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National Planning Procedures Handbook (NPPH), Amendment 8



Title 180 – National Planning Procedures Handbook

Acknowledgements

The National Planning Procedures Handbook (NPPH) was first published in 1993 and was amended in 1996, 1997, 2003, 2010, 2013, and 2020.

Preface

The NPPH provides the operational and procedure guidance for conservation planning. The NPPH is published for internal agency personnel and public viewing on the NRCS directives system.

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Subpart A – General

600.0 Purpose

A. The purpose of this handbook is to provide guidance on the planning process used by the NRCS and many of its partners for developing, implementing, and evaluating individual conservation plans and areawide conservation plans.

B. NRCS is USDA's technical agency for providing conservation planning and technical assistance to individuals, groups, Tribes, and units of government to help plan and carry out conservation decisions to meet their objectives. This help includes onsite planning assistance in developing conservation plans. Conservation plans document a schedule of conservation activities and supporting information; and are developed and implemented to protect, conserve, or enhance natural resources within the client's social and economic interests and abilities.

C. Natural resources are defined by NRCS to include soil, water, air, plants, animals, and energy. Related human factors are also considered when providing conservation assistance because human values and activities influence how natural resources are managed. This interaction is referred to as SWAPAE +H.

D. In 1947, Hugh Hammond Bennett identified the principles of conservation planning in his text, *Elements of Soil Conservation*. According to Bennett, an effective conservation planner must adhere to the following principles:

- (1) Consider the needs and capabilities of each acre within the plan
- (2) Consider the client's facilities, machinery, and economic situation
- (3) Incorporate the client's willingness to try new practices
- (4) Consider the land's relationship to the entire farm, ranch, or watershed
- (5) Ensure the conservationist's presence out on the land



Figure 600-A1: Hugh Hammond Bennett (right)

E. This handbook reaffirms these principles.

F. Planning involves more than considering individual resources. It focuses on the natural systems and ecological processes that sustain the resources. Ultimately, the Earth is one ecological system, embodying all the smaller subsystems into one interconnected system. The relationship between living organisms and the environment are part of an ecological system's complexity and are not fully understood. Predicting both onsite and offsite effects upon ecological components is an important component of conservation planning.

G. The role of humans is always considered in the delivery of planning activities. Human values and activities influence the structure and functions of ecological systems. Human actions result in direct and indirect effects on natural resources, both detrimental and beneficial. The challenge in conservation planning is to balance the short-term demands for goods and services with the long-term sustainability of ecological systems. A conservation plan facilitates a client to operate in an ecologically sustainable, economically sound, and socially acceptable manner within the client's social values.

H. Conservation planning can be implemented successfully using current knowledge and technology, while recognizing that the art and science of natural resource management will continue to evolve and will never be complete or finished. The planner strives to balance natural resource issues with economic and social needs through the development of the conservation plan.

I. When working with Tribal, Native Hawaiian, or Native Pacific Islander clients (indigenous peoples), NRCS can offer technical assistance to help increase their capacity to use the best of both agency methods and indigenous stewardship. The *Indigenous Stewardship Methods and NRCS Conservation Practices Guidebook* focused on Tribes and were developed to provide a sensitive process in which knowledge is shared, allowing planners to incorporate the indigenous knowledge

into NRCS's assistance through its conservation practices. The indigenous perspective of living in harmony with the Earth and the agency perspective of scientific and experiential learning are portrayed in the words of the guidebook. Indigenous peoples' traditional resource management systems are based on a combination of traditional knowledge and contemporary resource management needs. Traditional knowledge is sustained and validated by continued application and adaptation, but without a contemporary operating context—our conservation practice standards—valuable traditional knowledge and traditional stewardship practices may be lost to all producers. NRCS's conservation planning procedures facilitate incorporation of traditional indigenous stewardship practices into producers' daily work.

J. The conservation planning process helps the planner and client accomplish the following:

- (1) Develop conservation plans that help protect, conserve, and enhance natural resources
- (2) Design alternatives that address identified resource issues
- (3) Include human considerations for achieving sustainable agricultural systems
- (4) Consider the effects of planned actions on interrelated geographical areas (i.e., looking offsite, beyond the planning unit boundary)
- (5) Consider and explain the interaction between ecological communities and society
- (6) Focus on ecological principles
- (7) Consider the effects, risks, and interactions of planned systems and practices on the natural resources, as well as economic and social considerations
- (8) Identify where indigenous stewardship methods might be needed or explored
- (9) Assist with development of plans, regardless of scale, which will help achieve the client's and society's objectives
- (10) Identify where knowledge, science, and technology need to be advanced
- (11) Assist with meeting requirements for the National Environmental Policy Act (NEPA), which is incorporated into all steps and activities of the conservation planning process (see Section 600.41, "Integrating NEPA into the Planning Process," for additional information)

K. The planning process establishes a framework for planning and applying conservation systems on individual land units for individuals and businesses, as well as, geographic areas involving multiple ownerships, with stakeholder input, for the development of areawide conservation plans.

L. Planning is complex and dynamic. Successful planning requires not only a high level of knowledge, skill, and ability on the part of the planner, but also the use of professional judgment.

M. To gain or maintain the knowledge, skills, and abilities needed for conservation planning, this handbook may be used both for training purposes and as a reference guide.

N. Users of this handbook also need to become familiar with NRCS planning policy (Title 180, General Manual (GM), Part 409), program manuals, discipline manuals (agronomy, biology, economics, engineering, range, etc.), official soils data and interpretive information, the Field Office Technical Guide (FOTG), and user guides for approved automated planning tools. In addition, users need to be thoroughly familiar with NRCS policy and procedures for complying with NEPA and related environmental concerns (190-GM, Part 410, "Compliance with NEPA"; Title 190, National Environmental Compliance Handbook, Part 610); the Land Use Manual (see 310-GM); and the Farmland Protection Policy Act (see Title 440, Conservation Programs Manual (CPM), Part 523).

O. Planning by its nature is both progressive and adaptive. A first-time client may only be interested in a single practice to meet one of their resource concerns. By introducing the planning process, the client may be presented a range of alternatives to address multiple resource concerns and ideally, to develop and implement a full resource management system. Whether delivering progressive or RMS planning assistance, planners and clients work closely together based on the client's knowledge level and where they are in the planning process. It is important to continue assisting the client in

addressing resource concerns by increasing the level of planning and implementation over time and ultimately achieving planned goals.

600.1 References

A. Public Laws - Numerous Federal laws or regulations effect actions or activities relating to natural resource management. Some laws pertain only where public lands are part of the planning area and others are inclusive of all Federal actions, regardless of ownership. Information is available from a number of sources. Examples include but are not limited to the following:

- (1) Public Law 95-341, the American Indian Religious Freedom Act of 1978
- (2) Public Law 96-95, the Archaeological Resources Protection Act of 1979
- (3) Public Law 95-95, the Clean Air Act
- (4) Public Law 100-4, the Clean Water Act
- (5) Public Law 101-508, the Coastal Zone Management Act
- (6) Public Law 104-231, the Electronic Freedom of Information Act Amendments of 1996
- (7) Public Law 93-205, the Endangered Species Act of 1973
- (8) Public Law 97-98, the Farmland Protection Policy Act of 1981
- (9) Public Law 107-17, the Farm Security and Rural Investment Act of 2002
- (10) Public Law 104-127, the Federal Agriculture Improvement and Reform Act of 1996
- (11) Public Law 101-624, the Food, Agriculture, Conservation, and Trade Act of 1990 (FACTA)
- (12) Public Law 110-234, the Food, Conservation, and Energy Act of 2008
- (13) Public Law 99-198, the Food Security Act of 1985 (FSA) as Amended
- (14) Public Law 89-487, the Freedom of Information Act of 1966
- (15) Public Law 99-570, the Freedom of Information Reform Act of 1986
- (16) Public Law 95-265, the Magnuson-Stevens Fishery Conservation and Management Act
- (17) 16 U.S.C. Sections 703-712, the Migratory Bird Treaty Act of 1918
- (18) Public Law 91-190, the National Environmental Policy Act of 1969 (NEPA)
- (19) Public Law 89-665, the National Historic Preservation Act of 1966 (NHPA), Amended 2006
- (20) Public Law 101-601, the Native American Graves Protection and Repatriation Act of 1990
- (21) 54 Stat. Section 250, the Protection of Bald and Golden Eagles Act of 1990
- (22) Public Law 93-502, the Privacy Act of 1974
- (23) 30 Stat. Section 1121, the Rivers and Harbors Act of 1899
- (24) Public Law 95-192, the Soil and Water Resources Conservation Act of 1977
- (25) Public Law 106-229, the U.S. Electronic Signatures in Global and National Commerce Act (ESIGN) of 2000
- (26) Public Law 90-542, the Wild and Scenic Rivers Act of 1968
- (27) Public Law 115-334, Agriculture Improvement Act of 2018

B. Executive Orders - Official documents, numbered consecutively, through which the President of the United States manages the operation of the Federal Government.

- (1) Executive Order 12898, Environmental Justice
- (2) Executive Order 11988, Floodplain Management, May 1977
- (3) Executive Order 11990, Protection of Wetlands
- (4) Executive Order 13007, Indian Sacred Sites
- (5) Executive Order 13089, Coral Reef Protection
- (6) Executive Order 13112, Invasive Species
- (7) Executive Order 13175, Consultation and Coordination With Indian Tribal Governments
- (8) Executive Order 13392, Improving Agencies Disclosure of Information

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C. Other References to Assist in Planning

- (1) Catalogue of Federal Domestic Assistance
- (2) USDA Departmental Directives and Mandates
- (3) Other laws or regulations listed in NRCS program manuals
- (4) Indigenous Stewardship Methods and NRCS Conservation Practices Guidebook,
- (5) Coordinated Resource Management Guidelines, published by the Society for Range Management
- (6) *The Art of Communication* published by the Grazing Lands Technology Institute, available from the NRCS Distribution Center for Publications

D. Manuals - Type of directive used by National Headquarters and State-level offices to issue policies on a specific subject.

- (1) General Manual
 - (i) 180-GM, Conservation Planning and Application
 - (ii) 190-GM, Ecological Sciences
 - (iii) 420-GM, Part 401, “Historic and Cultural Properties”
- (2) Manuals
 - (i) Conservation Planning and Application
 - Title 180, National Food Security Act Manual (NFSAM), Parts 510 to 520
 - Title 180, National Operation and Maintenance Manual, Part 500
 - (ii) Ecological Sciences
 - Title 190, Rangeland Interagency Ecological Site Manual, Part 500
 - Title 190, National Agronomy Manual, Parts 500 to 509
 - Title 190, National Biology Manual, Parts 510 to 514
 - Title 190, National Forestry Manual, Parts 535 to 538
 - Title 190, National Plant Materials Manual, Parts 539 to 542
 - (iii) Engineering
 - Title 210, National Engineering Manual, Parts 500 to 506
 - (iv) Project Development and Maintenance
 - Title 390, National Watershed Program Manual
- (3) National Instructions
 - Title 450, Resource Concerns and Planning Criteria, Part 309

E. Handbooks - Type of directive used by National Headquarters and State-level offices to issue detailed “how-to” procedures and processes on a specific subject. National program managers and technical specialists primarily generate these handbooks.

- (1) Conservation Planning and Application
 - (i) Title 180, National Planning Procedures Handbook, Part 600
 - (ii) Title 180, Technical Service Provider Handbook, Part 610
- (2) Ecological Sciences
 - (i) Title 190, National Cultural Resources Procedures Handbook, Part 601
 - (ii) Title 190, National Biology Handbook
 - (iii) Title 190, National Environmental Compliance Handbook
 - (iv) Title 190, National Forestry Handbook
 - (v) Title 190, National Range and Pasture Handbook
 - (vi) Title 190, Comprehensive Nutrient Management Planning Handbook, Part 620
- (3) Economics
 - Title 200, National Resource Economics Handbook
- (4) Engineering

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- Title 210, National Engineering Handbook Series
- (5) Project Development and Maintenance
 - Title 390, National Watershed Program Handbook
- (6) Soil Survey
 - Title 430, National Soil Survey Handbook
- (7) Technology
 - (i) Title 450, National Handbook of Conservation Practices
 - (ii) Title 450, National Water Quality Handbook

F. Other

- (1) Bennett, Hugh H. 1947. Elements of Soil Conservation. McGraw-Hill, New York
- (2) Leopold, A. 1949. A Sand County Almanac. Oxford University Press

600.2 Definitions

This section defines terms that govern the conservation planning process. These terms are used by NRCS personnel and others to describe processes, activities, clients, and products of NRCS technical assistance. Other terms, used exclusively by certain NRCS disciplines, are defined in disciplinary manuals and handbooks and are not repeated here. Similarly, definitions of specific data elements used in information management systems are included in data dictionaries. For terms used to administer NRCS programs, see the abbreviations and terms in the 440-CPM, Part 502.

Agricultural Land - Cropland, rangeland, pastureland, forest land, and other land on which crops, livestock, food, fiber, and other agricultural products are produced. This also includes tree farms and horse operations.

Agricultural Operation - A parcel or parcels of land, whether contiguous or noncontiguous, constituting a cohesive management unit for agricultural purposes.

Alternative - One or more options provided to the client to address resource concerns or opportunities and achieve proper management of the resources.

Alternative System - A conservation system that is presented to a client during the planning process as one or more alternatives to address resource concerns or opportunities. When a client decides which of the offered alternative systems will be implemented, the selected alternative becomes the planned system.

Areawide Conservation Plan - A plan developed with a client for a watershed or other geographical area as defined by the client and stakeholders. The areawide conservation plan addresses all resources identified, contains alternative solutions for each resource problem, and addresses applicable laws and regulations.

Assessment - The act of assessing the physical condition of resources or extent of management applied.

Assessment Level - A statement or graphic depiction describing the physical condition and extent of management applied that is used by planners to determine if the resource concern planning criteria has been met. There are two levels of assessment:

Assessment Methods.

Procedural - Planners use well-defined procedures to acquire data used to determine the resource condition.

Predictive - Models created to predict the probability of an outcome.

Observation - Where standard procedures to measure or model the condition of resources does not exist, planners may rely on on-site observation. Observation always implies onsite investigation.

Deduction - When it is impractical to measure, model, or observe resource conditions, planners may rely on reason to deduce the status of a resource. Often, the deductive approach

is related to treatment standards. In this case, the planner must assume that a certain condition is met if specific treatment is applied, and, conversely, if the specific treatment is not applied, a less desirable condition will result. Planners must frequently rely on deductive methods to address offsite effects.

Assistance Notes - Written or electronic notes maintained by planners in the case file for each client receiving planning and implementation assistance. These notes are to be a concise, factual, and chronological narrative of significant conservation activities and may summarize progress in planning and implementation. Assistance notes include both planner-entered and system-generated notes and may include text, audio, video, or photographic formats.

Case File - The record of resource information, decisions, and technical assistance for a specific client. A case file is established and maintained by the NRCS field office for each client that NRCS is providing continuing technical assistance. The case file will be maintained electronically to the greatest extent possible. Information not amenable to electronic format will be maintained in a hardcopy file.

Certification (of conservation practice) - The process of confirming and documenting a conservation practice is installed and maintained according to the practice standard and practice specification.

Client - An individual, business, group, or unit of government that is the recipient of NRCS technical and financial assistance. NRCS clients, generally fall into two broad categories: individual owners, managers, partners or businesses, with primary responsibility for their business dealings with NRCS, and groups or local sponsoring organizations or other government officials, responsible for fulfilling requirements or exercising judgments consistent with law, Executive order, and established Federal policy. Examples of the first group include persons, groups, Tribes, corporations, and organizations. Examples of the second group include conservation districts and units of government.

Comprehensive Nutrient Management Plan (CNMP) - Any combination of structural practices, management activities, or land management practices associated with crop or livestock production that collectively ensures that the purposes of crop or livestock production and preservation of natural resources (especially the conservation of air, soil, and water quality) are compatible.

Conservation - The use and management of natural resources according to principles and practices that assure their sustained productivity.

Conservation District - A subdivision of a State, Indian Tribe, or territory, organized pursuant to the State or territorial soil conservation district law, as amended, or Tribal law. They may be called soil conservation districts, soil and water conservation districts, resource conservation districts, land conservation committees, natural resource districts, or similarly legally constituted body.

Conservation District Cooperator - Any client who has entered into a working relationship or cooperative agreement with a conservation district to work together in planning and carrying out natural resource use, development, and conservation on a specific land area.

Conservation Effects - The anticipated or experienced results of applying one or more conservation treatments on a planning unit in a particular resource setting. They include both onsite and offsite results of applied conservation treatments. They are measures of a level of outcome and may be expressed in ecological, economic, or social terms.

Conservation Effects Process - A process that supports the NRCS planning process. It uses worksheets, client case studies, and other technologies to document and estimate effects of existing systems and resource management systems, evaluate impacts, and gauge advantages and disadvantages to help the end user make informed conservation decisions.

Conservation Management Unit (CMU) - A field, CLU, group of fields, or other land units of the same land use and having similar treatment needs and planned management. A CMU, made up of one or more planning land units (PLU), has definite boundaries, such as fence, drainage, vegetation, topography, soil lines, or land use, and is used by the planner to simplify planning activities and facilitate development of management systems.

Conservation Plan - A record of the client's decisions and supporting information for treatment of a

unit of land for one or more identified natural resource concerns as a result of the planning process. The plan describes the schedule of implementation for practices and activities needed to address identified natural resource concerns and takes advantage of opportunities. The needs of the client, the resources, and Federal, State, Tribal, and local requirements will be met.

Conservation Planner - Designation for a person who possesses the necessary skills, training, and experience to implement the NRCS nine-step planning process to meet client objectives of solving natural resource concerns. The conservation planner has demonstrated skill in assisting clients to identify resource concerns, documenting the client's objectives, proposing feasible solutions to identified resource concerns, and leading the client to choose and implement an effective alternative that treats the resource concerns and meets the client's objectives.

Conservation Planning - The activity of NRCS and others in helping a client use the planning process, which is intended to result in a conservation plan or an areawide conservation plan.

Conservation Practice - A specific treatment, such as a structural or vegetative measure, or management technique, commonly used to meet specific needs in planning and implementing conservation, for which standards and practice specifications have been developed. Conservation practices are contained in the FOTG, Section IV, which is based on the National Handbook of Conservation Practices (NHCP).

