

Subpart A – Policy and Responsibilities

Subpart A – Policy and Responsibilities

401.0 General

A. This part states policy for establishing, changing, and maintaining Field Office Technical Guides (FOTG) and activities that support agency technology development and transfer.

B. NRCS is responsible for providing national leadership for conservation of natural resources and administration of programs to conserve soil, water, air, plants, animals (domestic and wild), energy, and humans on non-Federal lands, (private and Tribal), and intermingled State and Federal lands. A primary agency mission is to provide technical assistance to decisionmakers for planning, implementation, and managing systemic conservation practices that prevents degradation and facilitates protection and sustainable use of natural resources. In cases where degradation has already occurred and where restoration is practical, the goal is to restore the resource to a sustainable level.

C. FOTGs are the primary technical references for NRCS. They contain technical information about the conservation of soil, water, air, plants, animals, energy, and humans. FOTGs must be localized so that they apply specifically to an identified geographic area. All State Conservationists will maintain the electronic format portion of the FOTG and maintain its availability through the Internet.

D. Each NRCS State must maintain a compilation of technical knowledge and standards in the FOTG. The State's FOTG may consist of digital files, Web links and Web-accessible materials, and hardcopy printed information. Each FOTG comprises five sections (see section 401.3 of this manual). The contents must be placed in the electronic FOTG as directed by the NRCS National Information Technology Center (NITC). Local (field office level) FOTG content not available electronically must be kept in hardcopy in the field office and be available for use and reproduction.

E. FOTG content managers in each State, after receiving approval from the State Technical Guide Committee (STGC), must insert technical information into the appropriate section of the FOTG. The STGC is composed of NRCS technology specialists in each State as determined by the State Conservationist (STC). The following information must be provided for all electronic entries on the metadata Web page in the FOTG content manager:

- (1) Display title
- (2) Abstract (optional)
- (3) Location
- (4) Revision date
- (5) STGC review date
- (6) Key words
- (7) Subjects
- (8) Applicable counties or major land resource areas (MLRA)
- (9) State contact
- (10) Practice code (section IV)
- (11) Document type (section IV)

401.1 Responsibilities

A. Staff at National Headquarters (NHQ)

(1) The Deputy Chiefs for Science and Technology (S&T) and Soil Science and Resource Assessment (SSRA) jointly lead development and implementation of policy and procedures in the FOTG.

The Deputy Chief for S&T must consider including emerging technology recommendations from the National Technical Guide Committee (NTGC) (see sections 401.2 A and B of this manual).

(2) The Director, Ecological Sciences Division (ESD), will serve as chairperson of the NTGC.

(3) The NTGC will develop and recommend FOTG policy and procedures.

(4) The NTGC must establish and maintain national planning criteria for the most current resource concerns template in section III of the FOTG. In addition, the NTGC must review and approve resource concerns, the criteria for the resource concerns, and the measurement tools to determine planning criteria levels. This must be done in consultation with the national discipline leader for the respective resource concerns. All planning criteria will have an assessment tool or process to determine the planning criteria level. Appropriate national discipline leaders must be identified on the "Resource Concern and Planning Criteria" table.

(5) The NTGC must establish and maintain the national Conservation Practice Physical Effects (CPPE) matrix. The CPPE data are developed by national technical specialists and may be

modified by States to represent State-specific conditions. States use the CPPE for conservation planning activities and ranking financial assistance program applications. The national CPPE coordinator is responsible for managing the annual update of the national CPPE, and the national CPPE data steward is responsible for ongoing support of the storage, display and usage of the CPPE database, through interactions with information technology (IT) personnel and staff from States.

(6) The National Conservation Practice Standards Subcommittee (NCPSS), a standing subcommittee of the NTGC (see section 401.2C of this manual), must monitor status and recommend action related to all interim and permanent national conservation practice standards. The NCPSS coordinates development and review of national conservation practice standards and publishes the standards and related technical documents in Title 450, National Handbook of Conservation Practices (NHCP).

(7) Each national discipline leader for the national conservation practices must establish and maintain all conservation practice standards assigned to that discipline, as identified in accordance with Part 401, Subpart B, "Conservation Practice Standards," of this manual. This includes ensuring the appropriate scientific support documentation as listed in section 401.3D (4)(iii) of this manual is kept current according to the revision schedule in the current policy and new and emerging scientific information. See part 401, subpart B, sections 401.14 to 401.19, of this manual for development and maintenance of practice standards, interim standards, and archiving superseded standards. This also includes providing quality assurance for these documents.

(8) Where a national conservation practice has more than one assigned discipline leader, the lead discipline will coordinate development and maintenance of the practice standard with the other assigned discipline.

(9) The national technology support coordinator must serve as chairperson of the National Technology Integration Subcommittee (NTIS) (see section 401.2E of this manual).

(10) When not available, division directors, who are official members of the NTGC and its subcommittees, must designate a representative to participate in meetings.

B. Regional Conservationists

(1) Ensure consistent application of agency policies and procedures concerning development and approval of FOTG technical materials.

(2) Ensure that State Conservationists and Directors, Pacific Islands and Caribbean Areas (hereafter referred to as STC), coordinate FOTG contents with adjoining States, in particular across MLRA, common resource areas boundaries, and technology support areas to ensure consistent development and application of FOTG materials.

(3) Appoint representative STCs to the NTGC.

C. Staff at National Technology Support Centers (NTSC)

(1) NTSC directors must—

(i) Provide assistance to STC and State technical leaders in the development and review of FOTG materials, when requested by STC.

(ii) Work with the Regional Conservationists and STC in the service areas to identify and address technology concerns for the FOTG.

(iii) Ensure that national technology specialists (NTS) work with technical staff and committees in NHQ.

(iv) Work with partners, Tribes, universities, and others to identify, adapt, and communicate new emerging technologies and technical materials such as those developed from Conservation Innovation Grants (CIG) and Conservation Effects Assessment Project (CEAP) studies.

(2) Staff at the NTSC must—

(i) Support technical leadership, guidance, and oversight for development and maintenance of conservation practice standards

(ii) Provide technology transfer and training

(iii) Collaborate in the development and maintenance of national technical standards, references, and related materials

(iv) Support the NCPSS, to improve consistency for conservation practice standards nationwide

(v) Seek and learn about emerging technology for acquisition, development, and transfer to the State and field offices

D. Staff in Every State

(1) The STC must—

(i) Ensure that State-level technical leaders work with national discipline leaders and NCPSS as appropriate so State-level issues related to practice standards are addressed.

(ii) Establish and appoint membership to a STGC (at a minimum, State-level technical leaders within NRCS) to assist in development and maintenance of the FOTG. The STGC is responsible for the approval and distribution of State-developed, State-supplemented, or field office-supplemented FOTG materials. The STGC is also responsible for maintenance and quality assurance activities to ensure the completeness and accuracy of FOTG materials created at the field-office level.

(iii) Establish guidelines for STGC (e.g., membership of the committee, length of

membership, responsibilities of the committee, regularity of meetings, working process for the STGC, etc.).

- (iv) Ensure access to FOTG materials for the offices supervised.
- (v) Ensure that all field office employees maintain and use up-to-date materials to provide technical assistance.
- (vi) Be responsible for the development, quality, coordination, use, and maintenance of all State-level FOTG materials for use at the field-office level.
- (vii) Develop, approve, implement, and evaluate, as appropriate, all State interim standards and associated materials, which includes requesting interim practice standard code numbers from NCPSS, and providing interim practice evaluations to national discipline leads and the NCPSS (see Part 401, Subpart B, Section 401.17, "Interim Standards," of this manual, for more detail).
- (viii) Establish State planning criteria for FOTG Section III consistent with the national template (see Part 401, Subpart C, Figure 401-C3, "National Resource Concerns and Planning Criteria," of this manual).
- (ix) Establish procedures for maintaining the contents of the FOTG. All FOTG material created at the State level must be reviewed by the STGC every 5 years, or more often as needed to maintain technical adequacy and meet State and local requirements. Any changes will be reviewed with the State Technical Committee and adjacent States, as applicable. Each FOTG section contains an automatically generated table of contents (see Section 401.4, "Sample Table of Contents for FOTG Subsections," of this manual), which must reflect STGC review and revision dates in each table.
- (x) Forward State-level emerging technology concerns and needs to the Regional Conservationists and the appropriate NTSC, Conservation Engineering Division (CED), or ESD director.
- (xi) Establish policy on posting materials to the FOTG.
- (xii) Provide training and instruction to field offices on managing and using the FOTG.
- (xiii) Appoint a FOTG content administrator and content managers to input content and manage the FOTG.
- (xiv) Provide State-level procedures, training, and instructions to the field offices for the review of and adding of field office and county-specific content to the FOTG. Provide training and instruction to area and field offices that use the FOTG.
- (xv) Establish procedures to ensure that all superseded FOTG materials are appropriately organized and archived. Superseded materials should be accessible and maintained until such materials are no longer relevant to any conservation contract (see subpart B, section 410.18, of this policy for more details). Follow the example in section 401.8 of this subpart for archiving materials in the FOTG.
- (xvi) Work with Regional Conservationists to ensure regional coordination, likewise Regional Conservationists are to ensure that STGC are organized and functioning.

