from the National Handbook of Conservation Practices and interim standards are used and implemented by States, as needed, to include additional requirements to meet State or local needs. Because of wide variations in soils, climate, and topography, States may need to add special provisions or provide additional details in the conservation practice standards. State laws and local ordinances or regulations may also dictate more stringent criteria; in no case, however, is the quality of the standard to be reduced.

NRCS conservation practices are normally implemented as part of a conservation system that consists of two or more conservation practices. This is done not only to address the

identified natural resource concern, but also to avoid or minimize potential adverse ancillary impacts identified through the NRCS conservation planning process.

NRCS provides technical and financial assistance for the implementation of conservation easements, practices, and systems to improve or mitigate environmental and public health concerns that may exist on private lands or non-Federal lands. Through programs like FRPP, NRCS has been able to meet a primary purpose of NEPA delineated in Section 101 of the Act, in that NRCS “use(s) all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.” NRCS does this through conservation program easements, plans, and actions by providing information on environmental resource concerns and information on technical and financial assistance available to individuals, groups, Native American governments, and communities.

Appendix E

Conservation Effects Diagrams

FRPP only provides funding for the purchase of easements; however, for FRPP properties where highly erodible lands are present, a site-specific conservation plan and associated practices are required. To assist in the analysis of environmental impacts, NRCS developed network diagrams depicting the chain of natural resource effects resulting from the application of each practice. Each of the diagrams first identifies the typical setting to which the practice is applied. This includes identification of the predominating land use and the environmental resource concerns that trigger the use of the conservation practice. The diagrams then identify the conservation practice used to mitigate or address the resource concerns. All of the available network effects diagrams are incorporated by reference and can be viewed at the following website:

http://www.nrcs.usda.gov/programs/Env_Assess

Following identification of the conservation practice, there is a description of the physical activities that are carried out to implement the practice. From there, the diagrams depict the occurrence of the direct, indirect, and cumulative effects of the practice. Effects are qualified with a "+" or a "-" which qualitatively denotes an increase ("+") or decrease ("-") in the effect. Pluses and minuses do not equate to good and bad or positive and negative. Impacts are characterized in this manner due to the fact that site-specific conditions can influence the degree or intensity of the potential environmental impact. Thus, only the general effects that are considered the most important ones from a national perspective are illustrated.

The effects of the practices may vary somewhat depending on the local ecosystem(s), methods of practice installations, and presence of special resources of concern in a

particular State such as the presence of a coastal zone, endangered or threatened species, historic or cultural resources, and the like. While effects on these resources may be described in general terms at the national level, they must be addressed at the State and local levels. Accordingly, NRCS does evaluate at a site-specific level through an environmental evaluation what are potentially the environmental resource concerns on private agricultural lands and how a conservation plan may help to resolve or mitigate those concerns.

As provided for under CEQ regulations that implement NEPA, this Programmatic EA hereby incorporates by reference (40 CFR Part 1502.21) the general findings of the network effects diagrams for conservation practices that may be required on FRPP easements involving highly erodible lands. The following link provides all the network effects diagrams that have been prepared on conservation practices:

www.nrcs.gov.usda.gov/programs/Env_Assess.

Environmental resource issues such as endangered and threatened species, historic preservation, historic and cultural resources, essential fish habitat, and other resources protected by special authorities require consultation with other Federal or State agencies with authority over these resource issues. NRCS will consult on a State or site-specific level, as needed and appropriate, to ensure FRPP program actions do not adversely affect endangered or threatened species, essential fish habitat, cultural resources, or any other protected resources. NRCS will also implement practices in a manner that is consistent with the NRCS policy to avoid, mitigate, or minimize adverse effects to the extent feasible.

For example, to ensure compliance with the ESA, State Conservationists may invite representatives of the FWS and NMFS, as applicable, to State Technical Committee meetings and encourage their involvement in the development of program criteria within the State. NRCS will also conduct additional programmatic consultations with the FWS and NMFS at the State level, as needed, to ensure Farm Bill program implementation is not likely to adversely affect species listed as endangered or threatened or species proposed for listing as endangered or threatened or designated critical habitat. Such consultation will also be used to identify ways the FRPP might further the conservation of protected species and identify situations in which no site-specific consultation would be needed. Site-specific consultation will also be conducted, as needed, to avoid adversely affecting any protected species or habitat.

To ensure compliance with NHPA and associated authorities, NRCS State offices will follow the procedures outlined in the ACHP regulations (36 CFR Part 800) or in accordance with NRCS' alternate procedures (nationwide Programmatic Agreement), invite SHPO's and federally recognized tribes (or their designated THPOs) to enter into consultation agreements that highlight and focus review and consultation on those resources and locations that are of special concern to these parties. In addition, if no State-level agreements are developed with the SHPO's or tribes, and/or if other

consulting parties are identified, they will be afforded, as appropriate, an opportunity to advise the NRCS State office during project-specific planning about their historic and cultural resource concerns so that they may be taken into account in accordance with the ACHP regulations. Similar processes will be followed, as needed and appropriate, to address other special requirements for the protection of the environment.

Appendix F

Incorporation by Reference Used in This Analysis

As allowed for under CEQ regulations that implement NEPA at 40 CFR Part 1502.21, Section 4 presents (to the extent possible) summarized information that is incorporated by reference from various literature, journals, studies, and other scientific analyses to support environmental effect determinations. Although a resource characterization (affected environment) is not required for an EA, the discussion helps to set the evaluation for potential environmental impacts and has, therefore, been incorporated by reference into this analysis.