Conservation Practices Physical Effects (CPPE) Matrix - The matrix in the FOTG, Section V, that gives the physical effects of conservation practices on natural resources.

Conservation System - A combination of conservation practices and resource management for the treatment of resource concerns.

Conservation Treatment - Conservation practices, management measures, and works of improvement to solve or reduce the severity of natural resource concerns or take advantage of resource opportunities.

Coordinated Resource Management (CRM) - A specific application of the planning process that utilizes a variety of clients, stakeholders, organizations, agencies, and others, and a variety of land ownerships, to address a multitude of resource or resource related problems, opportunities, or concerns. CRM is frequently accomplished through "consensus" involving participants that may or may not be land managers or have decision-making authority for the planning area involved. The planning area encompasses the geographical area defined by the parties involved in the CRM effort.

Cost-Return Analysis - Comparison of the costs to returns (revenue) in an agricultural enterprise. Also referred to as the return on investment.

Cultural Resource/Historic Property - Any prehistoric or historic district, site, building, structure or object included in or eligible for inclusion in the National Register of Historic Places (NRHP), including associated records and artifacts. These properties are taken into account and protected under section 106 of the National Historic Preservation Act (NHPA).

Cumulative Effect - The effect on the environment that results from the incremental effects of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Decision maker - An individual, business, group, unit of government, or other entity that has the authority by ownership, position, office, delegation, or otherwise to decide on a course of action.

Desired Future Condition - A quantitative or qualitative expression of an ecological, economic, or social condition one is attempting to achieve. It is the goal to compare with the predicted outcomes of alternative implementation options.

Ecological System - The organization and interactions of communities of living things, including humans, together with the chemical and physical factors in their environment.

Environmental Assessment (EA) - A concise public document that briefly provides sufficient evidence and analysis for determining whether to prepare a more comprehensive environmental impact statement or a finding of no significant impact.

Environmental Evaluation (EE) - A concurrent part of the planning process in which the potential

long-term and short-term impacts of an action on people, their physical or social surroundings, and nature are evaluated and alternative actions explored.

Environmental Impact Statement (EIS) - A document detailing the environmental impact of a proposed law, construction project, or other major action that may significantly affect the quality of the environment. The National Environmental Policy Act (NEPA) and various State environmental laws may require an EIS.

Environmental Justice - Requires, per Executive Order 12898, that no program, procedure, or activity be carried out that has disproportionately adverse human health or environmental effects on minority or low-income populations.

Existing Condition - The pre-planning condition of a planning area that is used as a point of reference to measure changes in resource conditions resulting from conservation treatment. The existing condition is a statement of the identified resource concerns, special environmental concerns, current management and existing conservation practices.

Existing Practices - Existing conservation practices included in the current management system for the planning unit. Existing practices must be functioning as designed to be considered in resource assessment activities.

Facilitating Practice - A conservation practice that facilitates management or the function of another practice, or both, but does not achieve the desired effects on its own. Example: A fence is a facilitating practice for prescribed grazing. Prescribed grazing helps improve forage for livestock. A facilitating practice is also referred to as a supporting practice.

Field Office Technical Guide (FOTG) - The official NRCS guidelines, criteria, and standards for planning and applying conservation treatments (450-GM, Part 401).

Geographic Database - A collection of spatial data and its attributes, organized for efficient storage and retrieval.

Geospatial - Pertaining to the geographic location and characteristics of natural or constructed features and boundaries on, above, or below the earth's surface; especially referring to data that is geographic and spatial in nature.

Guidance Documents - Documents contained in the FOTG, Section III. They are examples of RMS options to treat the most commonly identified resource concerns and opportunities for each locally applicable major land use.

Highly Erodible Land - A field where highly erodible land is predominant. HEL is considered to be predominant if either 33.33 percent or more of the total field acreage is identified as soil map units that are highly erodible or 50 or more acres in such a field are identified as soil map units that are highly erodible. For a specific definition of a highly erodible field as it relates to the Conservation Reserve Program, please consult 2-CRP.

Historically Underserved - Underserved individuals and groups include those who have not participated in or have received limited benefits from USDA or NRCS programs that may improve their quality of life or the environment. Historically, the underserved are land managers who are socially disadvantaged, have limited resources, are beginning farmers or ranchers, or are American Indians or Alaskan Natives.

Human Considerations - The social, economic, and cultural resource/historic property factors that are considered in the conservation planning process.

Implementation - The act of installing planned conservation treatment and management measures that are documented in plans and case files.

Implementation Requirements - State developed templates that planners use to provide site-specific information and instructions necessary to install or implement a conservation practice. IRs may be a single document or a series of documents with a cover sheet that outlines the documents contained in the IRs. The IR templates may be in various electronic formats and are often fillable and may contain routines for auto-fill and formulas for auto-calculations. They may also contain standard drawings, specifications, operations and maintenance information or other design information.

Indian Tribe - An Indian Tribe, Band, Nation, or other organized group or community, including a

native village, regional corporation, or village corporation, as those terms are defined in section 3 of the Alaska Native Claims Settlement Act (43 USC Sec. 1602), which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Native Americans (36 CFR Sec. 800.169(m), 54 U.S.C. Sec. 300309). Indian Tribes are commonly referred to as “federally recognized Indian Tribes.”

Indigenous - For purposes of this document, “indigenous” refers to populations or communities and their conservation technologies. According to a common definition used by many governments, indigenous peoples are those who inhabited a country or a geographical region at the time when people of different cultures or ethnic origins arrived.

Indigenous Stewardship Methods - Indigenous stewardship methods include the traditional manipulation (including spiritual interactions) of natural surroundings by indigenous people with the purpose of increasing production, improving plant and animal biodiversity, increasing soil health, and numerous other human and ecological benefits. This reciprocal use hinges on respect and spiritual interconnectedness with all of nature. These methods incorporate traditional knowledge generally defined as longstanding traditions and practices of certain regional, indigenous, or local communities.

Interdisciplinary Planning - An interdisciplinary planning approach in which specialists and groups having different technical expertise act as a team to jointly evaluate existing and future environmental quality. The interdisciplinary group considers structure and function of natural resource systems, complexity of problems, and the economic, social, and environmental effects of alternative actions. Public participation is an essential part of effective interdisciplinary planning. Even if an NRCS employee provides direct assistance to an individual land user, the basic data used are a result of interdisciplinary development of guidance and planning criteria.

Inventory - The identification of attributes, features, and other data pertaining to natural resources and special environmental concerns on and surrounding a planning area.

Inventory Collection Tools - Description of the technology or process for determining if planning criteria are met.

Land Unit - Any area of land or water that is of concern in the planning process. (See also “planning land unit.”)

Land Use - A term that includes categories of land cover and categories of land use. Land cover is the vegetation or other kind of material that covers the land surface. Land use is the purpose of human activity on the land; it is usually, but not always, related to land cover. NRCS has developed the following land use designations to be used by planners and modelers at the field and landscape level.

Crop - Land used primarily for the production and harvest of annual or perennial field, forage, food, fiber, horticultural, orchard, vineyard, or energy crops.

Forest - Land on which the historic and/or introduced vegetation is predominantly tree cover managed for the production of wood products or non-timber forest products.

Range - Land on which the historic and/or introduced vegetation is predominantly grasses, grass-like plants, forbs or shrubs managed as natural ecosystem. Range land may include natural grasslands, savannas, shrublands, tundra, alpine communities, marshes and meadows.

Pasture - Land composed of introduced or domesticated native forage species that is used primarily for the production of livestock. Pastures receive periodic renovation and cultural treatments, such as tillage, fertilization, mowing, weed control, and may be irrigated. Pastures are not in rotation with crops.

Farmstead - Land used for facilities and supporting infrastructure where farming, forestry, animal husbandry, and ranching activities are often initiated. This may include dwellings, equipment storage, plus farm input and output storage and handling facilities. Also includes land dedicated to the facilitation and production of high-intensity animal agriculture in a containment facility where daily nutritional requirements are obtained from other lands or feed sources.

Developed Land - Land occupied by buildings and related facilities used for residences,

commercial sites, public highways, airports, and open space associated with towns and cities.

Water - Geographic area whose dominant characteristic is open water or permanent ice or snow. May include intermingled land, including tidal-influenced coastal marsh lands.

Associated Agriculture Lands - Land associated with farms and ranches that are not purposefully managed for food, forage, or fiber and are typically associated with nearby production or conservation lands. This could include incidental areas, such as idle center pivot corners, odd areas, ditches and watercourses, riparian areas, field edges, seasonal and permanent wetlands, and other similar areas.

Other - Land that is barren, sandy, rocky, or that is impacted by the extraction of natural resources, such as minerals, gravel or sand, coal, shale, rock, oil, or natural gas.

Land Use Modifier - Modifiers provide another level of specificity and help denote what the land is managed for. The modifiers are:

Irrigated - Used when an operational system is present and managed to supply water.

Wildlife - Used when the client is actively managing for wildlife.

Grazed - Used when grazing animals impact how land is managed.

Drained - Used when artificial drainage exists that has an impact on how the land is managed.

Organic - Used on field which has met the organic or transitioning to organic criteria.

Water Feature - Used to identify that the planned land unit contains or is adjacent to a water feature, such as a stream, lake, river, etc.

Protected - The land unit is under a conservation easement or similar protection.

Hayed - Used when hay production is the primary activity.

Locally Led Conservation - A process used by local people to assess their natural resource conditions and needs, set goals, identify programs and other resources to solve those needs, develop proposals and recommendations, implement solutions, and measure their success.

Local Work Group - A group made up of representatives of local offices of the Farm Service Agency, the National Institute of Food and Agriculture (NIFA), the conservation districts, and other Federal, State, Tribal, and local government agencies, including, Tribes, with expertise in natural resources who advise NRCS on decisions related to implementation of USDA conservation programs.

Major Land Resource Area (MLRA) - Broad geographic areas that are characterized by a particular pattern of geology – soils, climate, water resources, vegetation, and land use. Each MLRA in which rangeland and forestland occur is further broken into ecological sites.

Management Measure - One or more specific actions that are not conservation practices described in the FOTG Section IV, but actions that have the effect of alleviating problems or improving the treatment of the resources.

Management Practice - A conservation practice that requires regular input from the land manager. Examples include nutrient management, residue management, integrated pest management, etc. (See also “structural practice.”)

Map Unit - A collection of areas defined and named the same in terms of their soil components or miscellaneous areas, or both.

Minimum Level of Treatment - The specific conservation treatment NRCS requires that addresses a resource concern.

Mitigate - To moderate or alleviate the degree of effect on resource quality or condition. Mitigation includes the following: avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; compensating for the impact by replacing or providing substitute resources or environments.

National Environmental Policy Act (NEPA) - The 1970 law that requires Federal agencies to consider the effects on the environment of proposed Federal actions. This act established the requirement for conducting environmental evaluations and for the preparation of environmental

assessments and environmental impact statements.

National Historic Preservation Act (NHPA) - The 1966 law that is intended to preserve historical and archaeological sites in the United States of America. The act created the National Register of Historic Places, the list of national historic landmarks, and the State historic preservation offices, and requires that Federal agencies take into account the effects of their funded and permitted projects on historic properties (buildings, sites, structures, etc.) through a process known as “section 106 review.”

Natural Resource - Any naturally occurring resource needed by an organism, population, or ecological system. NRCS applies this term to soil, water, air, plants, animals, and energy, while acknowledging related human considerations (SWAPAE+H).

Network Effect Diagrams - NRCS prepares network effect diagrams of featured practices or related sets of practices that act together to achieve desired purposes. Network effect diagrams are flow charts of direct, indirect, and cumulative effects resulting from installation of the practices.

Completed network effect diagrams are an overview of expert consensus on the direct, indirect, and cumulative effects of installing proposed practices. They show the potential positive and negative outcomes of practice installation and are useful as a reference point for next steps and as a communication tool with partners and the public.

Objectives - Objectives are quantitative or qualitative statements of desired future conditions as determined by the client.

Offsite - Locations outside the planning area on which conservation treatment is being considered. It also refers to areas outside the planning unit that are considered for potential effects.

Onsite - Locations within the planning area on which conservation treatment has direct effect.

Operation and Maintenance (O&M) - Work performed by the land manager to keep the applied conservation practice functioning for the intended purpose during its lifespan. Operation includes the administration, management, and performance of nonmaintenance actions needed to keep the completed practice safe and functioning as intended. Maintenance includes work to prevent deterioration of the practice, repairing damage, or replacement of the practice to its original condition if one or more components fail.

Outreach - Activities to ensure that all programs and services are made fairly and equitably accessible to all customers.

Personally Identifiable Information (PII) - Information that can be used to uniquely identify, contact, or locate a single person or can be used with other sources to uniquely identify a single individual.

Plan Map - A photograph, sketch or GIS document of a land area developed during the planning process that shows property boundaries, land unit boundaries, land use, physical features, location of planned and applied practices, and other features that are useful to the client in plan implementation.

Planning Criteria - A quantitative or qualitative statement of the minimum level of treatment required to solve a given resource concern for a particular land area. It is established in accordance with local, State, Tribal, territorial, and Federal programs and regulations in consideration of ecological, economic, and social effects.

Planning Land Unit (PLU) - A PLU is a unique geographic area, defined by a polygon, that has common land use and is owned, operated, or managed by the same client or clients. The PLU is the minimum unit for planning. (See also “land unit.”)

Planning Process - The three-phase, nine-step process used by NRCS to help clients plan and apply conservation treatments or make land use and treatment decisions.

Planning Standard - The minimum quality level to which each step in the planning process will be carried out in order to help the client develop a successful plan. The standard establishes the condition expected to exist at the successful completion of each planning step.

Planning Area - A planning area can be the entire operating unit of the client or be an individual land unit or group of land units in which the decision has been made to initiate the planning process. An individual land unit is normally the smallest increment for planning resource management systems or practices. The planning area must be large enough to encompass the area that influences, and the area

that is impacted by, the resource management system or practice being planned.

Practice - Same as conservation practice.

Practice Narrative - A brief, nontechnical description of the planned practice.

Practice Specification - Detailed requirements for installing a conservation practice.

Conservation Practice Standard - Define the practice and where it applies and prescribes the minimum level of application and quality of materials.

Private Land - Land that is not owned by a local, State, Tribal, territorial, or Federal governmental entity.

Producer - An owner, operator, manager, landlord, tenant, or sharecropper who shares the risk of producing a crop and is entitled to share in the crop available for marketing from a farm or who would have shared, had the crop been produced (ERS definition).

Progressive Planning - The conservation planning process is progressive when a conservation plan addresses only a limited number of resource concerns, or even a single resource concern, and consequently does not achieve an RMS level of treatment. The rate of progress in moving to an RMS level will depend on the client's desires and constraints.

Public Participation - An integral part of areawide conservation planning, it provides opportunities for the public to be involved in the interchange of data and ideas.

Record of Decisions - A part of the conservation plan and case file documents that contain the decisions for the PLUs.

Resource Concern - The resource condition that does not meet minimum acceptable condition levels as established by resource planning criteria shown in the FOTG, Section III. This implies an expected degradation of the soil, water, air, plant, animal or energy resource base to the extent that the sustainability or intended use of the resource is impaired. Because NRCS quantifies or describes resource concerns as part of a comprehensive conservation planning process, that includes client objectives, human factors are considered components of the resource base. This term is synonymous with resource problem.

Resource Management System (RMS) - An RMS is a combination of conservation practices and resource management activities that treats all identified resource concerns for soil, water, air, plants, animals and energy to a level that meets or exceeds the planning criteria in the FOTG.

Resource Setting - A description of ecological characteristics, land use, and management important for comparison of resource information among planning units. Such background information also provides better understanding of the relative magnitude of resource concerns. An adequate description may include such information as dominant soils, range sites, important topographic or geomorphic characteristics, major land resource area, precipitation patterns, seasonal land use, climate, current resource conditions, type of operation, and relationships to streams, lakes, and aquifers.

Risk Management - Risk management is the process of identifying potential risks from various courses of action or nonaction, gathering pertinent information relative to the risk, and then taking appropriate action to eliminate or minimize the risk as much as possible.

Scoping - Scoping is the early, upfront, and open process to determine the extent of the significant issues, such as resource problems and concerns, regulatory requirements, etc., to be addressed in the planning process.

Site-Specific Practice Effect - The expected effect that a particular conservation practice has on defined resource concerns or opportunities in a site-specific situation. This data represents the planner's refinement of more general effects shown in the CPPE matrix in the FOTG, Section V.

Soil Description - A listing of soil properties, both site and profile, specific to a geographical location.

Soil Health - The capacity of a soil to perform functions critical to its intended use. In other words, how well a soil does what we want and need it to do. Soil health is assessed by evaluating the physical, chemical, and biological characteristics of soil. Specific tests or indicators can be used to individually and holistically to assess the soils overall quality or health. The terms soil quality and

soil health are used synonymously. Soil quality has two main components: inherent soil quality is the capacity to function based on soil forming factors at a geologic time scale; and dynamic soil quality represents changes in function in response to human management or disturbance at a human (years, decades, or centuries) time scale. Soil health is a synonym of soil quality and usually refers to only the dynamic portion of soil quality.

Spatial Data - Information about the location and shapes of geographic features, and the relationship between them, usually stored as coordinates and topology.

Special Environmental Concern (SEC) - Concerns (including human considerations) that are protected by law, Executive order, or agency policy and will need to be analyzed according to the laws, regulations, or Executive orders established to protect them. For example, a description of wetland impacts describes not only the acres involved, but the functions of those wetlands, based on a hydrogeomorphic model, and perhaps their value as wildlife habitat, according to the results of habitat evaluation procedures or habitat appraisal guides, as well. There might also be a need to discuss and support impacts on downstream water quality and any other effects the wetland may have within the ecosystem. The list of NRCS special environmental concerns is included on the Environmental Evaluation Worksheet, (e.g. NRCS-CPA-52).

Stakeholder - An individual or group of clients who may or may not be decision makers and who have an interest in or may be impacted by actions recommended through application of the planning process.