(2) State-level technical specialists must—

- (i) Work with national discipline leaders and NCPSS as appropriate to ensure State-level issues related to practice standards are addressed
- (ii) Participate, as directed by the STC, in the development and maintenance of the 450-NHCP and associated supporting documents
- (iii) Identify and report FOTG technology needs and issues to the STGC
- (iv) Help develop and evaluate interim State practice standards and associated materials

E. Staff at the Area and Field Level

- (1) Area and field office technical leaders (e.g., district conservationists, area conservationists, or team leaders) must—
 - (i) Identify and report technical and resource needs, local issues, etc., and prepare such material for review and approval by the STGC prior to inclusion into the FOTG.
 - (ii) Ensure all staff use current FOTG materials.
 - (iii) Identify needed changes and additions to the FOTG.
 - (iv) Request assistance from specialists at the area, zone, or State-level, as appropriate, when preparing changes or additions to FOTG materials.
- (2) All area and field-level employees are responsible for identifying the needs for improvements and emerging technology to inform the STC, State technical leaders, or designees, as appropriate.

401.2 National Technical Guide Committee

A. NTGC membership includes the following (official members will designate alternates to participate in NTGC meetings and business matters as needed to ensure full participation):

- (1) Director, Ecological Sciences Division (chairperson)
- (2) Director, Conservation Engineering Division
- (3) Director, Conservation Planning and Technical Assistance Division
- (4) Director, Resource Economics, Analysis and Policy Division
- (5) Director, Resources Inventory Division
- (6) Director, Resources Assessment Division
- (7) Director, Soil Science Division

- (8) Directors of each NTSC
- (9) A representative STC from each region, to serve on a 3-year rotation, as recommended by the Regional Conservationist for that region
- (10) Executive Secretary, appointed by the NTGC chairperson
- (11) The National Technology Support Coordinator
- (12) The Chairperson of NCPSS
- (13) The National CPPE Coordinator
- (14) The Chairperson on the NTIS
- (15) Representatives from the USDA National Institute of Food and Agriculture, Forest Service, the USDA National Organics Program, etc., as identified by NTGC
- (16) Other NRCS Division Directors or staff members, as identified by NTGC

B. NTGC Operations

- (1) Meet quarterly or otherwise, as convened by the chairperson.
- (2) The executive secretary and subcommittees develops and the committee approves and issues national FOTG materials, utilizing the official NRCS Directives System.
- (3) Distribute minutes of each meeting to all members, NRCS Deputy Chiefs, NTSC directors, STC, State resource conservationists, and State conservation engineers.
- (4) Act upon technology requests within 45 days of receipt. For requests that require a quicker response, the NTGC can convene via electronic communication methods and make decisions to be recorded in the minutes of the next regularly scheduled NTGC meeting.
- (5) Recommend policy changes to the Deputy Chiefs for S&T and SSRA.
- (6) Respond to requests for FOTG policy and procedures clarification.
- (7) Approve the membership of NCPSS, NTIS, and other subcommittees.
- (8) Act upon recommendations from the NCPSS.
- (9) Create ad hoc subcommittees, as necessary, to address technical policy and coordination issues.
- (10) Provide a timely response to requests, recommendations, referrals, and suggestions from the Regional Conservationists and the NTSC directors.

C. NCPSS is a standing subcommittee of the NTGC. State representative positions on the committee are term positions not to exceed 3 years. Representative replacement dates will be staggered to allow for committee knowledge continuity. Selection of State representatives must be made by the Regional Conservationists. Membership includes the following:

- (1) National agricultural engineer (chairperson)
- (2) Conservation Practice Standards (CPS) review coordinator agronomist or other position as designated by the Central NTSC Director
- (3) One representative from each of the S&T divisions:
 - (i) Engineering
 - (ii) Ecological Sciences
- (4) One representative from each deputy area:
 - (i) Programs
 - (ii) Soil Science and Resource Assessment
 - (iii) Strategic Planning and Accountability
 - (iv) Strategic and Natural Resources Initiatives
- (5) Two State representatives from each region (preferably one engineering and one ecological science).
- (6) One representative from each of the following national centers:
 - (i) East NTSC
 - (ii) Central NTSC
 - (iii) West NTSC
 - (iv) National Water Management Center
 - (v) National Water and Climate Center
 - (vi) National Design, Construction, and Soil Mechanics Center

D. Operations of the NCPSS

- (1) Meet monthly or as otherwise convened by the chairperson.
- (2) Coordinate the revision, development, or deletion of national CPS and other NHCP materials, utilizing the most current technical information, including knowledge gained from CEAP, CIG, and other research. Ensure CPS are reviewed internally, by the public in Federal Register notices and issued by NHCP notices through the NRCS eDirectives System.
- (3) Send materials and recommendations to the NTGC for consideration.
- (4) Distribute minutes of each meeting to all members, State conservation engineers and State resource conservationists.
- (5) Act upon technical matters within 45 days of receipt, or sooner through electronic means as determined by NCPSS and record in the next meeting minutes.
- (6) Recommend policy changes affecting CPS to the NTGC.
- (7) Respond to requests for NHCP and CPS policy and procedures clarification.
- (8) Maintain and revise NRCS policy (Title 450, General Manual (GM), Part 401, Subpart B) as needed.
- (9) Recommend the committee membership to NTGC.
- (10) Act upon recommendations and concerns from NCPSS members.

- (11) Create ad hoc teams as necessary to address conservation practice, technical policy, and coordination issues.
- (12) Respond or add to recommendations received from NTIS.
- (13) Receive and provide a timely response to requests, recommendations, referrals, and suggestions from the NCPSS membership.
- (14) Allow official members to designate alternates to participate in NCPSS meetings and business matters.

E. NTIS is a standing subcommittee of the NTGC. Positions on the committee are term positions not to exceed 3 years. Representative replacement dates must be staggered to allow for committee knowledge continuity. Selection of State representatives will be made by the Regional Conservationists. Membership includes—

- (1) National technology support coordinator (chairperson)
- (2) Conservation practice standards (CPS) review coordinator
- (3) One representative from each of the S&T divisions:
 - (i) Engineering
 - (ii) Ecological Sciences
- (4) One representative from each deputy area:
 - (i) Programs
 - (ii) Soil Science and Resource Assessment
 - (iii) Strategic Planning and Accountability
- (5) Two State representatives from each region (preferably one engineering and one ecological science)
- (6) One representative from each of the following national centers:
 - (i) East NTSC
 - (ii) Central NTSC
 - (iii) West NTSC
 - (iv) National Water Management Center
 - (v) National Water and Climate Center
 - (vi) National Design, Construction, and Soil Mechanics Center

F. Operations of the NTIS are to—

- (1) Receive CIG national and State project evaluations and lessons learned.
- (2) Receive other technology innovation project reports such as CEAP executive summary reports and recommendations.
- (3) Review materials from (1) and (2) above, and identify recommended uses to the NCPSS and appropriate discipline leaders.
- (4) Provide periodic reports of findings and recommendations to the NTGC.

G. The national Conservation Practice Physical Effects (CPPE) matrix is maintained by the NTGC. The national CPPE data are developed by national discipline leaders. State technical specialists may develop a State CPPE by modifying the effects date in the national CPPE to represent State-specific conditions. States use the CPPE for conservation planning activities and ranking financial assistance program applications.