Structural Practice - A practice that involves a constructed facility, land shaping, or permanent vegetative cover designed to preserve soil; reduce runoff of nutrients, sediment, and pesticides; enhance wildlife habitat; or for other purposes. Examples include animal waste facilities, terraces, grassed waterways, contour grass strips, filter strips, tail water pits, permanent wildlife habitat, and constructed wetlands. (See also “management practice.”)

Technical Assistance - Help provided by NRCS and employees of other entities or agencies under the technical supervision of NRCS to clients to address opportunities, concerns, and problems related to natural resource use.

Technical Service Provider (TSP) - An individual, private-sector entity, or public agency certified or approved by NRCS to provide technical services through NRCS or directly to program participants, as defined in 7 CFR Part 652.

Technical Specialist - A person, qualified by training and experience, who effectively assists NRCS planners in completing the planning process. Examples: area and State soil scientists, biologists, engineers, economists, water quality specialists, or resource conservationists.

Topology - The spatial relationship between connecting or adjacent features in a geographic data layer.

Tribal Lands - All lands within the exterior boundaries of any Indian reservation and all dependent Indian communities. This definition is consistent with the definition in the NHPA; other statutes use alternate definitions.

Unit of Government - A State, Tribal, or territorial government, together with its planning commissions, boards, agencies, and representatives. A municipality, county, town, parish, or other political subdivision of a State or territory, including its planning commissions, boards, agencies, and representatives having planning responsibility and concern over lands that it may or may not directly own or control.

Values - Ideals, customs, attitudes, and beliefs used to judge the effects of conservation treatments as favorable or unfavorable. Includes individual client values as well as collective values of groups and society.

Watershed - A total area of land above a given point on a waterway that contributes runoff water to the flow at that point. A major subdivision of a drainage basin.

600.3 Acronyms

These are common acronyms and initialisms used in this handbook. The list is not all-inclusive; see 440-CPM, Part 502, and 180-NFSAM, Part 514, for programmatic definitions and abbreviations.

- (1) AFO - Animal Feeding Operation
- (2) CEAP - Conservation Effects Assessment Project
- (3) CEQ - Council for Environmental Quality
- (4) CFR - Code of Federal Regulations
- (5) CLU - Common Land Unit
- (6) CMU - Conservation Management Unit
- (7) CNMP - Comprehensive Nutrient Management Plan
- (8) CPPE - Conservation Practice Physical Effects
- (9) CRM - Coordinated Resource Management
- (10) EA - Environmental Assessment
- (11) EE - Environmental Evaluation
- (12) EIS - Environmental Impact Statement
- (13) ESA - Endangered Species Act
- (14) FOTG - Field Office Technical Guide
- (15) FSA - Food Security Act of 1985, as amended
- (16) GM - General Manual
- (17) GIS - Geographic Information System
- (18) MLRA - Major Land Resource Area
- (19) NEPA - National Environmental Policy Act
- (20) NFSAM - National Food Security Act Manual
- (21) NHPA - National Historic Preservation Act
- (22) NPPH - National Planning Procedures Handbook
- (23) O&M - Operation and Maintenance
- (24) PII - Personally Identifiable Information
- (25) PLU - Planning Land Unit
- (26) RMS - Resource Management System
- (27) SEC - Special Environmental Concern
- (28) T&E - Threatened and Endangered
- (29) THPO - Tribal Historic Preservation Office
- (30) TSP - Technical Service Provider

Part 600 – National Planning Procedures Handbook

Subpart B – Framework for Planning

600.10 Overview of Conservation Planning

A. This section provides an overview of the process NRCS uses to assist clients (individuals, groups, businesses, and units of government) in developing, implementing, and evaluating conservation plans on agricultural lands, urban areas, or other land uses. The process can be used, regardless of the expected outcome, scope, size of the planning area, complexity of natural resource concerns and opportunities, or source of funding to be used for implementation. The process may also be streamlined by incorporating current computer and GIS technology and other time saving measures.

B. Conservation planning is a natural resource problem solving and management process. The process integrates economic, social (cultural resource and historic property are included with social), and ecological considerations to meet private and public needs. This approach, which emphasizes desired future conditions, helps improve natural resource management, minimize conflict, and address identified resource concerns and opportunities.

C. The success of conservation planning and implementation depends on the voluntary participation of clients. While participation is voluntary, NRCS personnel must carry out outreach activities to reach underserved customers, such as Tribes, minority producers, and small producers with limited resources, to ensure that services are offered to them on an equal basis with traditional customers. It is imperative that all clients be treated fairly and equitably, and with dignity and respect.

D. The planning process used by NRCS is based on the premise that clients will make and implement sound decisions if they understand their resources, natural resource concerns and opportunities, and the effects of their decisions.

E. Conservation planning helps clients, conservationists, and others view the environment as a living system of which humans are an integral part. Conservation planning enables clients and planners to analyze and work with complex natural processes in definable and measurable terms.

F. The conservation planning process, as described in this handbook, consists of nine steps divided into three phases. It is a process that considers people and the resources they use or manage.

G. Conservation planning is based on a desired future condition that is developed by the client for an individual conservation plan, or by the client and stakeholders, in the case of an areawide conservation plan.

H. Locally led conservation is a process based on the principle that community stakeholders are best suited to identify and resolve local natural resource problems. See Title 440, Conservation Programs Manual, Part 500, for detailed guidance. To provide conservation planning direction and help ensure a balance of natural resource issues with economic and social needs, NRCS employees work with conservation districts to establish objectives that reflect current resource issues and priorities in the district. These objectives will help define a desired future condition for these resources in terms of what the local people want.

I. To supplement data from other agencies or groups, the district and NRCS rely on local knowledge, specific discipline input, and existing public information that relates to the local area. The locally led process utilizes the local work group to meet with stakeholders interested in resource issues. This public information can help identify other resource issues or human considerations that have not previously been a focus of interest in the area.

J. Once these data and objectives are collected and analyzed, alternatives developed and analyzed, and decisions are made, the information may be incorporated into the conservation district's long-range plan or other plan, as appropriate. As areawide conservation plans are developed, and if additional objectives are defined for specific portions of the district, the long-range plan or other plans may be updated.

K. Local objectives are integrated with the FOTG and may form the basis for developing additional technical guidance material. This is accomplished by ensuring that—

- (1) New or existing planning criteria support identified objectives.
- (2) Guidance documents reflect local resource issues.
- (3) Management systems in the FOTG, Section III, serve as examples that work toward accomplishing the identified human considerations for that area.

L. As conservation plans are implemented, progress is made toward accomplishing the agreed-upon desired future state of the resources and the needs of the people. The challenge in conservation planning is to balance short-term production and economic demands, financial assistance program requirements, and the long-term sustainability of a quality environment.

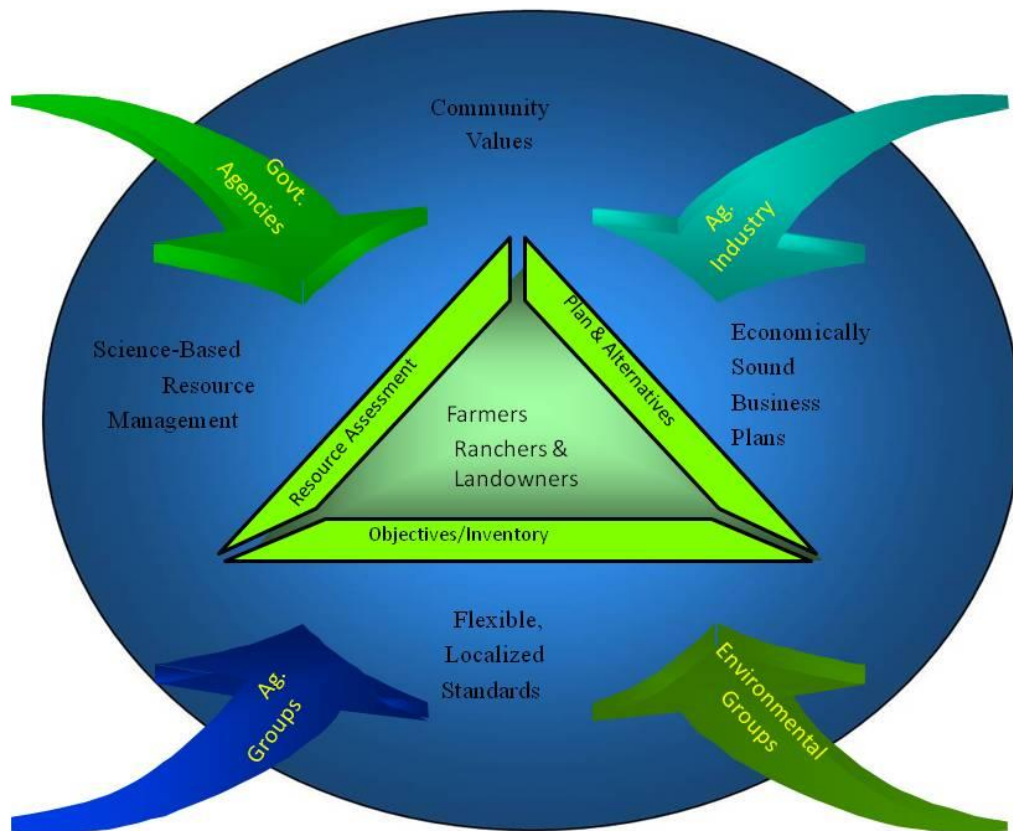


Figure 600-B1: Planning framework diagram

M. Natural resource concerns and opportunities are usually expressed in terms of human values. In achieving a desired natural resource condition, human values determine the scope and extent of problems and the associated corrective actions to be taken.

N. When providing conservation planning assistance, the planner will strive to—

- (1) Recognize the interconnections between the planning unit, larger areas outside of or encompassing the planning unit (e.g., watersheds), and smaller areas within the planning unit (e.g., riparian corridors).
- (2) Think of the planning area in terms beyond its administrative, jurisdictional, and geographic boundaries.
- (3) Consider the short-term, long-term, and cumulative effects of actions.
- (4) Mitigate adverse and unintended effects to the maximum extent practicable.
- (5) Consider the client's and society's economic needs and goals.
- (6) Consider all of the client's enterprises and the interactions between them.
- (7) Respect the rights and responsibilities of private land managers.
- (8) Facilitate the creation of a desired future condition that meets individual and societal needs.
- (9) Recognize that human welfare depends on the sustainability of natural resources.
- (10) Base assistance on the best available knowledge, science, and technology (including indigenous stewardship methods).
- (11) Incorporate the knowledge gained from previous planning, implementation, and evaluation efforts.
- (12) Collaborate with others in collecting, assembling, and evaluating data.
- (13) Utilize the latest technology and resource data to streamline the conservation delivery process when possible.
- (14) Identify, prevent, and mitigate, to the greatest extent practicable, disproportionately high and adverse human health or environmental effects of planning assistance on minority and low-income populations.
- (15) Comply with all applicable Federal, State, Tribal, and local laws, regulations, and policies.

O. In summary, conservation planning deals with complex systems with impacts beyond the planning area being assessed. The expected physical effects of conservation systems and practices are assessed in the context of ecological, economic, and social considerations as documented locally in the FOTG. The expected outcomes of those effects on natural resource quality, economic needs, and social objectives are then used to help develop and evaluate management alternatives for decision making.

600.11 The Planning Process

A. Planning areas generally exist in a hierarchy. Each planning unit is contained within a larger planning unit. An areawide conservation plan may be developed for a watershed, a watershed contains individual farms and ranches, individual farms and ranches contain land units. Planning at each level is completed in appropriate degrees of detail, taking into account the objectives of those associated larger and smaller planning areas.

B. The planning process provides a framework for developing a conservation plan on the basis of client objectives, as well as ecological, economic, social, legal, and policy considerations. Technical, educational, and financial assistance programs from NRCS or other sources are used to implement the plans.

C. The same planning process is used to develop conservation plans and areawide conservation plans, but different activities are required to complete each step of the process. Guidance in this handbook is separated accordingly into conservation planning and areawide conservation planning.

D. Onsite visits with the client are an integral part of the planning process.

E. In most instances, conservation plans are developed with an individual decision maker. An areawide conservation plan reflects the desired future conditions developed in conjunction with the client and other stakeholders in the area. These stakeholders normally represent units of government

or other organizations that do not directly manage the land, so they are often not the final decision makers for planned activities.

F. The planning process used by NRCS is a three-phase, nine-step process. Although the nine steps are shown in sequence, the process is very dynamic. The process could start with any of the first three steps or even step nine. Cycling back to previous steps is often necessary. For example, step one and two may not be finalized until step four is completed. Also, some planning activities may overlap planning steps, and some activities may not necessarily occur in a particular planning step each time.

- (1) Phase I – Collection and Analysis (Understanding the Problems and Opportunities)
 - (i) Step 1 – Identify problems and opportunities
 - (ii) Step 2 – Determine objectives
 - (iii) Step 3 – Inventory resources
 - (iv) Step 4 – Analyze resource data
- (2) Phase II – Decision Support (Understanding the Solutions)
 - (i) Step 5 – Formulate alternatives
 - (ii) Step 6 – Evaluate alternatives
 - (iii) Step 7 – Make decisions
- (3) Phase III – Application and Evaluation (Understanding the Results)
 - (i) Step 8 – Implement the plan
 - (ii) Step 9 – Evaluate the plan

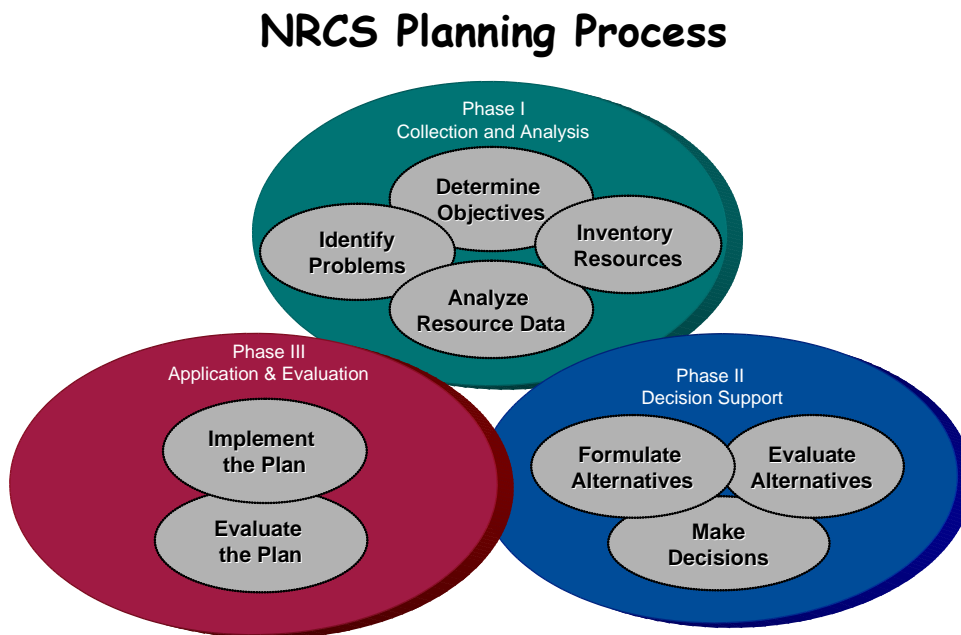


Figure 600-B2: An illustration of the dynamic nature of the planning process

600.12 Concepts in Conservation Planning

A. Conservation planning helps identify and address resource concerns. Whether through automated or procedural assessment of resource concerns, or by client and planner identification, addressing resource concerns is a dynamic and adaptive process. Technology improvements, on-farm

management changes, and new resource considerations come into play, while others may no longer be relevant. Clearly presenting alternative solutions is critical to assisting land users when making key decisions on the land. Conservation planning and additional support concepts and strategies are presented here.

B. This guidance includes identifying and assessing resource concerns as part of the planning process. Technical assistance is key to identifying and assessing existing conditions, resource concerns, and effects of the current conditions; and developing, evaluating, and selecting an alternative solution to the concerns. Federal, State or local financial assistance conservation programs may define more specific levels of planning for specific resource issues.

Conservation Plans

- (i) Individual-Level Plans - These plans are voluntary, site-specific, comprehensive, and action-oriented. A conservation plan is developed for one or more planning land units and documents the land manager's selected alternative. The plan contains natural resource information, supporting documents, and a record of decisions made by the client. It describes the schedule of operations and activities needed to address identified natural resource concerns while taking advantage of opportunities to enhance resources.
 - Using the planning process to develop the conservation plan helps ensure the needs of the client and the resources are achieved and that Federal, State, Tribal, territorial, and local requirements are met. Conservation planning is flexible, and plans may include all contiguous and noncontiguous land that is a part of the client's enterprise, including owned and rented land, or may include only a portion of the enterprise.
 - Conservation plans may include component plans which are conservation system implementation information to address one or more resource concerns. Examples include comprehensive nutrient management plans, grazing plans, integrated pest management plans, and irrigation water management plans etc. See subpart G for additional guidance.
 - When two or more decision makers need assistance on planning, installing, and maintaining a conservation system that may cross land unit boundaries, the planner may utilize a group planning process. For example, solving problems associated with a stream that flows through several properties requires the coordinated, cooperative efforts of all individuals involved. The group may serve as the decision maker, however, a conservation plan is developed for each of the land users involved. Group planning generally results in multiple individual conservation plans to address the shared resource concern.
- (ii) Areawide Plans - Areawide conservation plans are voluntary, comprehensive plans for a watershed or other large geographic area. Areawide conservation planning will consider all natural resources within the planning area, as well as social and economic considerations. Plan development follows the established planning process to assist local people, through a voluntary locally led effort, to assess their natural resource conditions and needs; set goals; identify programs, alternative actions, and other resources to solve those needs; develop proposals and recommendations to address those needs; implement solutions; and measure their success. A locally led effort considers all pertinent Federal, State, Tribal, territorial, and local conservation programs and private sector programs, singly and in combination, as tools to solve natural resource concerns.

C. Resource Concerns

- (1) Natural Resource Concerns - Identified natural resource concerns and opportunities are discussed with the client throughout the planning process. Resource concerns will be identified by the client and through the resource inventory and assessment process. The

NRCS objective in conservation planning is to help the client manage resources for sustained use and productivity while considering economic and social needs. The official list of NRCS resource concerns is an exhibit to National Instruction Title 450, Part 309.