- (1) The national CPPE coordinator is a technical specialist identified by the NTGC. The national CPPE coordinator is responsible for managing the annual update of the national and State CPPE. The coordinator is to keep the NTGC informed of CPPE issues that need national attention, ensure the most current conservation practices and resources concerns are used in the matrix, and deliver the final CPPE to the national CPPE data steward for posting on an approved secure Web site.
- (2) The national CPPE data steward is a technical specialist, identified by the NTGC. The national CPPE data steward works with the national CPPE coordinator to assure timely posting and maintenance of national and State CPPE data on an approved secure Web site, or other electronic tool accessible to approved agency personnel.

401.3 Content of FOTG

A. Each section of the FOTG includes a list of contents that is to be revised each time a change is made in the contents. The list is to show the date of the last revision and the date of the last STGC review of each item or supplement. See section 401.4 of this manual for an example of the table of contents.

B. The FOTG is to contain sections I through V, as identified below and in appropriate subsections:

- (1) Section I – General Resource References
- (2) Section II – Natural and Cultural Resources Information
- (3) Section III – Resource Management Systems and Planning Criteria
- (4) Section IV – Practice Standards and Supporting Documents
- (5) Section V – Conservation Effects

C. Supporting documentation for (national and State level) technical information contained in the FOTG must include the following:

- (1) Section I.—No documentation is needed for references, but it must be included for technical guidance, including guidance for monitoring activities.

- (2) Section II.—Sources of data and information must be included.
- (3) Section III.—NRCS must be cited as the source for information contained, unless it is otherwise provided. In those cases, the source will be included.
- (4) Section IV.—Citations of technical materials used to prepare practice standards, specifications, and other documents must be included with each numbered standard, as needed.
- (5) Section V.—NRCS must be cited as the source for effects information, unless supplemented or refined to relate to State, Tribal, or local laws and criteria. In those cases, the source of those laws and criteria must be cited.

D. The FOTG sections must include the following materials, at a minimum:

- (1) Section I – General Resource References
 - (i) The beginning of section I must include a folder containing State-level notices or amendments to the FOTG.
 - (ii) Section I lists references and other information for use in understanding the natural resources of the field office service area or in making decisions about resource use and management systems. Reference documents must be filed in the FOTG reference section and must be able to have hardcopies available. Computer-based tools used in resource analysis and modeling (e.g., the Spreadsheet Tool for the Estimation of Pollution Load (STEPL), Technical Release 55 (TR-55), Revised Universal Soil Loss Equation 2 (RUSLE2)) must be listed in section I or reference made to other manuals and locations. References kept in other locations must be cross-referenced. Examples include texts and publications dealing with databases found in section II (below) and other resource issues.
 - (iii) Conservation activity technical guidance is included in section I. Conservation activities include actions that support or are associated with conservation practices or conservation implementation strategies. An edge-of-field monitoring guide is an example of a general reference for a conservation activity.
 - (iv) File FOTG transmittals, notices, amendments, tabulation sheets, disclaimers, FOTG policy links, STGC information, State-level technical notes that are not standard-specific, and other information deemed appropriate by the STGC in the first folder of section I, FOTG.
 - (v) See section 401.5 of this manual for examples of section I FOTG content.
- (2) Section II – Natural and Cultural Resources Information
 - (i) Section II contains natural and cultural resource data, links to databases, and procedures for interpretation.
 - (ii) The following are subsections of section II of the FOTG:
 - Climatic Data
 - Cultural Resources Information
 - Ecological Site Description Links
 - Forage and Conservation Tree/Shrub Suitability Group Descriptions
 - National Environmental Policy Act and Special Environmental Concerns Guidance
 - Soils Information
 - Windbreak Suitability Groups
 - (iii) See section 401.6 of this manual for examples of section II FOTG content
- (3) Section III – Resource Management System (RMS) and Planning Criteria
 - (i) Planning criteria and guidance documents must be filed in section III of the FOTG. As a general outline, section III must contain RMS planning criteria, with supporting guidance documents, followed by program criteria and related guidance documents needed to meet levels of treatment defined by legislated programs and initiatives. In areas or situations where RMS criteria cannot be achieved, Alternative management systems (AMS) that are different from RMS criteria should be developed. Criteria for basic conservation systems (BCS) and alternative conservation systems (ACS) are also critical and required by statute. (For clarification of an RMS see 180-GM, Part 409, Sections 409.1 B and C.) An RMS must address all identified resource concerns that fall below the level of sustainability, taking into account other natural resource considerations, and human, cultural, economic, and social concerns relative to each of the following natural resources in the field office area for the following:
 - Soil
 - Water
 - Air
 - Plants
 - Animal
 - Energy
 - Humans
 - (ii) Planning criteria for treatment required to achieve an RMS must be established by NTGC and filed in section III of the FOTG. Criteria must be stated in either qualitative or quantitative terms. The assessment tool or process to determine planning criteria must be included for each resource concern. The STC or delegate must establish planning criteria when State criteria are more restrictive than the national planning criteria. Where State-level and local regulations establish more restrictive criteria, these must be considered when developing the RMS.
 - (iii) Conservation activity plans (CAP) represent a subset of what may eventually become

an RMS plan. Criteria explaining the requirements and deliverables for each CAP must be filed in section III.

(4) Section IV – Practice Standards and Supporting Documents

(i) Section IV of the FOTG contains conservation practice standards (CPS) that are applicable in that State.

(ii) CPS establish the minimum level of acceptable quality for designing, installing, operating, and maintaining conservation practices. National standards from the NHCP must be adopted by State-level offices and supplemented as needed for field use within that State.

(iii) In section IV, create one folder for each CPS and interim CPS that is active within the State. Following is a list of supporting documents and information that should be contained in each folder:

- **CPS.**—Provide minimum level details to implement a practice. Primary users are NRCS, technical service providers (TSP), or private consultants.
- **State job sheets, construction and implementation specifications, and cost estimates** that could be posted in the FOTG, all could include templates for site-specific implementation.
- **Implementation Requirements.**—Provide instructions on how to install the practice. Primary users of these documents include NRCS employees, TSP, and private consultants who customize the information for each site.
- **Statements of Work (SOW).**—Provide a checklist of minimum requirements (deliverables) for each step of the planning process to implement each conservation practice, including planning, design, installation, checkout, and certification. Primary users of the SOW are NRCS employees, TSP, and private consultants.
- **Operation and Maintenance (O&M) Plan.**—Provide instructions on how to operate and maintain the practice. Primary users are clients implementing the CPS.
- **Additional Documents.**—Provide other applicable information regarding the practice and may be included in section IV, as determined by the STC. This would include practice-specific technical references, emergency response plans, cost estimates, and planning and design tools specific to the practice such as spreadsheets or other State-approved-developed aids.

(iv) See Part 401, Subpart B, "Conservation Practice Standards," of this manual, for policy and procedural details for national, State, and interim practice standards and specifications.

(5) Section V – Conservation Effects (ConEffects)

(i) ConEffects describe estimates of the impact that conservation practices may have on natural and cultural resources of a site. ConEffects are recorded in the CPPE database. The recorded data are based primarily on empirical information and field experience. Effects often vary and should be expressed when used on a site-specific basis using the conservation planning process. The CPPE is a dynamic database requiring frequent revisions. This section of the FOTG contains the following:

- The CPPE database is national in scope. Therefore, State-level offices are encouraged to review and localize the information as necessary to reflect those effects expected to occur under local conditions. See Title 180, National Planning Procedures Handbook (NPPH), Part 600, Subpart E, Section 600.40, for additional information on CPPE; and section 401.7 of this manual.
- Case studies may be developed and filed for each common RMS or individual conservation practices. Case studies can provide data about the practical effects of conservation practices as well as provide information to help conservation planners sell conservation practices.

(ii) See section 401.7 of this manual for examples of section V FOTG content.

401.4 Exhibit: Sample Table of Contents for FOTG Subsection 1

Table of Contents

(Name of FOTG Subsection)

Title	File Size (Kb)	Revision Date	STGC Review Date
Average Annual Precipitation	350	05/16/2012	05/16/2012
Climate Mapping (PRISM)	Web link	04/26/2012	04/26/2012
Emerging Technologies			
• Conservation Innovation Grants	Web link		
• CEAP	Web link		

Costs and Returns Estimation (CARE) Web Site	Web link	12/21/2012	04/26/2012
Erosion Prediction	3	06/17/2011	06/17/2011
Initiative Priority Area	446	05/16/2012	05/16/2012
Major Land Resource Areas	Web link	04/26/2012	04/26/2012
National Earthquake Information Center	Web link	04/26/2012	04/26/2012
National Register of Historic Places	Web link	04/26/2012	04/26/2012
National Resources Inventory (NRI)	Web link	04/26/2012	04/26/2012
National Water and Climate Center Irrigation Page	Web link	04/26/2012	04/26/2012
National Wild and Scenic Rivers System	Web link	04/26/2012	04/26/2012
Plant Hardiness Zones	Web link	04/26/2012	04/26/2012
State Soil Geographic Database (STATSGO)	4,201	05/16/2012	05/16/2012
State and Local Laws, Ordinances, Regulations	11	05/16/2012	05/16/2012

401.5 Information for FOTG Contents, Section I, General References

Section I of the FOTG, "General References," lists documents, databases, tools, and other information used to understand the natural and cultural resources of the field office service area. The location of any actual hardcopy references must be noted in an FOTG reference section of the field office. References kept in other locations must be cross-referenced; this may include electronic or Internet locations. This section must contain the following subsections and materials, at a minimum:

- (1) Reference lists include (links as appropriate) multiple-discipline handbooks, manuals, and reports commonly used in conservation planning and implementation activities, including the following:
 - (i) Irrigation and drainage guides
 - (ii) The PLANTS database link
 - (iii) The National Register of Historic Places and other lists of regional cultural resources
 - (iv) State surface and groundwater classifications and associated standards (water quality and fishery), sole-source aquifers, and designated wild and scenic rivers
 - (v) Natural resource inventories
 - (vi) Flood zone maps
 - (vii) River basin reports
 - (viii) Seismic zones
 - (ix) Relevant computer models
 - (x) Various reference products from technical centers
 - (xi) Discipline manuals and handbooks
 - (xii) Soil survey
 - (xiii) Cost data
- (2) Maps that show the types and extent of resource concerns within the State
- (3) Tools, guidance, and data for analysis of resources, such as erosion prediction
- (4) Links to Federal, Tribal, State, and local laws, ordinances, or regulations
- (5) Other related materials that the field office staff would deem applicable

401.6 Information and Examples of FOTG Contents, Section II, Natural and Cultural Resources Information

A. Section II of the FOTG must contain the following, at a minimum:

- (1) Official soil survey information, including five parts:
 - (i) Statements and Web addresses about which soil maps, data, and interpretations are official for each USDA program purpose and where to find those maps, data, and interpretations. For example, official lists of highly erodible soil maps may exist only as hardcopy in the FOTG while other standard data and interpretations exist as a link to the Web Soil Surveys.
 - (ii) Soil maps. Where an archived version is required for program purposes (e.g., 1990 soil map in a survey area that has since been updated), the archived and contemporary maps will be included in the FOTG and their respective uses clearly identified.
 - (iii) Soil survey data, including map unit symbol and map unit name for each symbol shown on the official soil survey maps.
 - (iv) Brief soil description for each map unit identified on the soil maps, from the Web soil surveys.
 - (v) Interpretations are required to meet national program needs and the needs of the area served by the FOTG. Archived lists may be required for some program needs and must be clearly identified as to their intended purpose.
- (2) Climatic Data

Local climatic data. Include local climatic data needed for planning conservation systems to an RMS and installing conservation practices, including—

 - Averages for wind direction and velocity, hail incidence, and other natural disaster information.
 - Water supply data.
 - Precipitation prediction data by month.
 - Other climate data.
- (3) General Cultural Resources Information.—This section should include a brief discussion of the prehistoric and historic settlement across the State. This discussion should include a description of the types and distribution of cultural resources (historic, archaeological, architectural, historic engineering, traditional cultural properties, sacred sites, and historic and cultural landscapes important in historic or prehistory) and their associations with major landforms and ecosystems. It should also include links to pertinent references (the general manual and national handbook chapters, manuals, and other guidance documents such as national and State consultation agreements with the State historic preservation officer (SHPO), federally recognized American Indian Tribes, and native Hawaiian organizations. Most significant cultural and historic properties are generally over 50 years of age and considered eligible for the National Register of Historic Places. Such lists are to be updated annually from the Federal Register.
 - (i) References and Reference Documents

This subsection should include basic information on and links to descriptive summaries or lists of cultural and historic resources. These may include, but not be limited to—

 - A directory of contacts for information on cultural resources (e.g., the State NRCS cultural resources specialist or coordinator, the SHPO and staff, State historian, State archaeologist, county and local historical commissions, State and county museums and historic societies, and academic and research institutions).
 - Official State and county histories, such as the Works Progress Administration (WPA) State guides, atlases, F.W. Beers and Company maps, and other insurance and topographical maps and atlases, and U.S. Geological Survey (USGS) 7.5- and 15-minute maps, General Land Office (GLO) survey plats and field journals.
 - Updated links to the national and State registers of historic places (available from the Federal Register) and updated monthly and annually.
 - NRCS State office instructions, handbook, and guidance on integration of cultural resources data into project, program, and conservation planning.
 - A listing of any State register of historic places.
 - Predictive maps or models for archaeological sensitivity for the State.
 - Links to architectural, artifactual, and material cultural guides.
 - Any SHPO, State archaeologist, or State museum data request forms.
 - Links to NRCS, SHPO, and State museum site and building and structure inventory forms.
 - NRCS State office cultural resources field worksheet (for National Historic Preservation Act reviews).
 - Other data or guides that might make field office investigations work well in the State.
 - (ii) Archaeological site maps contain restricted information and should remain in separate working files within restricted State and field office working files, not within the FOTG.
- (4) Special Environmental Concerns Information (401.6 Exhibit A).—This subsection contains lists, maps, documents, photos or drawings, inventory forms, or procedures, and other information, including references, necessary to identify resource concerns that must be considered during conservation planning. The list may be expanded to include other information needed to address Federal, State, local, or Tribal resource concerns that pertain to the field office service area. It includes—
 - (i) Clean Water Act 303(d) listed streams.
 - (ii) Clean Air Act nonattainment areas.
 - (iii) Coastal zone management areas.

- (iv) Coral reefs.
 - (v) Threatened and endangered species and related information. This subsection contains information, or appropriate references, on species of plants and animals that are threatened and endangered and must be accounted for in conservation planning. General descriptions, photos or drawings, inventory forms, or procedures, helpful for planning purposes.
 - (vi) Essential fish habitats and fishery management plans.
 - (vii) Floodplains.
 - (viii) Invasive species.
 - (ix) Natural areas.
 - (x) Areas of scenic beauty.
 - (xi) Sacred sites and landscapes (American Indian Religious Freedom Act and Executive Order 13007), and Traditional Cultural Properties listed in the National Register of Historic Places.
 - (xii) Wild and scenic rivers.
- (5) Forage Suitability Group (FSG) and Conservation Tree/Shrub Suitability Groups (CTSG). This subsection includes—
- (i) Interpretive reports that provide soil and plant science based descriptions for conservation planning; FSG on livestock operations where forage crops are grown. FSG identify various soils, climate conditions and management, and treatment options and the types of forage plants that will grow and their yields under the given conditions. CTSG on sites where trees and shrubs are planted and managed.
 - (ii) FSG and CTSG support and woody plants.
- (6) Ecological Site Descriptions (ESD).—Landscapes are divided into ecological sites for the purposes of inventory, evaluation, and management. An ecological site is a distinctive type of land with specific physical characteristics that differs from other land types in its ability to produce a distinctive kind and amount of vegetation. Ecological sites are defined for land uses such as rangeland and forestland. Contemporary ecological site descriptions are electronic and maintained through an electronic link to the Ecological Site Information System.
- B. Section II of the FOTG may contain emerging, innovative technologies and other related materials, such as CIG reports and CEAP information.
- C. Section II of the FOTG may contain other related materials that the field office staff deem applicable.
- D. Section II may contain errata statements regarding errors and inaccuracies in soils information and maps discovered and validated by the responsible MLRA Soil Survey Office.