- (2) Social and Economic Resource Considerations - One of the keys to successful conservation planning and implementation is understanding the behavior and way of life of clients and stakeholders. The term “human considerations” refers to the social and economic considerations that are addressed in the planning process. Cultural resources and historic properties are included in this concept. Human considerations will be considered early in the planning process since they can help guide the planner in providing the information the client needs to make informed decisions. Economic and social issues are important in formulating resource management systems since they are closely linked to human behavior. For a more complete discussion of economic and social topics, and their relationship to client behavior, see Subpart D, Section 600.42, “Working With Individuals and Groups.”
 - (i) Social considerations include public health and safety, as well as social, family, ethnic, ethnic, spiritual, and religious values. They also include societal goals, client characteristics, risk tolerance or aversion, tenure or time availability, and the presence of cultural resources and historic properties.
 - (ii) Differing social, ethnic, or religious backgrounds may also affect the adoption of conservation practices. Such differences must be recognized and accounted for early in the planning process. Some groups may have land-use ethics or social customs that conflict with some NRCS conservation practices.
 - (iii) Economic considerations in planning are closely linked to individual or group behavior. In most cases, planning will include economic goals, such as preserving income, minimizing costs, or reducing risk. By understanding the economic goals of decision makers, planners can identify barriers to, and opportunities associated with, adopting conservation. Onsite economic considerations may include operational income and expenses, conservation system costs, credit availability, yield effects, or base acreage effects. When considering changing inputs and outputs of an operation, assessing the overall return on investment will highlight the effects of each change. For example, no-till may result in a yield reduction, but due to fewer trips across a field, increased organic matter levels etc., there may be an overall economic savings, producing a higher return on their investment. On a larger scale, economic considerations could include water supply costs, flood damage reduction, recreation enhancement, or regional effects, such as job creation or changes in tax revenue.
 - (iv) Social and economic considerations can be evaluated by referring to information in the FOTG; reviewing census data; consulting with farm managers, advisors, and other agency experts; modeling; and by experience. Cultural resource and historic property can be located and assessed with the help of cultural resource coordinators or specialists.
 - (v) Planners must take steps to ensure that outreach activities are conducted to identify and reach underserved customers, such as Tribes, minority producers, and small producers with limited resources. Planners must also be aware that traditional outreach activities often do not reach the underserved customer. There are a host of personal, social, cultural, and economic barriers that serve as deterrents to underserved customers coming forward and asking for technical assistance for conservation planning and implementation.
 - (vi) Several outreach methods, such as on-farm demonstrations, education meetings, increased cost-share rates, one-on-one assistance, involving local leaders, and making technical assistance available may help to successfully address some of the barriers faced by underserved customers.
- (3) Legal and Statutory Requirements

- (i) Confidentiality and Privacy - Client records are confidential, except for those that are subject to the Freedom of Information Act. NRCS policy on the Freedom of Information Act and the Privacy Act are contained in National Instruction 120-310 and Title 120, GM, Part 408. No one outside of NRCS, except those specifically authorized by NRCS, such as certain conservation district employees, is permitted access to client data. The conservation plan is a confidential document, and no person or agency other than NRCS may access it without written authorization by the client. The conservation plan does not provide public access to the property.
- (ii) Personally Identifiable Information (PII) - USDA holds a vast amount of data on its employees and clients. Some of these data are readily available to the public and, in fact, is mandated to be made available through various legislative and legal vehicles. However, some data are sensitive and may never be made public, such as personally identifiable information.
 - PII refers to information that can be used to distinguish or trace an individual's identity. PII can include information or combinations of information, such as Social Security numbers (in complete or truncated form), place of birth, date of birth, mother's maiden name, biometric record, fingerprint, iris scan, DNA, medical history, medical conditions, financial information, credit card numbers, bank account numbers, etc.
 - USDA is committed to protecting PII for both employees and clients. USDA has a toll-free PII Incident Hotline at 1 (877) PII-2YOU. The hotline is available 24 hours a day, 7 days a week.
- (iii) The National Environmental Policy Act (NEPA) and Other Environmental Requirements - Title 190, National Environmental Compliance Handbook, Part 610, contains detailed information on complying with NEPA. All NRCS planning activities will be conducted in compliance with NEPA and other applicable requirements for the protection of the environment. Subpart D, section 600.41, provides recommended sources for additional planning process support guidance to assist planners in incorporating NEPA and other requirements into the planning process.

600.13 Planning Directives

A. Direction for applying the planning process is derived from five major sources.

- (1) Policy - NRCS conservation planning policy is detailed in the 180-GM, Part 409, "Conservation Planning Policy." 450-GM, Part 401, "Technical Guides," describes NRCS policy for development of technical guides in support of the planning policy. NRCS policy for compliance with NEPA is located in the 190-GM, Part 410, "Compliance With NEPA."
- (2) Procedures - Title 180, National Planning Procedures Handbook, Part 600, supports the planning policy by describing the planning process and the how-to guidance used by NRCS to carry out that process. Title 190, National Environmental Compliance Handbook, Part 610, provides guidance on integrating the requirements of NEPA and other special environmental concerns into the planning process.
- (3) Technical Guidance - The FOTGs are the primary technical reference for NRCS and are localized to apply specifically to an identified geographic area. The FOTG contains five sections supporting the technical aspects of conservation planning. (See 450-GM, Part 401, Sections 401.3 to 401.7, for content of FOTG.)
- (4) Tools - User guides for specific tools contain information for use and maintenance of conservation planning tools.
- (5) Program Guidance - Manuals contain policy and guidance for administering programs that can facilitate implementation of planned measures.

600.14 Preplanning Activities

A. This handbook describes the planning process in detail and provides guidance on carrying out each planning step. However, the process itself is preceded by preplanning activities, which play a critical role in the outcome and effectiveness of plan development.



Figure 600-B3: Conservationist and client reviewing conservation plan information in a field office

B. Preplanning activities set the stage for conservation planning with the client by ensuring that basic information is obtained from the client and that background information necessary to initiate the planning process is assembled.

C. Activities leading up to planning normally begin in one of three ways:

- (1) The potential client may contact the conservation district or NRCS to seek technical or financial assistance in solving a resource concern.
- (2) NRCS, conservation district, or partner personnel may contact a potential client for the purpose of initiating planning activities.
- (3) Proactive citizens may contact partners, the conservation district, or NRCS for planning assistance to prevent potential problems from occurring or to take advantage of opportunities.

D. Regardless of how the client and the planner are brought together, several items can be addressed before planning activities begin. Preplanning activities—

- (1) Identify the principal client or clients who will participate in the planning process and their respective roles. Update client information. Determine who has decision making authority for the planning area.
- (2) Describe to the client in general terms the planning process and the expected benefits of having a conservation plan.
- (3) Explain to the client the roles and responsibilities of the client and NRCS.

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- (4) Define the planning area on a map and geospatial layers.
- (5) Assemble all needed information and data for use in planning. The FOTG is a principal source of reference material pertinent to the field office, however technology provides additional information such as GIS spatial layers and previously collected planning data.
- (6) Ask the client to describe basic details of their operation that will assist in determining resource concerns.
- (7) Identify other sources of information or technical assistance that may be available from other agencies, organizations, etc. and utilize client precision agriculture data when possible.
- (8) Identify tools and supplies that will be needed in the field and have them available for the first field visit.
- (10) Schedule an initial planning session with the client.

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Subpart C – NRCS Planning Process

600.20 Planning Steps

A. The conservation planning process consists of nine steps, divided into three phases, which cover development, implementation, and evaluation of a conservation plan. The planning process is not linear, but dynamic and iterative, and previously completed steps may be revisited and refined as more information is gathered and the process proceeds. Complete and proper documentation is critical at each step of the planning process. The three phases and nine steps are briefly explained below.

- (1) Phase I – Collection and Analysis
 - (i) Step 1 – Identify Problems and Opportunities - Identify existing resource problems and concerns and potential opportunities in the planning area.
 - (ii) Step 2 – Determine Objectives - Identify and document the client’s objectives.
 - (iii) Step 3 – Inventory Resources - Inventory and document the natural resources and their current onsite and offsite conditions and effects, as well as the economic and social considerations related to the resources.
 - (iv) Step 4 – Analyze Resource Data - Analyze the resource information gathered in Step 3, “Inventory Resources,” to clearly define the existing natural resource conditions, along with economic and social issues related to the resources. Information from this step will help to further define and clarify problems, concerns, and opportunities.
- (2) Phase II – Decision Support
 - (i) Step 5 – Formulate Alternatives - Formulate alternatives that will achieve the client’s objectives, address identified natural resource concerns, and take advantage of opportunities to improve or protect resource conditions and demonstrate a variety of technical and economic implementation strategies.
 - (ii) Step 6 – Evaluate Alternatives - Evaluate the alternatives to determine their effects in addressing the client's objectives and the identified natural resource concerns and opportunities. Evaluate the projected effects on social, economic, and ecological concerns. Special attention must be given to those ecological values protected by law or Executive order.
 - (iii) Step 7 – Make Decisions - The client selects their preferred alternatives and works with the planner to schedule the conservation system and practice implementation.
- (3) Phase III – Application and Evaluation
 - (i) Step 8 – Implement the Plan - The client implements the selected alternatives. The planner or technical expert provides the land manager with detailed practice implementation requirements, including component plans and engineered designs. Additional inventory, analysis, and surveying activities may be needed in this step to complete implementation requirements. Conservation staff will also provide practice layout, construction inspection, and certification. Each land manager directs the implementation of each practice. The planner provides encouragement to the client for continued implementation.
 - (ii) Step 9 – Evaluate the Plan - Evaluate the effectiveness of the plan in solving the resource concerns as it is implemented and work with the client to make adjustments as needed.

B. The next portion of the handbook describes the details for carrying out the nine steps of planning. Each step contains a planning standard, a list of inputs, and a list of products. The planning standard sets the minimum quality level for each step. The inputs provide sources of information to plug into

the process, while the products describe the outputs of each step. These lists are not all-inclusive; therefore, planners are encouraged to supplement them as needed.

C. A detailed description is included of “what” items occur during each planning step along with recommendations on “how” to accomplish the items.

600.21 Step 1 – Identify Problems and Opportunities

A. Description - The client requests NRCS assistance because they have a problem they want to solve. Either in the office or during an onsite visit, the client and planner will identify existing, potential, and perceived natural resource problems, opportunities, and concerns in the planning area. This visit provides the first opportunity to determine associated resource concerns and opportunities in interrelated planning areas. The identified problems and opportunities as well as the client objectives guide the remainder of the planning process and are the basis for the purpose and need for action that are documented on the Environmental Evaluation Worksheet, (e.g. NRCS-CPA-52). Initially, the client and planner may identify only one or two resource concerns. As planning progresses, and additional information is gathered, other resource concerns and opportunities may be identified.

B. General - Problem identification frequently begins the planning process and continues through the resource inventory and data analysis steps. Initial problems and opportunities are identified based on readily available information and discussion with the client. The planner may have additional information available relating to natural resource needs based on information available from the conservation district, areawide conservation plans or other data. Generally, this step will not be finalized until the resource data are analyzed in Step 4, “Analyze Resource Data,” although additional problems, opportunities, and concerns may be identified throughout the entire planning process. Some conservation alternatives may create additional indirect resource related issues and concerns that must be addressed by the planner and client.



Figure 600-C1: Conservationist and client discussing concerns and opportunities in the field

C. Planning Standard - The client's resource problems, concerns, and opportunities are identified and documented.

D. Inputs

- (1) Client information regarding their goals and objectives, description of their agricultural operations, etc.
- (2) The planner's experience and knowledge of the area
- (3) Planning and implementation information from other locally associated clients
- (4) Conservation district long-range plan, annual plan, and priorities
- (5) Locally led assessments
- (6) Areawide conservation plans
- (7) Information from other sources, such as State, Tribal, Territorial, and Federal agency; colleges and universities; or centers of research
- (8) Resource data for the planning area and adjacent areas (soils, hydrography, hydrology, climate, land use and land cover, etc.)
- (9) Discipline manuals and handbooks
- (10) FOTG
- (11) State resource assessments

E. Products

- (1) Identification and documentation of problems, opportunities, and concerns in the case file; this becomes the basis for the statements of purpose and need on the Environmental Evaluation Worksheet, (e.g. NRCS-CPA-52) and any required NEPA documents
- (2) Communication with the client
- (3) Assistance notes

F. Step 1: Identify Problems and Opportunities – Activities

WHAT	HOW
1. Complete an initial determination of the client's problems, opportunities, and concerns related to natural resources and human considerations and identify the planning area.	<ul style="list-style-type: none"> • Identify the clients associated with the planning area and their relationship to the business, land, and the planning process (decision making, ownership, and business association). • Identify location of planning area and planning land units to be accessed. • Identify planning land unit land use designation and if the client intends to change land use in the future. • Elicit initial information about the client's problems, opportunities, and concerns through email or other electronic contact, office or field visit, or phone conversation between the client and the NRCS. • Gain, and continue to refine, a good general awareness of the kinds of problems that occur within your field office area, as well as the surrounding area. • Utilize the FOTG and any existing locally led assessments, or areawide conservation plans, or similar plans to enhance your understanding of the area's resource issues and potential solutions.

WHAT	HOW
2. Begin recording identified problems, opportunities, and concerns.	<ul style="list-style-type: none"> • Make a complete record of the client's problems, opportunities, and concerns associated with natural resources. • Record and organize natural resource problems and opportunities into clear concise statements, using agency planning software and resource concern worksheets. • Document EE data per State, Tribal, Territorial, and Federal guidance. • Document discussions between planner and client in assistance notes.
3. Discuss the process involved in conducting an inventory and evaluation of the resources.	<ul style="list-style-type: none"> • Describe to the client the onsite nature of the conservation planning process and the benefits of having the land owner, manager, or operator, who will make planning decisions, present for at least the initial field visit. • Agree to how access to the property will be granted to the planner and if the client always wants to be present. • Discuss seasonal impacts to accessing the property, such as hunting or fishing activity, crop harvesting activity, or other times the property may not be accessible.

600.22 Step 2 – Determine Objectives

A. Description - Determining a client's planning objectives requires developing an understanding with the client of the desired future conditions for the planning area as compared to the existing conditions. This is the purpose for the client to take action. It includes the desired resource uses, resource problem reductions, onsite and offsite ecological protection, and production concerns. As resources are inventoried, their interactions are analyzed, and alternatives formulated, objectives may need to be reviewed and modified.

- (1) There may be times when withdrawal of technical assistance becomes necessary.
 - (i) Technical assistance may be withdrawn when a client's objectives will result in a negative effect on natural resources, onsite or offsite.
 - (ii) Technical assistance may also be withdrawn if a client fails to comply with or will not agree to actions required to be taken by NRCS to comply with local, State, Tribal, Territorial, or Federal regulatory requirements.
- (2) For additional information about withdrawing assistance, see Title 440, CPM, Part 525, Subpart A, Section 525.4.

B. General - The purpose of this planning step is to determine the client's planning objectives, based on the client's needs and values regarding the use, treatment, and management of the planning area.

- (1) Help the client think more broadly about the onsite and offsite problems and opportunities for natural resource protection or enhancement and to consider policy issues, such as State, Tribal, Territorial, and Federal laws or mandates.

- (2) Assist the client in making informed decisions that result in the wise use and conservation of resources. Due to the dynamic nature of the planning process, objectives may not be finalized until later in the planning process.



Figure 600-C2: Client and conservationist discussing objectives

- C. Planning Standard - The client's objectives are clearly stated and documented.
- D. Inputs
 - (1) Client input
 - (2) Conservation district long-range plan, annual plan, and priorities
 - (3) The need for action – the list of problems, opportunities, and concerns to be analyzed
 - (4) Records from previous planning efforts
 - (5) Resource data for the planning area and adjacent areas
 - (i) Critical resource data (soils, hydrography, hydrology, climate, land use, etc.)
 - (ii) Additional resource information from partnering organizations
 - (iii) FOTG
 - (6) Documentation of public concerns from locally led assessments or areawide conservation plans, where they exist
- E. Products
 - (1) A list of the client's objectives recorded in the case file
 - (2) Assistance notes
- F. Step 2 – Determine Objectives- Activities

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WHAT	HOW
1. Reach agreement on the client's expectations for the planning effort.	<ul style="list-style-type: none"> • Identify the client's production and business goals for the operation. • Identify the client's desired future conditions for the planning area as compared to existing conditions. • Identify the client's recognized or perceived resource problems, concerns, and opportunities. • Identify values the client holds regarding natural resource use and protection, and the client's desires for improving the quality of life. • Identify financial constraints and the client's willingness to accept risk.
2. Document the client's objectives.	<ul style="list-style-type: none"> • Record and document the client's objectives in terms of the above expectations. • Document discussions between planner and client in assistance notes. • Continue to document the client's objectives as they are better defined and understood, by the planner and client, throughout the planning process.
3. Determine whether the client's objectives are consistent with those of the conservation district and NRCS.	<ul style="list-style-type: none"> • Utilize the NRCS strategic plan, Chief's priorities, State resource assessment (SRA), district long-range plan, local work group priorities, and other local and State assessments to determine NRCS resource priorities. • If a particular planning area resides within a defined areawide conservation planning area, review the objectives of the larger plan. This activity provides an opportunity to determine if the client's objectives could be broadened to consider the larger area's objectives. • Explain NRCS priorities and targets to the client, so that it is understood why NRCS may need to withdraw assistance if the client's objectives result in a negative effect for other onsite or offsite resources. • Document EE data per State, Tribal, Territorial, and Federal guidance.
4. Determine if NRCS has appropriate technology or resources.	<ul style="list-style-type: none"> • Assess the technology and resources needed for this planning effort and their availability from NRCS. • Identify an appropriate agency, group, or other entity to participate as a partner in the planning process, when NRCS does not possess the appropriate technology or resources.
5. Determine the need to continue the planning process.	<ul style="list-style-type: none"> • Review the stated objectives and available resources with the client and determine if the planning process will continue, be put on hold, or be discontinued.

WHAT	HOW
6. Determine the next steps and a schedule to complete the planning process.	<ul style="list-style-type: none"> • Schedule a convenient time for the client to meet the planner in the field to start resource inventory process. • Discuss with the client, the tasks that need to be accomplished and the timelines for completing the planning process.

600.23 Step 3 – Inventory Resources

A. Description - Collect appropriate natural resource, economic, and social information about the planning area and related areas. Use this information to—

- (1) Identify existing or potential resource concerns or opportunities.
- (2) Further define known existing and potential resource concerns and opportunities.
- (3) Clarify resource concerns.
- (4) Formulate and evaluate alternatives.
- (5) Gather pertinent information concerning the affected resources, the human considerations, and operation and management.

B. General - The resource inventory is the identification of SWAPAE+H resources and special environmental concerns (SECs) that are present and are the basis of all planning efforts. This information furthers the understanding of the presence of the natural resources in the planning area. Planners will inventory all applicable resources. The inventory will provide the planner the understanding of the existing natural resource conditions necessary to convey resource conditions to the client in a knowledgeable manner. Step 1, “Identify Problems and Opportunities,” and Step 2, “Determine Objectives,” are normally the planner's best guides to inventory needs and the degree of detail. Objectives relating to the client’s enterprises, planned land uses, production, or economic returns provide guidance for the detail needed and the extent of resource inventories.

C. Planning Philosophy – Inventory with the Client. The basic concepts described require that the client fully participate in this planning step, if possible. Planners should strive to meet this maxim, to the extent possible: “If I am working on your land, I want you with me.” It is essential that clients understand their resources and the resource conditions. This is best accomplished in the field while resource conditions are being inventoried. Inventory resources activities:

- (1) Assemble general inventory data and information about the planning area before the planning process begins. Information relating to ground water and surface water quality, cultural resources and historic properties, threatened and endangered species, laws and local ordinances, utility rights-of-way, buried utilities, and other ecological considerations are located in the FOTG. The FOTG and the certified soils data provide information relating to all land uses in terms of soil interpretations and ecological site descriptions. GIS layers and other data can be used in an automated fashion to help identify resource concerns. Clients may also have useful additional resource data, they are willing to share.
- (2) Review this information prior to meeting with the client. Be prepared to discuss natural resource concerns and opportunities and to raise the client’s awareness of issues influencing the planning process. The planning process is an educational effort whereby the client and planner share knowledge regarding the client’s enterprises and natural resources. The inventory phase of planning is a critical part of that educational process.
- (3) Different land uses normally require different inventory approaches, and the emphasis changes from one land use to another. For example, both cropland and grazed range require a

strong emphasis on soils, but grazed range also requires a more detailed description of the plant community and the factors that affect it.

- (4) A variety of technical worksheets, inventory aides or automated processes may be used as needed to inventory specific land uses or modifiers and to assess resource concerns.
- (5) Work together with the client to develop a picture of current conditions, trends, resource concerns, and opportunities. The description of the existing conditions and management on the land, which may include a description of current crops, farming practices, livestock type, and available equipment and technology is the existing condition. Also document any previously installed or implemented conservation practices that are being maintained and still functioning as designed, known as existing practices. The existing condition will be used in estimating the effects and identifying outcomes of conservation planning efforts.
- (6) Though an initial inventory will be completed early in the planning process, be prepared to collect additional resource data during later stages of planning, particularly Step 4, “Analyze Resource Data,” and Step 5, “Formulate Alternatives,” to more completely refine the resource concerns and opportunities in the planning area, and effects of the alternatives.
- (7) Consider all natural resources and appropriate human factors during the inventory process, regardless of complexity or land uses involved. Recognize that some resource concerns will require further assessment. Resource concerns are identified by comparing present existing conditions with the planning criteria established for the resource concern using various assessment methods, including automated assessment procedures.
- (8) Gather appropriate information about the site and operation during the inventory phase to help determine the status of natural resources. This is especially important where GIS and other data about the site are not sufficient. The actual determination of whether or not current conditions are acceptable is part of planning Step 4, “Analyze Resource Data.”
- (9) Review the pertinent local, State, Tribal, Territorial, and Federal programmatic and other statutory requirements that could have an effect on current or potential activities of the client. While it is ultimately the responsibility of the client to be aware of and comply with all pertinent Federal, State, Tribal, Territorial, and local laws and regulations, help the client in making conservation planning decisions by providing relevant information to the client.
- (10) Begin to consider the client’s ability and willingness to meet the financial obligations necessary to implement conservation systems.
- (11) Obtain information needed to comply with NEPA and other environmental laws, (see Section 600.1, “References”), and to satisfy specific State, Tribal, Territorial, or Federal program requirements (e.g., State nonpoint source pollution abatement mandates).
- (12) If not properly equipped to discuss a client’s resources, it is best for the planner to admit that he or she “doesn’t know,” and offer to find out more and get back to the client with the needed information.
- (13) Share natural resource and related information with the client. This opportunity must not be missed. In most cases, the landowner or client also has a great deal of knowledge and resource data about the planning unit to share with the planner. By involving the client in inventory activities, the planner can take advantage of the client’s experience and knowledge to understand the resources more completely.
- (15) When beginning planning Step 3, “Inventory Resources,” take the opportunity to enhance the client’s knowledge of natural resource conservation principles, utilizing the land unit or plant community. The natural environment is often the best-equipped classroom available to demonstrate effects of erosion, costs of overgrazing, or benefits of water management to the client. These concepts cannot be as effectively discussed or demonstrated in an office or kitchen as they can while looking at, measuring, digging, comparing, or evaluating the real thing.
- (16) Utilize the inventory process to acquire the information and data necessary to assist the client in planning for the sustainable use of the resources. Use this opportunity to

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demonstrate your technical ability and earn the professional respect of the client. This will promote the client's confidence in your professional skills and lead to a higher quality of planning.

D. Planning Standard - Sufficient data and information are gathered for analysis.

E. Inputs

- (1) Knowledgeable land managers, past and present
- (2) Stated objectives, and resource problems and opportunities identified
- (3) Approved resource assessment applications and processes
- (4) Imagery
- (5) Inventory tools and procedures, including discipline-specific manuals and procedural documentation (see subpart D, section 600.40)
- (6) State, Tribal, Territorial, and Federal reports and evaluations (e.g., soil surveys, highly erodible land determinations, and census data)
- (7) Areawide plans, including State resource assessments, rapid watershed assessments, and watershed plans
- (8) Previous resource inventories completed by NRCS or others
- (9) Field observations and measurements
- (10) FOTG resource references, soils information, planning criteria, and practice standards

F. Products

- (1) Detailed resource inventories of the planning unit, as well as related offsite information
- (2) Information on human considerations
- (3) Identification of special environmental concerns, such as threatened and endangered species
- (4) Identification of cultural resource and historic property and areas of potential impacts
- (5) Planning land units, locations, determinations, and client-land relationships described
- (6) Identification of infrastructure physical features, such as roads, houses, fences, power lines and other utilities, right of ways, and easements
- (7) Identification of how the client manages resources, including kinds, amounts, and timing of management activities
- (8) Data concerning existing conditions for the planning area, including existing practices
- (9) Assistance notes for completing the inventory step

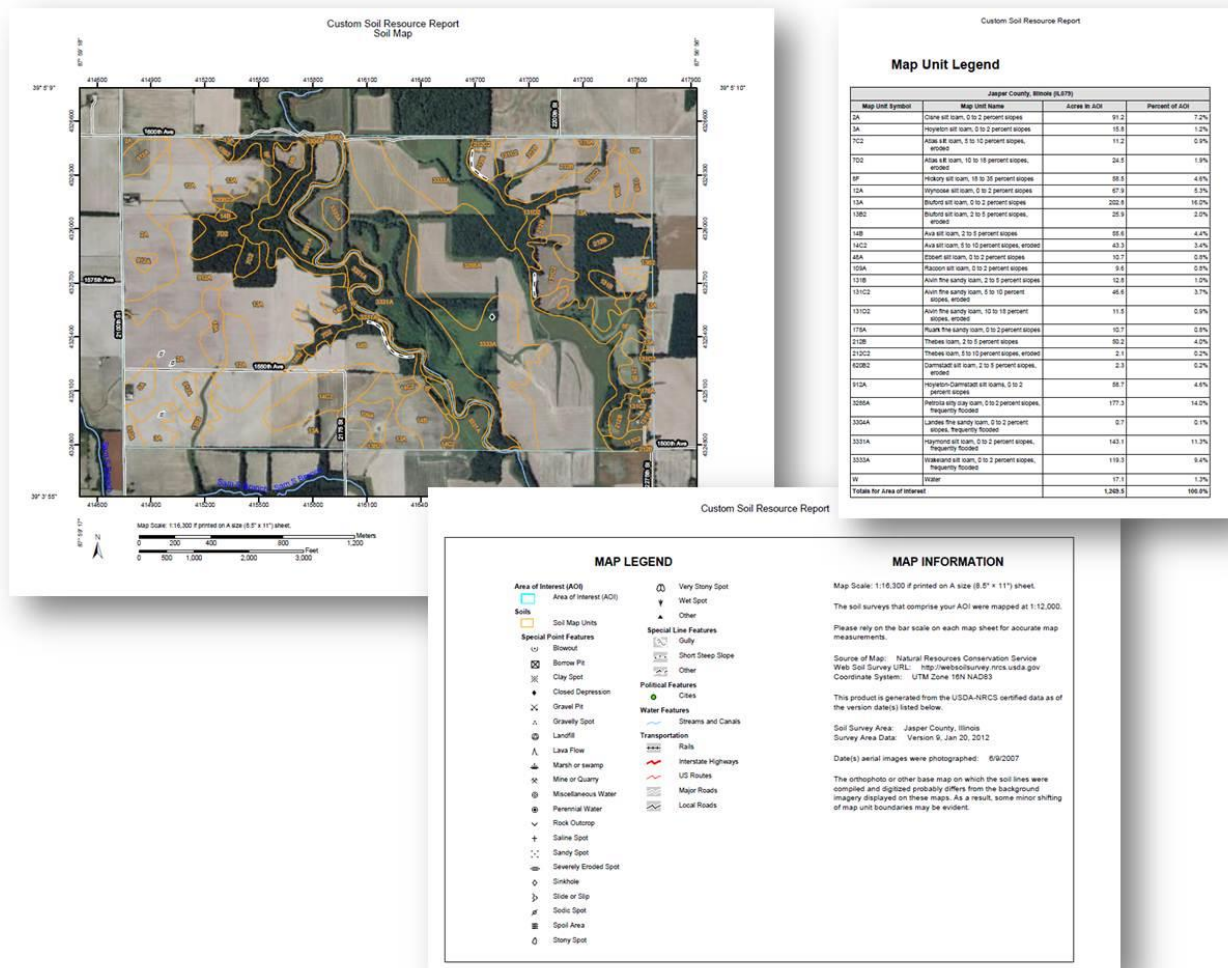


Figure 600-C3: Example of a resource inventory map with legends

G. Tools and Support Information

- (1) **Inventory Collection Tools and Procedures** - Each discipline has acceptable procedures and tools that can be used as needed for conducting resource inventories. Many of these are described in detail in discipline manuals and handbooks, such as the National Agronomy Manual, National Biology Manual, National Forestry Manual, National Range and Pasture Handbook, the Stream Visual Assessment Protocol (SVAP2), and soil quality/health score card or test kit.
- (2) **GIS Tools and Resource Models** - GIS and resource models are valuable tools to assist the planner in assembling data, predicting resource conditions, and assessing resource concerns. The information gathered and documented during the inventory process can benefit the planner and client in analysis and evaluation of the resources.
- (3) **Reference and Support Materials** - Reference and support materials are essential tools for the planner. The FOTG is the basic support document for all NRCS technical assistance to land users.
- (4) **Natural Teaching Tools** - In addition to the more common, traditional tools listed above are those of perhaps the greatest importance, the "natural teaching tools." Planners need to know

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how best to use these tools to their advantage. This includes using the clients' existing natural resources as teaching aids or tools to increase the client's understanding and knowledge of resource management needs and potentials. The best time to carry out this vital element of planning is while the resource inventory is being conducted.

- (5) The planning criteria provide guidance as to the appropriate inventory or assessment method or combination of methods that can be used for each resource consideration. Some professional judgment must be exercised in determining when to utilize these methods and which method or combination of methods will be most appropriate for the client's situation.

H. General Inventory and Assessment Methods

- (1) Procedural
- (2) Predictive
- (3) Observation
- (4) Deduction

I. Special Environment Concerns (SECs)

- (1) Clean Air Act
- (2) Clean Water Act and waters of the United States
- (3) Coastal zone management areas
- (4) Coral reefs
- (5) Cultural resources and historic properties
- (6) Endangered and threatened species
- (7) Environmental justice
- (8) Essential fish habitat
- (9) Floodplain management
- (10) Invasive species
- (11) Migratory birds and the Bald and Golden Eagle Protection Act
- (12) Prime and unique farmlands
- (13) Riparian areas
- (14) Wetlands
- (15) Wild and scenic rivers

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J. Step 3 – Inventory Resources- Activities

WHAT	HOW
1. Establish the types of inventories and degree of detail needed in the inventory.	<ul style="list-style-type: none"> • Review the objectives developed in planning Step 2, “Determine Objectives,” as they relate to land uses, production goals, problems, opportunities, and other concerns. • Review results of GIS layer analysis and other data outputs. • Select the appropriate inventories for each proposed land use, using the appropriate discipline handbooks for detailed guidance. • Tailor the level of inventory detail to the complexity of the resource setting and the identified problems, opportunities, and objectives.
2. Collect available information.	<ul style="list-style-type: none"> • Establish a list of potential resource concerns and opportunities by reviewing the conservation district long-range plan, other available plans and information, locally led assessments, any areawide conservation plans that exist, and appropriate FOTG guidance documents. • Utilize the resources and expertise of others. • Identify factors that could hinder plan development and implementation, such as the client’s financial constraints, managerial skill levels, or commitment. • Develop a list of State, Tribal, Territorial, and Federal mandates that currently affect or could affect existing operations. The FOTG can be used to help develop the list. • Use available and applicable soil survey information and other resource data.
3. Maintain good communications between the client and the planner through the resource inventory process.	<ul style="list-style-type: none"> • Discuss the purpose and importance of the inventory process with the client. • Emphasize to the client the importance of their knowledge of the planning area and associated resources and discuss possible resource data the client may have available. Emphasize that their input is essential. • Explain what will be done during the inventory process and why. • Estimate how much time is required to carry out the field inventories. • Always obtain permission from the client before conducting onsite visits.

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WHAT	HOW
4. Conduct onsite inventory and include the client in the field inventory activities.	<ul style="list-style-type: none">• Familiarize yourself with the resource inventory methods.• When the need for use of inventory methods is identified, follow inventory procedures as described in appropriate discipline handbooks and manuals.• As needed use procedures and guidelines available for specific resource inventories listed in the FOTG.• Collect the information necessary to describe the existing condition (e.g., resources; kinds, amounts, and timing of operations and activities) and document.• Document EE data per State, Tribal, Territorial and Federal guidance.• Determine the effectiveness of existing management measures and practices in addressing resource concerns.
5. Use natural resources as teaching aids while in the field with the client.	<ul style="list-style-type: none">• Encourage the client to experience "hands-on" participation in the inventory process by helping with data collection. This provides an opportunity for the client to learn conservation principles.• Encourage the client to conduct actual measurements, such as clipping vegetation, checking soil conditions, boring trees, and recording information.

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WHAT	HOW
<p>6. Record the resource inventory data to facilitate analysis in Step 4, “Analyze Resource Data.”</p>	<ul style="list-style-type: none"> • Confirm the client’s planning land units. • Review, and update as necessary, planning land units with key information, including current land use. • Update information on the relationships of the clients to planning land units determined in planning Step 1, “Identify Problems and Opportunities,” and Step 2, “Determine Objectives.” • Record utilities, easements, legal constraints, and determinations. • Review soils information for each planning land unit. • Document the existing conservation practices found. Include both those that do and do not meet NRCS standards, as appropriate, to facilitate the current planning effort. Include estimates of quantities and the approximate implementation date, if known. • Record data for existing conditions, including— <ul style="list-style-type: none"> ○ Current crop rotation. ○ Pasture inventory. ○ Range inventory. ○ Forest management inventory. ○ Developed land inventory. ○ Associated land inventory. ○ Cultural resource and historic property inventory. • Document natural resource information on the appropriate technical worksheet. • Document discussion between planner and client in assistance notes.

600.24 Step 4 – Analyze Resource Data

A. Description - This step provides the information needed to determine resource concerns to be addressed and formulate alternatives. Some data will be analyzed through an automated process, while other data must be interpreted by the planner. The analyses clearly establish the cause-and-effect relationships and provide information about existing and future conditions.

B. General - To use the information gathered during the inventory process to full advantage, the planner must interpret the inventory data. Analysis is done to provide insight into natural resource information for the planner and to present that information in a meaningful and understandable form to the client. The format in which information is presented to the client has a significant influence on the decision making process.

- (1) For some resources, analysis methods are well established. They are described in corresponding discipline handbooks and manuals. The FOTG provides a list of technical references that relate to natural resource analysis. Approved automated analysis tools and reports generated can provide the planner and client with basic inventory analysis information.
- (2) Often each of the first four steps, “Identifying Problems and Opportunities,” “Determining Objectives,” “Inventorying Resources,” and “Analyzing Resource Data,” are very closely associated and occur concurrently and iteratively, before a complete analysis of resource concerns is accomplished. While resource concerns and opportunities initially identified by the client and planner during Step 1, “Identify Problems and Opportunities,” result in collecting and analyzing certain data, other resource concerns and opportunities may come to light during the inventory and analysis steps.
- (3) At this point in the planning process, there must be agreement on which of the identified resource concerns will be addressed during the remainder of the planning process. Upon completion of this planning step, the planning process moves into phase II. If other issues are identified or the client decides to address additional resource concerns, the planner may need to return to previous planning steps.



Figure 600-C4: Client and conservationist viewing data from laptop in the field.

C. Planning Standard - The existing condition is documented by describing the current condition, crops, soils, existing conservation practices, and identified resource concerns.