401.7 Information for FOTG Section V, Conservation Effects

Section V of the FOTG contains ConEffects information designed for use in planning. The ConEffects are recorded in an electronic table using the following concepts:

- (1) The CPPE are generic and may not be applicable to all field sites. The data provide an indication of the physical effects expected to occur when an individual practice is installed in a typical situation. Since the practice effects are generally cumulative, combinations of practices can be evaluated using their practice effects data. The CPPE information is recorded in database format and includes each CPS and resource concern applicable to the work area. Most of the information is based on field experience and empirically derived information rather than actual monitoring data. As science-based data become available, the CPPE tables can be evaluated and updated as appropriate. State-level technical specialists must develop a CPPE worksheet and attach it to a proposed interim CPS. When the interim CPS is approved for use in the State, the State-level technical specialists should place the CPPE worksheet in section V of the FOTG.
- (2) Effects recorded in the CPPE may be expressed in either qualitative or quantitative terms that represent expected results of the conservation practice as applied to the generic resource setting or site described in the matrix.
- (3) "Impact" is a closely related term. An impact is a measure of the change expected to occur when comparing a treatment alternative to existing conditions. Detailed guidance on the use of effects information is contained in 180-NPPH.
- (4) Case studies may be developed and filed for each common RMS or individual conservation practices. Case studies can provide data about the practical effects of conservation practices.

401.8 Archiving FOTG Materials

A. As content of the FOTG is updated and replaced, the State FOTG content manager will mark appropriate materials as archived before exiting the information Web page.

- (1) In "Content Manager," navigate to the document that is to be archived.
- (2) At the bottom of the metadata screen, on the right-hand side of the screen, select the "Archive" button.
- (3) When the "Archive" button is selected, FOTG automatically performs the following

actions:

- (i) Creates a new folder in the section named "Archive Materials – Section X."
- (ii) Displays folder as the last folder in the section.
- (iii) Archive folder **will not** be displayed in the "Menu" or "Table of Contents."
- (iv) FOTG will move the document to be archived to this new folder.
- (v) Renames the archived document to "Archived – old document name - YYMMDD" to help clarify that this is archived material and files them alphabetically.
- (vi) Set revision date to the current date and the review date is set to 10 years from the current date. These can be adjusted from within "Content Manager" as needed.
- (vii) The archived document **will not** be displayed in the "Menu" or "Table of Contents."
- (viii) Archived documents **will not** be displayed in the "What's Changed Recently" section.
- (ix) Any metadata relating to practice code number and document type (standard, specification, etc.) will be removed.
- (x) Archived material will only be available to content managers through the "Content Manager" screens.

(4) The content manager can now upload the new document that will replace the archived document. This is not required, but it will generally be done.

(5) When possible, the new document should have the same file name as the old. This will keep any links that users have created in their "Favorites," "Thunderbook," or other Web pages intact.

B. It is important to remove archived files from the search engine and access by the public and field conservationists to eliminate confusion between current and archived files.

C. The system does not create the "Archive Materials – Section X" folder until a content manager archives a document in that FOTG section.

D. The system does not create any subfolders in the "Archive Materials" folder. Content managers can manually do this as desired. Select "No" for "Display to Menu and Table of Contents." Actual changes to the FOTG might not appear until the next day for public viewing.

E. Materials archived as described above can only be viewed by State FOTG content managers. A State may have a business need for all employees to have access to archived materials. If this is the case, State content managers can make the following changes to make archived material available to all FOTG users:

- (1) After archiving a document, refresh the "Content Manager" menu.
- (2) Open the recently created "Archive Materials – Section X" folder in "Content Manager."
- (3) Select "Yes" on "Display to Menu and Table of Contents."
- (4) Select "Save."
- (5) Open the recently created archived document in "Content Manager."
- (6) Select "Yes" on "Display to Menu and Table of Contents."
- (7) Select "Save."

F. With this change, archived documents will be readily available to all FOTG users until the "Display to Menu and Table of Contents" toggles for the archive folder and archived documents are switched back to "No" by a content manager.

G. Archived files may be deleted after 10 years, assuming there are no programs contracts still relying on a specific CPS or related document or file.

Subpart B - Conservation Practice Standards

401.10 Purpose

This subpart sets forth Natural Resources Conservation Service (NRCS) policy for conservation practice standards, including developing new or revising existing standards, obtaining variances to practice standards, establishing interim standards, adapting national conservation practice standards to State and local conditions, archiving outdated standards, and procedures for public review and comment. It also contains policy for establishing and maintaining the National Handbook of Conservation Practices (NHCP) and the online web based Conservation Practice Standards (CPS) data reference table and application.

401.11 Conservation Practice Standards (CPS)

- A. CPS' establish the minimum acceptable level of quality that is required to plan, design, install, operate, and maintain conservation practices.
- B. Each CPS has the following sections:
 - (1) The official name, practice code, and unit of measurement for the practice (required).
 - (2) Definition of the practice (required).
 - (3) Purpose(s) for applying the practice including the resource concern(s) to be addressed (required).
 - (4) Conditions where the practice applies (required).
 - (5) Criteria supporting each purpose (required).
 - (6) Considerations for practice planning, design, and installation (optional but recommended).
 - (7) Minimum requirements for plans and specifications (optional but recommended).
 - (8) Minimum requirements for the operation and maintenance of the practice (optional but recommended).
 - (9) References that are the basis for or support the technology in the practice (required).
- C. The official Practice Name, Practice Code, Unit of Measurement, and Definition are established nationally and are not to be changed.
- D. States may add a Purpose by requesting a variance as outlined in Section 401.16, Variances.
- E. States may delete any Purpose that addresses a resource concern that has not been identified in the State.
- F. The remaining sections of the Standard may be modified as needed (see Section 401.15, State Adoption and Modification of NHCP Standards and Practice Lifespans).

401.12 National Handbook of Conservation Practices (NHCP) Content

The NHCP contains:

- (1) An index of national standards. The index has the following information:
 - (i) The practice name and unit(s) of measure.
 - (ii) The NRCS national technical discipline leader responsible for each practice.
 - (iii) The date of issuance of the current standard.
 - (iv) The practice code number of the standard.
- (2) A national standard for each conservation practice listed on the index.
- (3) Exhibits that illustrate practice standard layout and content, explain the practice standard development and review process, and provide other information pertinent to preparing CPS'.
- (4) A glossary of relevant technical terms in the NHCP.

401.13 Practice Specifications

Conservation practice specifications are site-specific guides that establish the technical details and workmanship required to install the conservation practice in accordance with the requirements of the CPS. Information in the CPS guides the development of the specification.

- (1) Specifications are not part of the NHCP or CPS standards, but are separate documents.
- (2) Specifications include items that are necessary and appropriate when applying the practice to site-specific locations.

Examples include the details of site preparation and protection, instructions for use of materials described in the standard, or guidance for performing installation operations not directly addressed in the standard. Statements in the specifications are not to conflict with the requirements of the standard.

- (3) Specifications for practices are to be developed by the States in consideration of the wide variations in soils, climate, and topography present within and among the different States. The

State Conservationist (STC) will approve State-developed specifications in consultation with the State Technical Guide Committee (STGC). Specifications are to meet the requirements of Federal, State, or local ordinances or regulations.

401.14 Practice Standard Development and Maintenance

- A. Each national CPS is to be formally reviewed at least once every 5 years from its date of issuance or date of review.
- B. The National Conservation Practice Standard Subcommittee (NCPSS) will notify the responsible national technical discipline leader when a standard is due for review.
- C. The national technical discipline leader will determine if the practice is still needed and if it contains the most current technology. If no revisions are required, the date of the last review will be added to the date of issue, listed in the index. Example: (Sept. 7/00 – 6/05).
- D. The process and procedures for revising and developing practice standards will be conducted in the manner outlined in NHCP Exhibit 1-6. Review and approval of technical content of proposed changes is the responsibility of either the Director, Conservation Engineering Division (CED), or the Director, Ecological Sciences Division (ESD), as appropriate.
- E. The national technical discipline leader will maintain a case file for each CPS for which they have responsibility. At a minimum, the case file will contain:
 - (1) A history of the review and revision of the standard.
 - (2) Rationale for the criteria in the standard.
 - (3) Documentation or references that support the criteria.
 - (4) Documentation for the practice design life.
- F. The National Technical Guide Committee (NTGC) will consider and recommend proposed changes to the NHCP to the Deputy Chief for Science and Technology. Numbered handbook notices issued by the Director, CED, and the Director, ESD, will transmit changes to the NHCP.

401.15 State Adoption and Modification of NHCP Standards and Practice Lifespans

- A. NHCP standards can be used within a State without modification, or they can be rewritten 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 CPS. State laws and local ordinances or regulations may dictate more stringent criteria. At a minimum, all practice standards adopted for use in a State will contain the name or abbreviation of the State in the footer of the standard.
- B. State modifications to national standards are to be incorporated into the main body of the standard. States must obtain a variance (see Section 401.16, Variances) for any change to a national CPS that results in less stringent criteria or requirements.
- C. When a revised or updated national CPS is released, States that currently include that standard in their Field Office Technical Guide (FOTG) shall adopt the updated version as soon as possible, but no later than one year after the issue date of the national standard, or request a variance from the appropriate National Headquarters (NHQ) Division Director.
- D. States will maintain a case file documenting State-level changes made to practice standards. At a minimum, the case file will contain the information listed in Section 401.14, Practice Standard Development and Maintenance (e) (1-3).
- E. Conservation practice lifespans are established by the appropriate CED or ESD discipline leader at the national level. A conservation practice lifespan is the minimum time (years) the implemented practice is expected to be fully functional for its intended purpose(s). The established conservation practice lifespans are based on following an operation and maintenance plan developed for the practice. For example, a grassed waterway with the appropriate operation and maintenance has a lifespan of 10 years.
- F. Lifespans for "structural" practices may vary from 3 years for small earthen structures to 20 years or longer for large earthen or concrete structures, buried pipelines, etc. The minimum lifespan for permanent "vegetative" establishment type practices is 5 years. A 1-year application lifespan is established for those "management" type conservation practices, where practices are reapplied (other than normal operation and maintenance) annually or more than one time on the same land to achieve its purpose(s). Examples of one (1) year lifespans include: Prescribed Grazing, Cover Crops, Nutrient Management, Irrigation Water Management, Residue and Tillage Management practices, etc. The minimum established conservation practice lifespans will be placed in the CPS reference table (see Section 401.20, CPS Data Reference Table and Application). The CPS reference table only allows a State to have one lifespan per conservation practice code. All States will use the national lifespans contained in the CPS reference table unless a variance is requested in writing.
- G. STCs may change the national established conservation practice lifespan by requesting a variance in writing, for use in their State, from the appropriate Director of CED or ESD. The request must

include a justification with supporting documentation as to why the lifespan should be different than the national established lifespan. Changing a practice lifespan is not only a technical decision but also a financial and legal decision. It has impacts on all programs, contracts, and significant accountability implications.

H. When an NHCP notice cancels standards, those standards will be immediately removed from the FOTG and archived as necessary, following the guidelines in Section 401.18, Archiving Standards.

401.16 Variances

A. Variances are approved when there is a documented need to establish additional purposes for an existing standard or less restrictive quality criterion than those required in the national practice standard. Only the Directors of the CED and/or ESD can approve variances from the requirements of a national CPS.

B. Any request for a variance is to be submitted in writing to the appropriate NHQ Division Director. The request will include the specifics of the purpose to be added or criteria to be changed, and supporting rationale for the change.

C. Variances, when granted, continue for a specified period or until the particular CPS is revised, whichever is shorter.

D. Variances have the same requirements for monitoring, evaluation, and reporting as an interim CPS standard (see Section 401.17, Interim Standards).

401.17 Interim Practice Standards

A. Interim CPS' serve as mechanisms for field testing new technology. Standards for interim conservation practices that prove successful will be developed into national CPS'; or the applicable material incorporated into existing practice standards as appropriate.

(1) Interim CPS' are to be prepared by the States to address resource concerns which are not addressed by an existing national standard. The process for developing, reviewing, and approving State interim standards is included in NHCP Exhibit 1-2.

(2) Interim standards, requested for use by a State, must first be approved by the STC, with consultation with the STGC and the National Discipline Leader. A written request is then made to the Chair of the NCPSS, who will then either:

(i) Issue a practice code for each interim standard.

(ii) Issue use of an existing interim standard and code already in use by other States, and encourage coordination among those States.

(iii) Deny an interim code in writing, providing reasons, after consultation with the responsible national discipline leader.

B. Interim practice standards are to be issued for a period not to exceed 3 years. Extensions to this time limit may be granted only when data are insufficient to make the required evaluations.

C. STCs shall assign responsibility to prepare and implement an evaluation plan using the guidelines for conducting conservation field trials (General Manual (GM), Title 450, Part 403, Conservation Field Trials, Section 403.6, Work Plans). This includes conducting and documenting annual evaluations of the performance and effectiveness of each interim practice authorized for use in that State. A summary of these evaluations will be addressed in the final report. Assigned State specialists shall prepare final reports at the end of the evaluation period and submit them to the NCPSS Chair. National discipline leaders shall utilize the National Technology Support Center (NTSC) specialists to facilitate communication among States using interim practice standards.

D. Final reports shall contain a recommendation to either:

(1) Make the interim practice a national practice and add it to the NHCP;

(2) Incorporate the technology in the interim practice into an existing national CPS; or

(3) Discontinue the use of the interim practice and delete the interim standard from the FOTG.

E. The NTGC will act on the final report, based on a recommendation from NCPSS and the appropriate national discipline leader. If the interim practice is recommended as a national standard, the State interim standard may be used until the national standard is issued. If there is no evaluation report, or the interim technology is found to be unacceptable or unneeded as a national standard by NTGC, the interim standard will be removed from the FOTG.

F. The interim standards and evaluation reports will be posted to the NHCP Web site in accordance with the procedures outlined in NHCP Chapter 1. The reports shall also provide evaluation information about materials, site preparation or protection, and other pertinent information learned about installation of the interim practice.

401.18 Archiving Standards

A. A copy of all superseded standards shall be retained in the NRCS FOTG, until such standards are no

longer relevant to any active conservation plan or contract, or for 10 years, whichever is longer. In many instances, clients may prefer to have conservation practice designs based on a former standard; however, the clients should be encouraged to use the current standard unless there are specific reasons to utilize the former standard.

B. Each State must maintain certain files for future reference. Where formal contracts (e.g., long-term agreements) are involved, copies of outdated standards are to be retained for the period required by the pertinent NRCS policy governing that specific program. When an existing CPS is replaced with an updated standard, the practice standard in effect at the time the client makes a decision regarding a course of action may be used for practice implementation, unless public health, safety, or welfare is adversely affected.

C. The STGC and FOTG Content Managers in each State, basin, and area must be involved in this action. Files to be archived include: CPS', Highly Erodible Land (HEL) maps, documents used for program eligibility determinations, and other documents as needed. As content of the FOTG is updated and documents replaced, each STGC will instruct the State Content Manager to mark appropriate material for archiving; see GM-450, Part 401, Subpart A, Policy and Responsibilities, Section 401.8, Exhibit: Instructions for Archiving Materials in the FOTG, for processing details. This will place each document to be archived in the Archive Folder in each Section (I-V), and automatically change the title to begin with the word "Archived" and date archived at the end, i.e. "Archived-Access Road-560-06-11-30 (year-month-day)." The STGC must decide if documents are to be available to the public, users with e-authentication only, or not available to anyone except Content Managers.

401.19 Public Review and Comment

A. The NTGC shall publish a notice in the Federal Register of the availability for review and comment of all additions or revisions to NHCP CPS'. The comment period will be for a period of not less than 30 days from date of publication.

B. The STC, in consultation with the State Technical Committee, shall establish a policy and procedure to publish or otherwise distribute for public review and comment, at a minimum, those revisions to practice standards that pertain to HEL and wetland provisions of Title XII of the Food Security Act of 1985, as amended. "Revision" shall mean the addition of more restrictive criteria in the State-adapted version of a national CPS to address State-specific resource conditions.

401.20 CPS Data Reference Table and Application

A. Information associated with CPS' needed for Agency business applications will be obtained from the Conservation Practice Standard Reference Table (CPSRT), accessible from the "Field Tools" page on My.NRCS.

B. Access for maintenance of the data in the CPSRT will be through the CPS application. Responsibilities associated with maintaining conservation practice information through the CPS are as follows:

(1) The Chair of the NCPSS of the NTGC will serve as the National Data Steward of the CPS. Responsibilities include:

- (i) Posting new national and State interim practices;
- (ii) Maintaining base information for each practice, such as measurement units;
- (iii) Lifespan and practice narratives; and
- (iv) Setting digitizing shape types.

(2) The National Activity Data Steward will have responsibility to maintain the list of Conservation Security Program stewardship activities and enhancements, including authorizing States to use each activity and enhancement, managing narratives, and setting digitizing shape types.