D. Inputs

- (1) Client's objectives
- (2) Identified problems, opportunities, and concerns
- (3) Resource inventory data
- (4) FOTG
- (5) Results from various resource evaluation tools
- (6) Results from GIS assessments

E. Products

- (1) An analysis of all resources inventoried
- (2) Documentation of the existing condition
- (3) Environmental evaluation data to meet NEPA requirements
- (4) Cultural resource and historic property evaluation data
- (5) Endangered Species Act (ESA) resources evaluation data
- (6) Other program and legal evaluation data
- (7) A complete definition of resource concerns and opportunities identified
- (8) Identification of the causes or conditions that contribute to the resource concerns
- (9) A complete statement of objectives
- (10) Assistance notes

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F. Step 4 – Analyze Resource Data - Activities

WHAT	HOW
1. Determine the method of analyses to be completed.	<ul style="list-style-type: none"> Determine the types of analyses to be completed by reviewing the client’s objectives, initial resource concerns, special environmental concerns, land and resource uses, and the location of the planning area. Ask an appropriate agency, group, or entity for assistance after obtaining the decision-maker’s permission, in instances where the kind or extent of resource problems exceeds the expertise or resources available.
2. Establish scope, intensity, degree of accuracy, and procedures to be used, utilizing discipline specialists as needed.	<ul style="list-style-type: none"> Review the findings of the cultural resource/historic property inventory. Recognize cause and effect relationships between planning areas. Identify resource stressors, which are either natural or human-induced actions or events that cause changes in the existing condition of an ecological system. Use examples, pictures, and visits to similar planning units to help the client develop an understanding of conservation principles and options available to solve the stated resource concerns. Interpretive information from the FOTG can aid in defining the elements listed above.
3. Conduct the analysis.	<ul style="list-style-type: none"> As needed, use procedures in appropriate discipline handbooks or manuals and automated analysis tools
4. Compare the results of the analysis with planning criteria, problems, opportunities, and objectives.	<ul style="list-style-type: none"> Compare the results of the analysis with the planning criteria in the FOTG and with the problems, opportunities, and objectives determined in planning Step 1, “Identify Problems and Opportunities,” and Step 2, “Determine Objectives.” When appropriate, a nationally supported tool that automates and streamlines the resource concern assessment process (e.g. Conservation Assessment Ranking Tool or Conservation Desktop) can be used to document meeting FOTG planning criteria for conservation program planning purposes. Use the GIS analysis and inventory data that were collected, based on client objectives, to determine the kind, amount, and extent of existing and potential resource concerns.

WHAT	HOW
5. Describe and record the existing condition	<ul style="list-style-type: none"> • Document the existing condition, including existing practices, identified resource concerns, human factors, and special environmental concerns. Include the kind, amount, and location. Quantities are shown in standard units (e.g., tons per acre per year, parts per volume of water, yield per acre, etc.). • Document EE data per State, Tribal, Territorial, and Federal guidance. • Document discussion between planner and client in assistance notes.
6. Produce resource maps and reports.	<ul style="list-style-type: none"> • Display the resource information on maps, showing the location and the extent of the condition.

600.25 Step 5 – Formulate Alternatives

A. Description - Develop alternatives that will achieve the objectives of the client, treat the identified resource concerns the client chooses to address, take advantage of opportunities, and prevent or lessen the possibility of additional problems occurring.

- (1) A broad range of technically feasible alternatives can be developed with the client. Alternatives may include an appropriate mix of structural conservation practices, such as terraces, dams, and waterways; nonstructural conservation practices, such as crop residue management, or livestock exclusion; market-based measures, such as cost-sharing, easements, and local tax incentives; and institutional measures, such as zoning or local regulations, and State, Tribal, Territorial, and Federal laws and regulations.
- (2) Some conservation practices are primary, resulting in treatment of the identified resource concerns. Others are supporting – they facilitate a primary conservation practice and may not have a direct effect on the identified resource concern (however, they must meet the primary practice standard and achieve the desired treatment). An example of a primary conservation practice is a terrace. When needed for the terrace to function effectively, an underground outlet is an example of a supporting practice that facilitates a primary practice. Because the primary practice will not function properly without the supporting practice or practices, the primary conservation practice will not be certified as complete until all supporting practices are installed.
- (3) When developing alternatives, include conservation practices and management measures that mitigate potential adverse effects on the resources. Consider the potential to address regulatory requirements, based on the client’s desires and objectives.



Figure 600-C5: Client and conservationist discussing resource data in the field.

B. General - This planning step begins phase II of the planning process. Revisit earlier steps if new objectives or resource concerns are identified. The purpose of formulating alternatives is to provide a variety of effective, efficient, and economical conservation treatments that address the identified resource concerns, follow conservation practice standards, meet the stated objectives and are acceptable to the client. These alternatives relate to the identified problems, opportunities, and resource concerns, and are developed in view of the cultural, social, ecological, and economic conditions of the planning area.

- (1) Include the client in the formulation of alternatives. This enhances practical alternative formulation, improves decision making, and enhances the chances of successful implementation. It also helps ensure that low initial cost measures are developed in limited resource situations where cost is a critical issue.
- (2) Develop enough alternatives to provide the client with the opportunity to consider several possibilities. If incorrect or insufficient data has been assembled for formulating alternatives, the planner needs to return to planning Step 3, “Inventory Resources,” and Step 4, “Analyze Resource Data,” before proceeding.
- (3) The planner and the client must have a clear understanding of the resource concerns, including their cause and effect relationships. If the resource concerns and their cause and effect relationships are not clearly understood by the client, return to planning Step 4, “Analyze Resource Data,” and review these concerns with the client.

C. Planning Standard - Alternative treatments are developed to meet the resource needs, objectives of the client, and adequately treats the identified resource concerns the client chooses to address.

- (1) One or more action alternatives will be developed, included in the case file, and presented to the client.

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- (2) Conservation planning is conducted with the client, working progressively towards an RMS level of management.

D. Inputs

- (1) List of resource problems, opportunities, and concerns from Step 1, “Identify Problems and Opportunities”
- (2) The client’s objectives from Step 2, “Determining Objectives”
- (3) Physical, cultural resource and historic property, social, economic, and ecological information pertaining to the planning area and related areas
- (4) Resource data and analysis from Step 3, “Inventory Resources,” and Step 4, “Analyze Resource Data”
- (5) FOTG

E. Products

- (1) A set of alternatives that are compatible with client and NRCS objectives and address the identified resource concerns
- (2) Assistance notes

F. Step 5 – Formulate Alternatives - Activities

WHAT	HOW
1. Build the conservation system alternatives.	<ul style="list-style-type: none">• Become familiar with resource concerns identified in Step 3, “Inventory Resources,” and Step 4, “Analyze Resource Data,” and the types of systems commonly used to address those concerns.• Solicit assistance from technical specialists at NRCS or other agencies and organizations if the complexity of resource issues or specific responsibility for certain resource issues requires their input.• Include all requirements to comply with existing laws and special environmental concerns.• Designate the proposed primary land use for each alternative in terms of both the client’s and NRCS’s designation.• Select the potential practices to meet the client’s specific needs and address the identified resource concerns. Take into account existing practices or management measures that do not currently meet NRCS standards.• List the practices and estimated planned amounts necessary to meet the planned level of treatment.• Create additional alternatives to provide the client with multiple feasible approaches to address their objectives and identified resource concerns.• Document EE data per State, Tribal, Territorial, and Federal guidance.

WHAT	HOW
	<ul style="list-style-type: none"> Enter assistance notes, as appropriate, to capture discussions between the client and planner during the development of alternatives.

600.26 Step 6 – Evaluate Alternatives

A. Description - Evaluate the alternatives to determine their effectiveness in addressing the client's identified resource concerns, opportunities, and objectives. Attention must be given to those ecological values protected by law or Executive order. See Section 600.1, "References."

B. General - The purpose of evaluating alternatives is to provide the client with the information needed to select the desired alternative. This provides the client further opportunity to be involved in the planning process and maximizes the likelihood of full implementation, including proper operation and maintenance. During the evaluation of alternatives, careful consideration must be given to social, economic, and ecological resource factors that influence planning and decision making. The planner may need to revisit any or all of the previous steps during discussions with the client or during any part of the evaluation.



Figure 600-C6: Conservationists and client evaluating forage in pasture.

C. Environmental Evaluation - Federal law requires NRCS planners to consider the environmental consequences of recommended actions and to provide decision makers information about the actions that might significantly affect the human environment. Therefore, planners must assess the physical effects of planned actions during the planning process. Planning to address issues with the natural resources and their interrelationships is complex. A conservation practice with a positive effect on one resource may have a negative effect on another. Therefore, planners must be aware of and

consider the effects of recommended actions on all resources even when the assistance provided only addresses individual resource concerns.

D. Purpose - This guidance emphasizes the reality that resources are interrelated and that the treatment of one resource may affect another. It also shows the importance of formulating alternative conservation systems in recognition of these interrelationships by providing a process that—

- (1) Starts with identified client objectives and the determination of resource concerns.
- (2) Considers the effects of practices on each resource.
- (3) Facilitates combining complementary practices in the alternative systems.
- (4) Helps evaluate the potential options against the planning criteria.
- (5) Provides a scientific and economic basis for decisions.

E. Conservation Effects - The conservation effects process is useful in formulating and evaluating conservation system alternatives. Using the CPPE matrix and the Conservation Practice Network Effect Diagrams helps planners communicate with decision makers the physical effects of conservation practices, so they can determine if proposed alternative systems solve identified resource concerns, while being reasonably certain that the recommended treatment will not create new problems.

F. Network Effect Diagrams - Network effect diagrams, found in the National Handbook of Conservation Practices, are flow charts that represent an overview of expert consensus on the direct, indirect, and cumulative effects of installing proposed practices. Network effect diagrams show the potential positive and negative outcomes of practice installation and are useful as a reference point for evaluating the effects of alternative systems.

G. Conservation Practice Physical Effects (CPPE) - The CPPE documents, found in the FOTG, Section V, and the National Handbook of Conservation Practices, display in subjective terms the physical effects conservation practices have on the natural resources and their associated problems or concerns. See also Subpart E, 600.40, “Support Guidance for Conservation Effects.” Technical specialists document in the CPPE the practice effects based on their experience and available technical information. See 450-GM, Part 401, Subpart A, Section 401.1A(5), for additional information.

- (1) When creating the CPPE, the question is presented, "When this practice is installed in accordance with NRCS practice standards and is fully functional, what effect will it have on the various resource concerns?" The answer is in the form of a rating that represents the practice's effect on the resource concern, and the magnitude of the effect.
 - (i) The following terms define “effect” values:
 - No Effect - The conservation practice being evaluated has no discernible effect on the resource concern identified.
 - Worsening - The conservation practice further deteriorates the condition of the resource.
 - Improvement - The conservation practice improves the condition of the resource.
 - (ii) The following terms express the magnitude of the effects:
 - Slight - Some effect (positive or negative) of the practice on the resource, but not enough to influence the decision to select the practice to solve the problem.
 - Moderate - A measurable effect (positive or negative) of the practice on the resource.
 - Substantial - A significant measurable effect (positive or negative) of the practice on the resource.
- (2) National technical specialists with responsibility for a given practice establish CPPE values for each conservation practice. The effects listed in the national CPPE represent general conditions nationwide.

Example: The national agronomist determines that generally, the implementation of Residue and Tillage Management, No Till/Strip Till/Direct Seed (329) will significantly reduce the sheet and rill erosion problem because of increased surface cover and decreased soil disturbance. Therefore, a value is entered as “Substantial Improvement” to the Soil Erosion – Sheet and Rill Erosion resource concern. However, the implementation of 329 may cause a slight increase in soluble nitrate nitrogen infiltration depending on the time and method of application, rainfall, nutrient form, organic matter, soil texture, and depth to water table, and therefore a value is entered as “Moderate Worsening” to the Water Quality Degradation – Nutrients in Groundwater resource concern.

- (3) Since data on the CPPE are national in scope, State-level offices are encouraged to review and localize the information as necessary to reflect those effects expected to occur under local conditions. Each State will review and, if needed, edit the values in the national CPPE based on local knowledge and experience to reflect typical conditions in their State. It is imperative that States use an interdisciplinary group to refine existing entries to ensure proper consideration of all effects to all of the resource concerns.
- (4) If a State modifies the national CPPE, the State will provide a description of the local conditions and a depiction of the typical practice installation to justify the change. A well-written description of the typical practice installation will aid the planner when it comes time to conduct site-specific analysis.

Example: The national agronomist determined that, in general, the implementation of Residue Management, Seasonal (344) results in a “Slight to Moderate Reduction” in the Soil Erosion – Wind problem. However, a State agronomist observes that with the implementation of Residue Management, Seasonal (344) the reduction of wind erosion is significant because the critical wind erosion period occurs when the soil is covered with residue or crop. The State agronomist will change the value to “Substantial Improvement” in the Soil Erosion – Wind resource concern, with a rationale statement as to why the practice has been deemed to have a “Significant” rather than a “Slight to Moderate” reduction in the wind erosion resource concern.

H. Use the Effects Concept and CPPE in Conservation Planning

- (1) After planners formulate an alternative conservation system, they use their State’s CPPE and the Conservation Practice Network Effect Diagrams as guides to refine the evaluation of effects of practices to reflect the site-specific environmental conditions and practice design.
- (2) Planners also use the CPPE and Network effect diagrams to identify potential negative effects on resources that may result from the implementation of practices. If the CPPE indicated the potential for a negative effect or, if through experience, planners discern that a practice may result in a negative effect, planners may need to add one or more additional practices to the system in order to mitigate for predictable degradation of resources. In such situations, planners will add these newly selected practices to the alternative system and once again evaluate the site-specific practice effects on the identified resource concerns. Planners will repeat this process until they develop a combination of practices that—
 - (i) Meets the client’s objectives.
 - (ii) Meets the planning criteria for the identified resource concerns.
 - (iii) Has mitigated all negative effects.
- (3) When a client considers a land use change as an option, the planner will evaluate the effects of practices used to facilitate the land use change against present conditions. The planner will evaluate the effects of practices necessary to manage the new land use based on the new land use.

Example: Where cropland is to be converted to pasture, initially evaluate the effects of pasture planting for the resource concerns identified on the crop field. Pasture planting will significantly reduce sheet and rill erosion that occurs with the existing cropping system. Then, evaluate the potential resource concerns that may occur after conversion to pasture. Pasture grazing may cause a water quality concern indicating the need for filter strips and fencing.

- (4) Displaying the positive and negative effects of alternative conservation systems allows the decision maker to compare the various alternatives and better understand the benefits of all their options so they can select the one that best meets their objectives.

Example: Alternative #1 is very effective in treating soil related resource concerns and is not quite as effective in treating one or more of the other resources. In contrast, alternative #2 is very effective in treating the water and animal resources and not quite as effective in treating the soil resource concerns.

- (5) Site-specific evaluations of the effects of conservation system alternatives are required.

I. Cumulative Effects - When clients apply systems that address the same resource concern on several PLUs in a watershed, significant cumulative or synergistic effects are probable. Planners may consult the Conservation Practice Network Effect Diagrams as they consider the outcomes of treatment applied to surrounding land when conducting effects evaluations. The CPPE does not reflect the potential of cumulative effects.

Example: The evaluation of effects of a conservation system treating a single PLU may indicate a slight improvement to the concern over sediment in surface waters. However, in a watershed consisting of several PLUs treated to reduce sediment delivery to a water body, an evaluation of the cumulative effect may indicate a moderate or significant positive reduction in the amount of sediment reaching the water body.

J. Planning Standard - The effects for each alternative are evaluated and the results are described. The alternatives are compared to existing conditions to evaluate their ability to solve identified problems and meet the client's objectives. The analysis includes evaluation of the direct, indirect, and cumulative effects.

K. Inputs

- (1) List of problems and opportunities developed during Step 1, "Identify Problems and Opportunities"
- (2) The client's objectives from Step 2, "Determine Objectives"
- (3) Data for existing condition from Step 4, "Analyze Resource Data"
- (4) List of alternatives from Step 5, "Formulate Alternatives"
- (5) FOTG
- (6) National Handbook of Conservation Practices – Network Effect Diagrams
- (7) Environmental and cultural resource and historic property evaluations
- (8) Program information and requirements

L. Products

- (1) An evaluation for each alternative that displays the effects (including the rationale supporting the effects determination) for the client to consider and use as a basis for decision making for the conservation plan
- (2) Technical assistance notes reflecting discussions between the planner and the client
- (3) Cost estimate for each alternative
- (4) List of applicable financial assistance programs

M. Step 6 – Evaluate Alternatives - Activities

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WHAT	HOW
1. Determine the effects of each alternative.	<ul style="list-style-type: none"> • Compare the effects of each alternative to the existing condition to estimate expected outcomes and determine the degree to which the client's resource objectives will be met by the implementation of each alternative. • Express effects in narrative terms or quantify in physical terms (e.g., tons per acre, parts per million, bushels per acre). Record the effects for each resource concern. • Verify that each alternative would comply with existing national, State, Territorial, local, and Tribal laws and regulations, as appropriate.
2. Evaluate each alternative for potential negative effects.	<ul style="list-style-type: none"> • Evaluate each alternative for potential negative effects. If an alternative is likely to result in an adverse effect to any resource (environmental, cultural resource/historic property, or human factor) modify alternative to mitigate potential damage and to conform to client objectives. • Evaluate the risk and uncertainty associated with each alternative. • Obtain State-level technical support in situations where an offered alternative leads to a program, procedure, or activity that has disproportionately adverse human health or environmental effects on minority or low-income populations (environmental justice not being positively served).
3. Identify potential sources of financial assistance.	<ul style="list-style-type: none"> • Identify sources of financial assistance through NRCS programs, or through other Federal, State, Territorial, Tribal, and local agencies or public interest groups. Awareness of these sources can aid the client in making decisions.
4. Review the alternatives and their effects with the client.	<ul style="list-style-type: none"> • Prepare an effects summary of each alternative that clearly displays the long-term and short-term ecological, economic, and social outcomes (i.e., land, labor, capital, and management). • Use a format that meets the needs of the client. Effects may be expressed using a range of formats from a simple narrative comparison to a complex, detailed accounting of the effects using automated tools. Often, a limited amount of detailed information is sufficient. • Consider the personal, social, and community background of the client to determine which effects have the most influence on the choice of an alternative. Values that cannot be quantified may be the most important to the client. • If requested by client, express the effects of alternatives in monetary terms. Estimate the monetary effects using least-cost (cost-effectiveness) analysis, cost-return analysis, partial budgeting, net present value analysis, break-even analysis, or internal rate of return.

WHAT	HOW
	<p>Cost information is available in the FOTG from discipline specialists, and other sources.</p> <ul style="list-style-type: none"> • Document environmental evaluation (EE) data per State, Tribal, Territorial, and Federal guidance. • Document discussions between the client and planner in assistance notes.

600.27 Step 7 – Make Decisions

A. Description - The client determines which alternatives to implement and the planner prepares the necessary documentation. Documentation includes recording the decision, preparing the conservation plan, the Environmental Evaluation Worksheet, (e.g. NRCS-CPA-52) and completing any necessary consultations or additional NEPA documents.

B. General - The planner assists the client in selecting conservation treatment alternatives. This step involves comparing conservation alternatives and the client selecting one or more for implementation.



Figure 600-C7: Conservationist and client shaking hands in crop field.

C. Planning Standard - A conservation system is selected based on the client's clear understanding of the effects for each alternative. The selection is recorded in the client's plan.

D. Inputs

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- (1) The analysis of all resources inventoried
- (2) A set of evaluated alternatives
- (3) Conservation effects information
- (4) FOTG, Section V

E. Products

- (1) The plan document with the selected alternative, including potential program or implementation opportunities, and operation and maintenance with approval by a certified conservation planner
- (2) Schedule of conservation system and practice implementation
- (3) Documentation of a NEPA finding
- (4) Revised conservation effects information
- (5) Assistance notes

F. Step 7 – Make Decisions - Activities

WHAT	HOW
1. Discuss the alternatives.	<ul style="list-style-type: none">• Set a date with the client to discuss the alternatives.• Discuss the advantages and disadvantages of each alternative, including constraints imposed by law.• Point out the beneficial and adverse effects for each alternative to aid the client in reaching a decision.• If the client chooses one or more of the alternatives, proceed to Item 2, “The client makes decisions.”• If the client chooses to implement only part of an alternative and a resource concern is not addressed, return to Step 6, “Evaluate Alternatives Activities,” and evaluate the client’s selected portion.• If the client does not choose one of the alternatives, yet is interested in exploring more options, return to one or more of the previous planning steps.• Discuss financial assistance options.
2. The client makes decisions.	<ul style="list-style-type: none">• Record the selected alternative as the planned system.• Schedule selected practices for implementation.• Explain the interdependency of certain practices as practice scheduling is completed.• Explain any Federal, State, Territorial, Tribal, or local regulations that may apply and potential permit requirements.• Adjust effects, if needed.• Inform client that if NRCS funding or other implementation assistance is sought, NRCS may need to meet consultation requirements and that some activities may be modified as a result.• Record assistance notes reflecting discussions with the client.

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WHAT	HOW
3. After the client selects an alternative to implement, prepare the plan documents.	<ul style="list-style-type: none"> • Prepare the plan documents. General guidance is provided below. However, detailed training and experience are necessary to understand proper sequence and scheduling of conservation practices, operation and maintenance requirements, and other facets of planning. • Prepare the conservation plan map, in accordance with Section 600.31, “Conservation Plan.” • Prepare the conservation plan, in accordance with Section 600.31, “Conservation Plan.” • Complete the environmental evaluation • Revise conservation effects, if needed. • Include an operation and maintenance plan or information. • As appropriate, refer to specific program requirements.
4. Deliver the plan to the client.	<ul style="list-style-type: none"> • Schedule a time to meet in person with the client. • Review plan with the client and discuss implementation. • The client signs the plan indicating acceptance of the conservation system alternatives. • Ensure that a certified conservation planner signs the plan for NRCS. • Provide copies of plan documents to client. • Document discussions with the client in the assistance notes.
5. Discuss the next follow-up or implementation assistance.	<ul style="list-style-type: none"> • Discuss need for follow-up assistance. • Discuss applicable compliance and program status review requirements.

600.28 Step 8 – Implement the Plan

A. Description - Implementing the plan includes providing technical assistance, and in many instances, financial assistance, for installing conservation practices and management systems. Implementation includes additional inventory and analysis necessary to provide implementation requirements, component plans, obtaining needed permits, funding, land rights, surveys, initial and final designs, inspections and certifications. It also includes providing instructions for the operation, maintenance, and management necessary to assure proper functioning of practices following installation.

B. General - Implementing a plan is the process of carrying out the conservation treatments that make up the planned conservation systems. Well-documented and understood decisions are a prerequisite to implementation of the plan. The client may be able to implement the plan without additional technical assistance. However, additional technical assistance is usually necessary, and plan revisions may be warranted. Additional information or documentation may be required by an implementation program or funding authority. Thorough and high-quality planning sets the stage for providing efficient and effective technical and financial assistance.

- (1) Implementation includes the design, layout, construction, inspection and certification, management, operation, and maintenance of planned systems and practices.
- (2) Specific financial assistance conservation program requirements and deadlines may also be involved and need to be considered when scheduling assistance with the client.
- (3) If USDA financial assistance is provided for implementing conservation practices, the environmental evaluation will include evaluation of the federal action. Participation in a USDA program may necessitate a review and updating the NEPA Findings section of the environmental evaluation.

C. Planning Standard - The client has adequate information and understanding to implement, operate, and maintain the planned conservation systems. Practices implemented with NRCS technical assistance will be installed in accordance with NRCS standards and practice specifications.

D. Inputs

- (1) Conservation plan
- (2) Case file data
- (3) Technical studies
- (4) Environmental evaluations and documents
- (5) Technical assistance
- (6) Financial assistance conservation program requirements
- (7) FOTG
- (8) National Engineering Handbook
- (9) Communication with clients and stakeholders

E. Products

- (1) Practice designs and implementation requirements
- (2) Survey notes
- (3) All necessary permits
- (4) Practice certification notes
- (5) Conservation practices applied
- (6) Conservation systems applied
- (7) Technical assistance notes
- (8) Financial Assistance Conservation Program contract, where applicable

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F. Step 8 – Implement the Plan - Activities

WHAT	HOW
1. Initiate NRCS assistance to install practices.	<ul style="list-style-type: none"> • A personal contact may be initiated by the client, NRCS or cooperating agency. It may be in the form of a letter, telephone call, agency Web tool, email, etc.
2. Become familiar with the conservation plan.	<ul style="list-style-type: none"> • Review the client's decisions and assistance notes. • Discuss the plan with the person who last updated the plan, if that person is available. If not, discuss with others in your field office familiar with the client or land. • Review the resource data, soils, topography, the environmental assessment, etc.
3. Review the plan with the client. If necessary, revise the existing plan or develop a new plan.	<ul style="list-style-type: none"> • Contact the client to schedule an appointment. Reconfirm before the date scheduled. • Discuss: <ul style="list-style-type: none"> ○ Client objectives ○ The implementation schedule ○ Costs ○ Financial assistance ○ Sequence of practice implementation ○ Operation and maintenance ○ Follow-up ○ Other factors • Track progress towards implementing the conservation plan. • Update the plan any time practices are considered for conservation program enrollment, so practice information, such as planned dates and amounts, meet program requirements. • If a plan revision is required, document the reason in assistance notes. Repeat the planning process, beginning with the appropriate planning step. • Consider the need to revise the environmental evaluation any time a conservation plan is changed.
4. Complete the field data collection, including surveys (if not already done) for practice	<ul style="list-style-type: none"> • Determine the type and intensity of additional data needed for design and implementation requirement purposes.

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WHAT	HOW
design and development of implementation requirements.	<ul style="list-style-type: none"> • Develop designs and implementation requirements, including component plans. • Discuss the practices scheduled to be applied. • Discuss needed easements, land rights, and permits. • Discuss timeframes of each step of the implementation process.
5. Complete practice designs and implementation requirements.	<ul style="list-style-type: none"> • Verify the practices, as designed, with the appropriate practice standards in the FOTG, Section IV. • Finalize the practice design and implementation requirements, using available agency automated design tools. <ul style="list-style-type: none"> ○ National (e.g., hydrology, open channel hydraulics, and surveying) ○ State-approved software • Identify the need for area or State office specialist assistance and request it accordingly. Otherwise, have a qualified member of the field office staff complete the design. Obtain and document required practice job approval authority. • If cultural resources or historic properties are present, consult with the NRCS cultural resource coordinator or specialist. Alternative designs or practices may be necessary. • If threatened or endangered (T&E) species are present, consult with the NRCS T&E specialist.
6. Review the designs, practice implementation requirements, and estimated costs with the client.	<ul style="list-style-type: none"> • Schedule an appointment with the client to review the designs. • Encourage the client to involve the contractor and anyone to be involved in managing the practice, in the review of designs and specifications. • Discuss the practice implementation requirements, in detail, with the client and the contractor. • Discuss permits, easements, and land rights, if needed. • Discuss roles of client, contractor, and NRCS staff during practice implementation. In most cases, clients will hire contractors that will work cooperatively with the client and NRCS staff. • Ensure the client is informed and directing the contractor's progress as needed.
7. Stake the treatment area as needed to define the location and extent of the practice or structure.	<ul style="list-style-type: none"> • Refer to discipline handbooks as listed in the reference section for procedures. • Involve the client, the contractor and all other appropriate parties in the practice layout. Remember, however, that the land manager

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WHAT	HOW
	<p>and contractor are not the clients. They are responsible to the client, not to NRCS!</p> <ul style="list-style-type: none"> • Make any needed adjustments in practice location, practice extent, and other specifications. • Consider the many safety issues that may be important in the design, layout and construction of conservation practices. See detailed guidance in the Title 210, National Engineering Manual, Part 503, “Safety,” and Title 210, National Engineering Handbook. • Inform the client of their responsibility to contact all applicable utilities in the project area, or a coordinated entity, such as 811, State One Call system, MISS UTILITY, DIG SAFE, etc., to check for any buried utilities and arrange for having identified utilities marked prior to construction.
<p>8. Provide practice implementation inspections, as needed.</p>	<ul style="list-style-type: none"> • Perform inspections throughout conservation practice construction or implementation. This activity may extend over 2 or 3 years on some management practices. • Take photographs of all underground components of practices prior to covering to document installation. • Some clients may do their own work and may need more detailed assistance than an experienced contractor would need. This may be especially true when they are constructing practices or dealing with management practices, such as prescribed grazing. • If, at any time during practice installation, it is determined that NRCS practice specifications, including safety standards, are not being followed, immediately notify the client orally and in writing as to what corrective action is needed. If corrective action is not taken, NRCS assistance will be withdrawn.
<p>9. Conduct a final certification of the practice.</p>	<ul style="list-style-type: none"> • Conduct the final inspection of the practice and record the installation data. Verify that each practice has been installed and meets standards and practice specifications, as designed. • Complete the needed measurements to determine the extent of the practices applied using approved methods that meet acceptable standards for accuracy. Example: feet of terraces or acres seeded or planted.
<p>10. Document the completed practice.</p>	<ul style="list-style-type: none"> • Sign and date the appropriate form certifying that the practice meets standards and practice specifications consistent with 450-GM, Part 407. • Document, in the case file, the extent of the practice certified and the date the practice was certified. Document only those practices that meet NRCS practice specifications.

WHAT	HOW
	<ul style="list-style-type: none"> • Enter the applied/certified amounts of all completed practices in the practice schedule, using agency approved planning software. • Document all certified practices on plan map with correct symbology. • If financial assistance is involved, forward certification results to appropriate staff.
11. Review the operation and maintenance requirements with the client.	<ul style="list-style-type: none"> • Explain the need for and the benefits of proper operation and maintenance of the applied conservation practices. • Explain that periodic inspections are needed to ensure that the structural practices are functioning properly and to identify any need for repair.
12. Schedule follow-up assistance.	<ul style="list-style-type: none"> • Review the planned sequence of practice implementation. • Schedule next practice to be implemented, if possible. • Agree on the implementation dates with the client and record them in the case file. • Revise plan, if necessary.
13. Document technical assistance notes.	<ul style="list-style-type: none"> • Record all significant activities in assistance notes. • Ensure that discussions with the clients and contractors are adequately documented to reflect agreements. • Include implementation, maintenance, and follow-up information in assistance notes.

600.29 Step 9 – Evaluate the Plan

A. Description - Evaluate the effectiveness of the implemented plan to ensure that it is functioning as planned and achieving the objectives. Identify reasons for lack of progress in plan implementation, if applicable. Obtain information on the results of the applied treatment and where the actual results differ from those anticipated and provide feedback into the planning process. This could include revision of planning criteria, changes to current practice standards and practice specifications, revision of other FOTG data, and modifications to the plan. Also take the opportunity to encourage the client to continue plan implementation.

B. General - Conservation planning is an ongoing process that continues after the plan has been implemented. Continue contact with the client to evaluate operation and maintenance needs and to determine if management systems and practices are performing properly and meeting both the client's and NRCS's objectives. Onsite visits are a required part of this process.

- (1) Technology may be developed through field observation of practices that have been implemented. Every planning area serves as a potential laboratory to help in the continuous process of improving alternative treatments for natural resource problems and concerns, and to take advantage of opportunities. This type of information can also help to focus on research needed.

- (2) The process of monitoring, evaluating, and experimenting in order to add to resource management information and modify decisions is known as adaptive management.
- (3) The key to successfully evaluating the results of a plan is to take advantage of the synergistic effect of the client, planner, and technical specialists working together as they make observations and record the data. The planner can enlist the help of the technical specialists and non-agency partners, as appropriate.



Figure 600-C8: Conservationists and client discussing a plan in the field.

C. Planning Standard - The planner maintains contact with the client to determine whether the implementation results are meeting ecological, economic, and social objectives and solving resource concerns in a manner satisfactory to the client and beneficial to the resources. Resource effects that are different from those predicted are fed back into the FOTG development process (adaptive management).

D. Inputs

- (1) The conservation plan
- (2) Results of previous evaluations
- (3) Onsite observation and data available from the client
- (4) New or modified objectives or needs of the client
- (5) Appropriate new technology
- (6) FOTG

E. Products

- (1) Operations and maintenance (O&M) reports
- (2) Outline of maintenance needs or other changes
- (3) A decision to update or revise the plan, if needed
- (4) Technical assistance notes, indicating the effectiveness of the plan
- (5) Case studies, if appropriate, following the guidance provided in the FOTG, Section V

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- (6) Recommendations for changes in practice standards, practice specifications, or designs
- (7) Recommendations for changes in FOTG materials
- (8) A decision to revise or expand implementation strategies
- (9) Updated conservation plan effects
- (10) Updated CPPE and guidance documents

F. Step 9 – Evaluate the Plan - Activities

WHAT	HOW
1. Meet with the client to evaluate the plan.	<ul style="list-style-type: none">• Schedule an appointment with the client to evaluate the plan activities.• This may be initiated by NRCS, the conservation district, TSP, or the client, by means of personal contact, letter, Internet, electronically, email, or telephone call.• If a TSP or other third-party service provider was involved in developing the plan or component plans, they will be asked to participate in the evaluation.
2. Prepare for follow-up and evaluation with the client.	<ul style="list-style-type: none">• Review the conservation plan, planning and assistance notes, and the resource concerns for which the system was developed.• Review the client's objectives.• Review the resource data.• Discuss the plan with the last person to provide technical assistance, if possible.• Review the practice implementation information, including designs and construction notes.• Review the operation and maintenance plan.• Confirm the date scheduled with the client.

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WHAT	HOW
<p>3. Review and evaluate the plan with the client.</p>	<ul style="list-style-type: none"> • Observe the performance of each applied conservation practice in the field for structural practices and review component management plans for management practices. • Determine if the practices and management systems are solving the identified resource concerns and meeting ecological, economic, and social objectives. • Solicit feedback from the client concerning the effectiveness of applied practices and management systems. Discuss with the client routine operation and maintenance as well as needed maintenance of damaged or nonfunctioning practices. • Determine the type of technical assistance needed to restore a practice, if needed. • Encourage the client to make repairs promptly, so the function of the practices is not further impaired. • Encourage the client to complete any additional planned conservation practices on schedule. • Revisit the plan and determine if the client is ready to progress to a higher level of planning.
<p>4. Determine if adjustments are needed for management practices or systems.</p>	<ul style="list-style-type: none"> • Compare the actual effects of practices with the planned effects. • Consider the effects in terms of ecological, economic, and social factors considered important by the client and NRCS. • Determine the actual effects of applied conservation treatment by measurement, judgment, models, and observation. • Review the effects, onsite and offsite. • Where the effects are significantly different than anticipated, submit a summary of the effects to the State Conservationist for possible inclusion into the FOTG. • Adjust the conservation system evaluations to reflect actual or predicted effects of the system. • Determine the client's acceptance of and satisfaction with, the conservation treatment applied, and the technical assistance provided. • Determine if the client's objectives have been met.
<p>5. Evaluate the status of conservation district cooperator working arrangements.</p>	<ul style="list-style-type: none"> • Inform the conservation district of the client's progress in carrying out planning and implementation consistent with district program objectives, NRCS program objectives, or both. • Keep the conservation district informed of any problems.

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WHAT	HOW
6. Determine the need for a plan revision, development of a new plan, or cancellation of the plan.	<ul style="list-style-type: none">• Determine if the client no longer owns or operates the land included in the conservation plan. Make changes as necessary.• If the conservation plan needs revision, or a new plan is needed, repeat Step 1, “Identify Problems and Opportunities,” through Step 7, “Make Decisions.”
7. Revise the plan	<ul style="list-style-type: none">• Revise the plan if necessary.
8. Update the assistance notes.	<ul style="list-style-type: none">• Enter assistance notes to capture planner interactions with the client.
9. Conduct a case study, if appropriate.	<ul style="list-style-type: none">• Follow the procedures in the FOTG, Section V. Utilize assistance from other agencies, etc., as appropriate.

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Subpart D – Plan Format and Content

600.30 Introduction

- A. The conservation plan is developed jointly by the client and the planner, for the client's and planner's use to record decisions for natural resource protection, conservation, and enhancement. The NRCS copy of the plan is maintained in hardcopy or electronically, as appropriate.
- B. Decisions and resource information needed during implementation and maintenance of the plan are recorded throughout the planning process. The plan narrative and supporting information provide guidance for implementation and may serve as a basis for compliance and program funding through Federal, State, Tribal, Territorial, or local financial support initiatives. Assistance notes are recorded at each step in the planning process to document important points or discussions with the client.
- C. The following guidance helps to maintain quality and provide appropriate documentation of a plan. Though this section outlines required items to be included in a plan, the plan content will be tailored to the client's needs.