(3) The National Reporting Data Steward will have responsibility to maintain reporting practice codes.

(4) State Data Stewards will have responsibility to maintain their State practice list and State practice narratives.

(5) Local Data Stewards have responsibility for county practice lists and local practice narrative tables.

Subpart C - Resource Management System Quality Criteria and Guidance Documents

401.20 Purpose

NRCS provides technical assistance to decision-makers to protect, maintain, and improve soil, water, air, plant, and animal resources and related human considerations. The guidelines outlined in this Subpart are to be used to establish treatment levels necessary to adequately address natural resource concerns and human considerations. These concerns and considerations are identified during the planning process for the development of resource management, conservation systems or conservation treatment. This section includes a description of important resource considerations for conservation planning, and examples for setting quality criteria for treatment.

Quality criteria and guidance documents are to be filed in Section III of the Field Office Technical Guide (FOTG). As a general outline, Section III will contain Resource Management System (RMS) Quality criteria, with supporting guidance documents, followed by program criteria and related guidance documents needed to meet levels of treatment defined by legislated programs and initiatives that are different from RMS criteria.

General Manual Section 180, Part 409, provides policy for conservation planning. The National Planning Procedures Handbook (NPPH) provides procedures and information for developing resource management systems (RMS) to prevent or treat problems for a resource area, and take advantage of opportunities associated with these resources.

The conservation planner, through on-site visits and interviews with the client, will identify the resource concerns and determine considerations to be addressed in the plan.

401.21 Definitions

Benchmark Condition

The present condition or situation used as a point of reference to measure change in resource conditions resulting from conservation treatment.

Common Resource Areas

A geographical area where resource concerns, problems, and treatment needs are similar. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographical boundaries of the common resource area.

Conservation System

A combination of conservation practices and resource management that achieve a specific level of treatment of soil, water, air, plant, and/or animal resource concerns.

Conservation Plan

A record of the client's decisions and supporting information, for treatment of a unit of land or water as a result of the planning process that meets the FOTG quality criteria for each natural resource (soil, water, air, plant, and animal), including economic and social considerations. A conservation plan includes decisions that meet the required level of treatment for a specific program or initiative if the client is made aware of alternative treatments, but is not ready to commit to a resource management system level of treatment. The plan describes the schedule of operations and activities needed to solve the identified natural resource concerns and problems.

Conservation Treatment

Any and all conservation practices, management measures, and works of improvement that have the purpose of alleviating resource concerns, solving or reducing the severity of natural resource use problems, or taking advantage of resource opportunities.

Progressive Planning

A point in the planning process where the client is ready willing and able to make some but not all of the decisions necessary to achieve resource sustainability for soil, water air, plants and animals.

Quality Criteria

Quantitative or qualitative statements of the treatment level required to achieve a resource management system for identified resource considerations for a particular land use.

Resource Management System

A conservation system that meets or exceeds the quality criteria in the FOTG for resource sustainability for all identified resource concerns for soil, water, air, plants and animals.

Resource Consideration

Elements or conditions of the natural resources that may be sensitive to change by natural forces or human activity.

Resource Concern

A subset of a resource consideration that more specifically identifies or narrows the scope of analysis of a resource consideration. Concerns are identified by predictive models, direct measurements, observation or client objectives.

Resource Problem

A condition related to one or more resource concerns that does not meet the minimum acceptable quality criteria shown in the FOTG, Section III.

401.22 Natural Resource Considerations

Each resource may have considerations important to the development of a RMS. A description of many of these considerations is included in the Table I. Additional considerations or concerns will be added to account for wide variations in soils, climate, or topography. Not all concerns or problems are present at all locations.

Table Ia - Soil

RESOURCE CONSIDERATION	TYPES OF CONCERNS AND PROBLEMS
Erosion	Types of erosion: sheet and rill, wind, concentrated flow (ephemeral and classic gully), stream bank, soil mass movement, road bank, construction site, irrigation induced.
Condition	The chemical, biological, and physical characteristics of the soil as related to its ease of tillage, fitness as a seedbed, and ability to absorb, store, and release water and nutrients
Deposition	The onsite or offsite accumulations of products of erosion, including sediment, which causes damage to land or structures or endangers safety or reduces productivity

Table Ib - Water (Surface and Ground)

RESOURCE CONSIDERATION	TYPES OF CONCERNS AND PROBLEMS
Quality	Minimizing contamination from pesticides, nutrients, organics, pathogens, heavy metals, debris, color, odor taste, turbidity, and toxicity. Ensuring that quality is appropriate for planned use (i.e., domestic use, livestock, and aquatic habitat).

Table Ic - Air

RESOURCE CONSIDERATION	TYPES OF CONCERNS AND PROBLEMS
Condition	Temperature, humidity, velocity

Table Id - Plants

RESOURCE CONSIDERATION	TYPES OF CONCERNS AND PROBLEMS
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Condition	Productivity, kinds, amounts, distribution, health and vigor
Management	Establishment, treatment of threatened and endangered species, invasive species, growth, harvest, managing pests and disease, and reducing components affecting quality, palatability and animal health

Table 1e - Animals (Domestic and Wildlife)

RESOURCE CONSIDERATION	TYPES OF CONCERNS AND PROBLEMS
Management	Population, invasive species, threatened and endangered species, resource balance, nutrition and health.

401.23 Quality Criteria

Quality criteria will be set for each resource consideration or concern common to the Field Office Technical Guide service area (State, county, service center, etc). This shall be done in consultation with appropriate technical specialists from within NRCS, other agencies, universities and other experts. Quality criteria shall meet legal requirements (local, State, federal, etc.), agency policy (soil loss tolerance), and address an impairment threshold established by State research, extension, or other field specialists. Quality criteria for RMS will be approved by the State Conservationist and published in Section III of the Field Office Technical Guide.

The objective of these criteria is to help each client attain an RMS. In some instances, individual client action cannot solve existing resource problems in accordance with RMS criteria. In these instances, an opportunity exists for group or community planning to meet the appropriate quality criteria. In cases where the client cannot solve the problem as an individual, the criteria will be met if actions taken by the client are not adversely contributing to the problem.

Legislated State and federal programs have varying authorities and qualifying criteria that may require a different level of treatment or target one or more, but not all, identified resource problems and concerns. For example, RMS should not be confused with "conservation systems" as defined in 7CFR Section 12.2 for treatment of highly erodible land. A conservation system for Food Security Act purposes considers only erosion reduction. This reduction may not be equivalent to the quality criteria for RMS. As appropriate, program criteria and related guidance documents will be established and placed in Section III of the FOTG under separate headings. It is important that program criteria be distinguished from RMS criteria.

Quality criteria will be based on the best available science, including the assessment of effects and impacts. In the absence of practical assessment tools, quality criteria are subjective and rely on narrative or qualitative descriptions. Table II is an example of qualitative criteria. As additional tools become available quality criteria will be refined to illustrate quantitative values. Qualitative values may be expressed in terms of:

- Observation
- Nominal contribution of the planned treatment to the problem, or
- Treatment standards.

Table 11a - Water Quality (Ground)

RESOURCE CONCERNS	DEFINITIONS	QUALITY CRITERIA	ASSESSMENT TOOL
a. Contamination by salts, heavy metals, pathogens	Contaminants hinder intended purpose or pose a threat to humans, animals or plants	Treated areas do not contribute contaminant at a level that adversely affects groundwater	Not available
b. Excess Pesticides	Actual or potential of pesticides in concentrations	Criteria are met when Pesticide Management	Not available

	sufficient to adversely affect other resources or restrict use of land	(595) is applied	
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Table IIb - Air

RESOURCE CONCERNS	DEFINITIONS	QUALITY CRITERIA	ASSESSMENT TOOL
1. Quality	Airborne contaminants or dust is visible for extended periods	Criteria are met when treated areas no longer contribute to the problem.	Not Available
1a. Odors	Intensity and duration of odors cause continuing complaints from neighboring landowners.	Reasonable odor control measures are employed on the farm	Not Available

The NPPH provides procedures and guidance for the identification assessment and treatment of resource problems. A resource problem exists when a resource consideration does not meet established quality criteria. Subsequent conservation treatment alternatives are then developed for the decision-maker. Applicable national, State, and local laws, rules and regulations will be followed during the development and implementation of treatment alternatives. Established quality criteria should be achievable, measurable, predictable and observable. State Conservationists may need to establish criteria for other concerns that are unique to their State.

The Table III is an example of minimum quality criteria. The quality criteria and assessment tools should be modified or revised as applicable to make use of the best available technology. An additional column may be added to address applicable laws, regulations, and policies.

Table IIIa - Example Minimum Quality Criteria - Soil Erosion

RESOURCE CONCERNS	DEFINITIONS	QUALITY CRITERIA	ASSESSMENT TOOL
a. Sheet and Rill	Erosion caused by rainfall, snowmelt, and surface water runoff whose flow channels are normally obscured by mechanical means	Soil Loss Tolerance "T"	Current water erosion prediction tool i.e. Revised Universal Soil Loss Equation (RUSLE or RUSLE2)
b. Wind	Erosion caused by wind	Soil Loss Tolerance "T"	Current erosion prediction tool i.e. Wind Erosion Equation (WEQ)
c. Concentrated Flow	Flow channels that are not normally obscured by mechanical means	Stable flow area with no evidence of head cuts or down cutting	Volume calculation
d. Irrigation	Erosion	Soil Loss	SRFR

Induced	caused by excessive amounts of water in row, furrow and sprinkler irrigation activities or by water conveyances and tracks from center pivots and traveling guns and runoff channels	Tolerance "T"	(Surface Irrigation Model) and CPED (Center Pivot Evaluation and Design)
e. Stream Bank	Accelerated sloughing of soil from stream banks caused by stream flows, ice flows, over bank flows, unstable soils, obstructions and trampling (including domestic animal and human activity, or heavy equipment use), or all or any combination of these conditions	Assessment tool shows condition of stream is healthy or as good as it can be given the conditions that exist upstream	Stream assessment tool (i.e. Stream Visual Assessment Protocol, Proper Functioning Condition (PFC))

Table IIIb - Example Minimum Quality Criteria - Soil Condition

RESOURCE CONCERNS	DEFINITIONS	QUALITY CRITERIA	ASSESSMENT TOOL
a. Tilt	Physical condition of the soil relating to its ease of tillage and fitness as a seedbed which provide a low level of impedance to seedling emergence and root penetration	The calculation of the Soil Condition Rating Index value will reflect a positive soil condition for cropland	Soil conditioning index, aggregate stability test in Soil Quality test kit, (soil quality scorecard)

Table IIIc - Example Minimum Quality Criteria - Water Quantity

RESOURCE CONCERNS	DEFINITIONS	QUALITY CRITERIA	ASSESSMENT TOOL
a. Water Management, Irrigated	Existing water supply is not used in a timely	Irrigation water is applied according to an irrigation	Farm Irrigation Rating System (FIRS) Farm Irrigation Rating Index,

	and efficient manner, which includes managing water yield, surface flows, and/or ground water recharge	water management plan. Seasonal irrigation efficiencies are to be 50 percent or more of the seasonal irrigation system potential as determined by the Farm Irrigation Rating Index (FIRI) for economically viable alternatives	FIRI
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Table III d - Example Minimum Quality Criteria - Water Quality

RESOURCE CONCERNS	DEFINITIONS	QUALITY CRITERIA	ASSESSMENT TOOL
a. Groundwater Contaminants	Beneficial uses of groundwater are impacted by contaminants	Appropriate Risk Assessment Tool resulting in a low rating	Risk Assessment Tool, i.e., Nitrogen Leaching Index, Pesticide Leaching Index, WIN-PST
b. Surface Contaminants	Beneficial uses of surface water are impacted by contaminants	Appropriate Risk Assessment Tool resulting in a low rating	Risk Assessment Tool, i.e., Phosphorus Leaching Index, Pesticide Runoff Index, WIN-PST

Table III e - Example Minimum Quality Criteria - Air

RESOURCE CONCERNS	DEFINITIONS	QUALITY CRITERIA	ASSESSMENT TOOL
1. Quality	Airborne contaminants or dust is visible for extended periods	Wind erosion is controlled to at least 10 tons per acre per year	Current erosion prediction tool i.e. Wind Erosion Equation (WEQ)

Table III f - Example Minimum Quality Criteria - Plant Condition

RESOURCE CONCERNS	DEFINITIONS	QUALITY CRITERIA	ASSESSMENT TOOL
a1. Cropland Productivity	Crops are of a kind and/or quality that do not meet the landowner's objectives	A healthy, vigorous stand yielding 75% or more of the high management yield	Comparison to similar crops in the area with different management. Crop consultant

	and may not sustain the resource	potential for the soil map unit	information, producer yields, soils data
a2. Hayland / Pastureland Productivity and Health	Plant communities do not produce forage and/or cover in the quantity, quality and timeliness needed to meet decision-maker objectives and sustain the resource	A healthy, vigorous stand of desired species yielding 75% or more of the high management yield potential for the species for the given pasture/hayland suitability group	National Pasture & Range Handbook (Pasture Inventory Worksheet and Pasture Condition Score Sheet)
a3. Grazingland Productivity and Health (Range and Grazed Woodland)	Plant communities produce forage and/or cover in the quantity, quality and timeliness needed to meet conservation, environmental, decision-maker and public objectives	Maintaining a plant community with a similarity index of 50% or more or having an upward trend for plant communities with a similarity index less than 50%	National Pasture & Range Handbook (Similarity Index Worksheet, Forage Balance Worksheet, and Rangeland Health Worksheet)
a4. Forestland Productivity and Health	Plant communities do not produce wood fiber in the quantity, quality and timeliness needed to meet decision-maker objectives and sustain the resource	Forest overstory stocking levels are within 25% of the "D+" spacing guide or equivalent for the particular site and stand composition; trees within the stand are uniformly distributed. Bare mineral soil comprises 50% or less of ground surface area	Stocking rate of preferred species, basal area measurements of trees, timber production.

Table IIIg - Example Minimum Quality Criteria - Animal Habitat

RESOURCE CONCERNS	DEFINITIONS	QUALITY CRITERIA	ASSESSMENT TOOL
a. Domestic	Domestic animal habitat does not consist	Domestic animals are provided adequate	National Pasture and Range Handbook,

	of suitable food, cover/shelter and water. The animal must be healthy in order to have optimum mobility throughout its habitat	shelter; cover; sufficient quantity and quality of water to meet daily needs; and quantity and quality of food is adequate to meet their nutritional requirements	NUTBAL, Forage Inventory (ECS-20, ECS-19), Forage Balance Worksheet (ECS-1)
b. Wildlife	Wildlife habitat does not consist of suitable food, cover/shelter, water and space	Wildlife habitat evaluation guide for the species of concern yields an index of 0.5 or greater for the land use	Wildlife habitat evaluation guide index (or other suitable tool)

401.24 Human Considerations

Human considerations must be taken into account during the planning process. These considerations include both economic (land, labor, capital, risk, profitability) and social (acceptability, environmental justice, cultural resources, client characteristics, and community values) factors. Clearly, human considerations will have an influence on the structure and functions of conservation systems and the decisions that determine practices planned and treatment levels.

401.25 Guidance Documents

Guidance documents provide examples of treatment alternatives common within the service area of the Field Office Technical Guide. They are used for information, training, and to support alternatives that are developed with producers during the planning process.

Guidance documents will be developed that show RMS options that treat commonly occurring resource problems and concerns. As a minimum, these will be developed for the major land uses and multiple land use management systems, such as animal waste or nutrient management systems, within each common resource area, specific resource setting, or localized concerns.

Guidance documents will show resource concern being treated, treatment alternatives, and effects of practices on resource concerns. Treatment alternatives shown in the guidance documents should include essential practices plus those needed or desirable to achieve the resource management system level and producer objectives. Guidance documents will be supported by documentation of practice effects and impacts for the alternative. This documentation will reside in FOTG, Section V. The NPPH has procedures for developing Site Specific Practice Effects worksheets (SSPEW) and Section V of the Field Office Technical Guide contains information on conservation practice physical effects (CPPE).

In addition to those required for RMS levels of treatment, Guidance documents will be developed to meet specific program requirements, in which case they are to be clearly labeled to show the program(s) or provision(s) of law or initiative to which they apply. Guidance documents will describe management actions, in addition to conservation practices, that can be carried out to achieve the required level of treatment. Conservation practices shall be installed according to NRCS practice standards. Practice standards are the same for RMS and progressive planning.