600.31 Conservation Plan

- A. The plan documents provided to the client must be of good quality and contain meaningful information for the client. The documents may be provided to the client electronically or as hardcopy.
- (1) Maps. Maps provide a visual representation of where conservation practices will be applied, location of different soil types or ecological sites, location of various utilities and other important resource information. At a minimum, each map will include the following:
- (i) Title block showing the following:
 - Title of map (e.g. Conservation Plan Map, Soils Map, etc.)
 - Client's name (individual or business)
 - county and State where the land is located
 - Date the plan was prepared
 - (ii) Scale of the map
 - (iii) Information needed to locate the planning area (e.g. geographic coordinates, public land survey coordinates, address, etc.)
 - (iv) North arrow
 - (v) Appropriate map symbols as needed
 - (vi) Map symbol legend on the map or as an attachment
- (2) Types of Maps
- (i) A conservation plan map. This may consist of several map documents to account for the entire planning area. The plan map and record of client decisions are used together to show when, where and to what extent a practice will be installed. This map is required for all conservation plans. The conservation plan map will specifically include the following items:
 - Boundary lines for the PLUs with identifiers (PLU name, PLU number, or both)
 - Land-use designation and applicable land use modifiers for each PLU
 - Acreage for each PLU
 - Location of planned and applied conservation practices that are less than the full footprint of the PLU (planned/applied acres < PLU acres), using NRCS map symbols

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- (ii) Soils maps and other resource maps, as needed to show locations of resource features such as soil types, ecological sites, grazing paddocks, forest types, etc. These maps will include appropriate interpretations, such as soil descriptions or ecological site descriptions.
- (iii) Land status map if the conservation plan includes non-private lands, such as Federal or Tribal lands. The map will display land ownership categories such as private, State, Trust, BLM, Tribal, Territorial, etc.
- (3) A record of the client's decisions (plan document). This document includes a schedule to apply the conservation practices and the planned extents for those practices. This document is used with the conservation plan map and implementation requirements to provide the client the information needed to implement the conservation plan.
 - (i) The plan document includes the following:
 - PLU identifier (PLU name, PLU number, or both)
 - NRCS practice name and code
 - Amount or estimated amount to be applied (update amount when practice design is completed and when financial assistance is requested)
 - Brief description of the practice (practice narrative or definition)
 - Date the planned practice is scheduled to be implemented (update when financial assistance is requested)
 - Certified amount of practice applied (after implementation)
 - Date practice was certified (after implementation)
 - (4) Other Information
 - (i) A folder, binder, or other means to assemble the contents of the plan (if hardcopy).
 - (ii) Operation and maintenance agreements and procedures.
 - (iii) Practice designs, if completed at this time. Some designs may also be kept in the office file under the client's name when size limits duplication. If designs are not available at this time, the client will be made aware of the need to make sure designs are complete and have been delivered to them prior to implementation of any of the scheduled conservation practices.
 - (iv) Applicable "Conservation Practice Overview" sheets, specifications and implementation requirements, component plans and other prepared material if completed at this time.
 - (v) Appropriate worksheets developed with the client if needed to implement the plan. Worksheets include such things as forage inventories, erosion estimates, and cost estimates.
 - (vi) Information reflecting site-specific practice effects, based on onsite visits if needed to implement the plan.
 - (vii) Available maps, sketches, and supporting information resulting from the planning process that will be useful to the client in implementing the plan.
 - (viii) Conservation district cooperative agreement, where applicable.
- B. Some component plans have specific plan requirements in addition to the items listed above. See subpart G, 600.60, for policy guidance to address these special plan requirements.
- C. The NRCS case file contains the following (electronic or hard copy), as applicable:
 - (1) Client information
 - (2) Client's objectives
 - (3) Conservation plan and record of decisions (practice schedule)
 - (4) Assistance notes
 - (5) Geospatial layers for PLU, practices, resource inventory, etc.
 - (6) Maps – conservation plan, soils, etc.

- (7) Forms and worksheets used in developing and evaluating alternatives
- (8) Conservation district information related to the plan
- (9) Inventory and analysis information
- (10) Practice design, implementation requirements, and component plans
- (11) Engineering notes
- (12) Operation and maintenance agreements and plans
- (13) Documentation of applied practices
- (14) Photographs, audio and video files
- (15) Environmental documentation – Environmental Evaluation Worksheet (e.g. NRCS-CPA-52), and any other documents needed to meet the requirements of NEPA or other applicable environmental requirements, such as the Endangered Species Act
- (16) Financial contract documents
- (17) Product documents resulting from the planning process
- (18) Determinations (highly erodible land, wetland, etc.)
- (19) Receipt for services
- (20) Other appropriate supporting documents

600.32 Documentation of the Electronic Case File (RESERVED)

- A. NRCS will document and maintain conservation plan data using agency approved tools and the official planning database, National Planning and Agreements Database (NPAD).
- B. The following terms are important to maintaining electronic conservation plan data.
 - (1) Planning Land Unit (PLU). A PLU is a unique geographic area, defined by a polygon, which has a common land use and land use modifier; and is owned, operated, or managed by the same client(s).
 - (2) Spatial data. Information about the location and shapes of geographic features, and the relationship between them; usually stored as coordinates and topology.
 - (3) Topology. The spatial relationship between connecting or adjacent features in a geographic data layer.
 - (4) Geographic database. A collection of spatial data and its attributes; organized for efficient storage and retrieval.
- C. To ensure data integrity and to implement a national planning database that is current, accurate and useful for modeling and reporting purposes:
 - (1) The PLUs for all active conservation planning will be spatially located (digitized and attributed) in the proper geographic data layer (Active PLU Layer) in the agency's official conservation planning database.
 - (2) Each PLU in the Active PLU Layer will be associated with a unique geospatial boundary (polygon).
 - (3) The following Horizontal topology is required for PLUs in the Active PLU Layer:
 - (i) No overlapping of adjacent PLU boundaries (polygons).
 - (ii) No stacking of PLUs (polygons).
- D. Conservation Practices
 - (1) All planned conservation practices must be spatially located with its standard geometry (point, line or polygon) in the proper geographic data layer (Practice Layer) in the agency's official conservation planning database.
 - (2) All practices certified to meet NRCS standards and practice specifications that are less than the full footprint of the PLU (applied acres < PLU acres) must be digitized in its standard geometry (point, line or polygon).

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Subpart E – Support Guidance

600.40 Support Guidance for Conservation Effects

A. Purpose and Scope - Planners display and evaluate the effects of various conservation alternatives available to the client. The conservation effects process helps planners assist clients with their conservation decisions by—

- (1) Providing a framework in which to organize and present information that facilitates comparison of the positive (gains) and negative (losses) effects of a conservation alternative.
- (2) Permitting consideration of all ecological, economic, and social values pertinent to the evaluation.
- (3) Encouraging the employment of analytical tools at appropriate levels of sophistication to provide information.
- (4) Capitalizing on the knowledge and experience of planners and clients to foster interaction throughout the decision making process.

B. Framework - Effective conservation is in part dependent on the ability of the planner to integrate information from many disciplines, so the client can make a comprehensive evaluation. In essence, the conservation effects' role in conservation planning is to help systematically record and display effects information, so the client understands the implications of his or her decisions. Effects are defined as the measurable and describable results of treatments, practices, and systems.

C. The conservation effects process requires three categories of information, which include descriptions of—

- (1) The resource setting (e.g., predominant soils, rainfall, relationships to other planning areas).
- (2) The production and conservation systems expressed as the kinds, amounts, and timing of actions (e.g., crops, farming operations, conservation practices).
- (3) The effects of the production and conservation systems on ecological, economic, and social considerations (e.g., erosion rates, net income, habitat values).

D. The resource setting, kinds, amounts, and timing of actions and the effects of those actions are recorded in the case file.

E. Conservation Effects Concepts

- (1) Existing Condition - Planning efforts always identify the present condition of the planning area. The planner and client work together to develop a picture of existing enterprises, resource conditions, trends, resource concerns, opportunities, and objectives. The assistance provided is based upon SWAPAE+H resources. The description of existing conditions could include other inventories and evaluations as needed. It may include a description of current crops, farming practices, livestock type and condition, and available equipment. Consideration of sociological and economic characteristics is also needed. Planning objectives and the complexity of each situation determine the level of detail necessary for inventories and evaluations.
 - (i) For areawide conservation planning, points of reference other than the existing condition are sometimes used for discussion and comparison purposes. For instance, it is beneficial to forecast the resource conditions expected at some point in the future by just maintaining the current levels of resource management and treatment.
 - (ii) The objectives of the client affect the kind and amount of information gathered and evaluated. However, the formulation of planning objectives requires that the objectives

of society as well as those of the client be considered. The planning process must also identify opportunities. This creates a broader view that goes beyond the search for resource problems to recognize where resource enhancements may be achieved. For example, if a given area does not have a significant soil resource concern onsite, opportunities may still exist to make on-farm improvements that could increase efficiency and profitability, while at the same time reducing negative water or air quality effects offsite.

- (2) Alternatives - Alternatives that meet both client and societal objectives need to be considered after the existing condition and expected future trends are noted.
 - (i) An alternative treats one or more resource concerns. It may be a single practice or a system of practices. Proposed alternatives must be consistent with the FOTG. Apart from the FOTG, the experience and knowledge of the planner and decision maker are the main sources of information used for selection of the preferred alternative.
 - (ii) Certain steps or actions need to be taken to achieve a specific alternative. Examples include a change in cropping sequence; land use; time of seeding, tillage, or cultivation; structural improvements to the farm; or simply reducing the speed of a single tillage operation.
 - (iii) One of the most useful learning experiences for planners and clients is to visit land managers who have successful conservation treatments already applied. If successful on-farm experiences are documented and shared, such as case studies, the knowledge base of others, inside and outside the agency, could also be easily enhanced. Such experiences will be recorded first in physical and biological terms, rather than monetary ones, because monetary values are simply a translation of the former and can be expressed in current dollars at any time.
- (3) Effects - The proposed alternatives are compared with the existing condition to estimate the outcome of the actions. The effect of conservation alternatives is the difference between the existing condition and the proposed alternative. It will be recorded in an easy-to-understand manner for consideration by the decision maker.
- (4) Values - Each individual's values affect the relative merits of an effect. Ten additional quail may be a positive effect to one person and a negative one to another. An individual's values may be in harmony with society's best interest, or they may be in direct conflict. Once values have been applied to the effects, the positive and negative points may be listed. This listing can start out in a general manner and can then be expanded to more and more detailed levels. The procedure may involve traveling back through the decision-making process or producing increasingly sophisticated levels of detail on the same effect. The process is continued until the client has enough detail to make an informed decision. In most cases, the planner will estimate the costs and describe necessary maintenance for each of the alternatives. Often, a limited amount of detailed information is sufficient. Occasionally, however, a more complex analysis is needed. This is where the concepts presented in this handbook may help.

F. Case Studies - Information regarding the effects of conservation can be collected from any source, but in the absence of extensive research results or local expert knowledge, a case study is a convenient and relevant way to collect this information. A case study enables the conservation planner to document conservation systems currently used in a specific farming or ranching community, along with the motivations that led to their adoption. Having ready data about the effect of conservation systems enhances the client's ability to implement effective conservation technologies.

G. A case study is also a way to record conservation effects information. Resulting case studies become part of the FOTG, Section V, Part B (Conservation Effects).

- (1) Types of Case Studies - The three types of case studies are as follows:

- (i) A comparison of the "before and after treatment" conditions on a single site
 - (ii) A comparison of two separate but comparable resources and land use situations (sites) on different farms or even on the same farm (e.g., one site with and one without treatment)
 - (iii) A simple recording of client experiences with treatment on a single site regardless of the earlier conditions
- (2) Procedure - The FOTG, Section V, contains procedural references on guidance for the development and use of case studies as a source of conservation effects information. This is a useful reference for those interested in developing their own case study files.

H. The Conservation Effects Assessment Project (CEAP) is a multiagency effort to quantify the environmental effects of conservation practices and programs and develop the science base for managing the agricultural landscape for environmental quality. Project findings will be used to guide USDA conservation policy and program development and help conservationists and clients make more informed conservation decisions.

600.41 Integrating NEPA into the Planning Process

A. The National Environmental Policy Act (NEPA) requirements will be incorporated into all steps and activities of the planning process as applicable and will not be considered as a separate process or requirement. The level of NEPA documentation will depend on findings during the scoping process or the environmental evaluation. EEs, which may lead to an EA or EIS, will be conducted for all NRCS planning activities and will be used to help determine the level of NEPA documentation required. Planners will identify the level of NEPA documentation required for each planning activity as early in the planning process as possible and incorporate activities into each planning step to ensure that information required for NEPA documentation is developed simultaneously with the plan document. (Note that some programs such as the Watershed Program (PL-566) have specific planning procedures and plan content and format requirements. See the National Watershed Program Manual and Handbook.)

B. Specific guidance related to general NRCS environmental compliance for NEPA, as well as all special environmental concerns (SECs) can be found in Title 190, National Environmental Compliance Handbook (NECH), Part 610.

- (1) NRCS administers Federal assistance within the overall environmental policies outlined in 190-GM, Part 410, Subpart A, Section 410.3. It is important to note that NRCS policy is to consider environmental quality equal to economic, social, and other factors in decision making. These policies were developed to comply with the requirements established by the Council on Environmental Quality (CEQ), which requires Federal agencies to follow a systematic process when a Federal action is proposed. CEQ regulations that implement NEPA also require that Federal agencies promulgate their own regulations that implement NEPA for their actions.
- (2) NRCS regulations and policy implementing NEPA identify categories of activities that normally are categorically excluded, normally require an EA, and normally require an EIS. (See NRCS implementing regulations for NEPA in 7 CFR Part 650 and NRCS environmental compliance policy in 190-GM, Part 410.)
- (3) Refer to the NRCS NEPA compliance flowchart in the National Environmental Compliance Handbook (190-NECH, Part 610, Subpart H, Section 610.100).

C. Applicability of the Environmental Evaluation in the Conservation Planning Process - NRCS is required to conduct an EE for all planning and financial assistance, including, but not limited to the following:

- (1) Development of individual conservation plans (including component plans, such as nutrient management plans and CNMPs)
- (2) Areawide and watershed planning
- (3) Financial assistance in the form of grants (e.g., Conservation Innovation Grants (CIGs))
- (4) Conservation planning activities contracted to entities outside of NRCS
- (5) All NRCS conservation programs, including financial assistance and easement programs
- (6) Other State, Tribal, Territorial, or local programs that require NRCS approval (e.g., State cost-share program requiring NRCS approval of conservation practice completion)
- (7) The establishment of new structures associated with Snowpack Telemetry (SNOTEL) sites, plant material facilities, etc.
- (8) Propagation and release of plant materials
- (9) Emergency Watershed Program (EWP) damage survey reports (DSRs) (using the DSR form in the EWP Manual)
- (10) NRCS-assisted programs through other agencies (e.g. NRCS planning assistance to FSA programs like CRP and ECP)
- (11) compatible uses and infrastructure projects on NRCS easements (e.g., pipelines crossing easements)

D. The EE is used to determine the need for an EA or an EIS. Appropriate form, instructions and the worksheet can be found on the NRCS National Environmental Compliance Web site. An EE is not required when making Food Security Act highly erodible land (HEL) determinations or wetland determinations.

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

- (1) There is no Federal action, as defined by NEPA, subject to NRCS Federal regulations occurring that requires a NEPA document (see 190-NECH, Subpart D, Section 610.43, “The National Environmental Policy Act”).
- (2) The action is a Federal action that is categorically excluded with no extraordinary circumstances present, so no further documentation is needed (see 190-NECH, Subpart D, Section 610.46, “The National Environmental Policy Act”).
- (3) There is an existing NRCS State, Tribal, Territorial, regional, or national programmatic NEPA document that has sufficiently analyzed the Federal action and there are no predicted significant adverse effects or extraordinary circumstances (see 190-NECH, Subpart F, Section 610.81, “NEPA Tools for Efficiency”).
- (4) Another Federal agency’s NEPA document (EA or EIS) has been formally adopted by NRCS that sufficiently analyzes the specific action (see 190-NECH, Subpart F, Section 610.83, “NEPA Tools for Efficiency”).
- (5) The proposed action is a Federal action that has not been sufficiently analyzed or may involve predicted significant adverse environmental effects or extraordinary circumstances and may require an EA or EIS.

600.42 Working With Individuals and Groups

A. One of the key elements of an effective voluntary conservation program is the planner’s understanding of the factors that influence client behavior. This is true for both individuals and groups. Partnerships and alliances can play a role to identify behavioral characteristics, but the individual makes the change.

B. Working With Individuals - There are myriad factors within the human and physical environment that can shape individuals’ decisions relative to the adoption of conservation practices and systems. Personal values, as well as client needs and concerns, are shaped and reshaped by factors, such as

community characteristics (agribusiness support), agency and organizational assistance (training), regulation, and changing climate conditions. In dialoguing with the client throughout the nine-step planning process, the planner must stay abreast of changing needs and conditions that influence the conservation decision process.

- (1) From a financial standpoint, the planner must be aware of the economic factors that affect or result from conservation decisions, such as interest rates, market uncertainty, commodity prices, land tenure, taxes, land rights, customary rental agreements, costs, and farm programs. In addition, many personal characteristics, such as experience, education, background, and the working relationship with NRCS, partners, or the conservation district affect behavior.
- (2) Throughout the planning process, and especially in the inventory phase, the planner seeks to broaden his or her understanding of the client's willingness to adopt conservation plans. Listening and observing will reveal the barriers and incentives to a client's adoption of conservation systems and practices. It is the planner's responsibility to be aware of this information in order to help the client, as appropriate, address the barriers and seek incentives. The planner can discover why a client may be able or willing to adopt a conservation plan by considering questions, such as the following:
 - (i) Is there sufficient ecological, economic, and social information available for the client to make sound decisions, such as alternative systems, effects, impacts, and risks?
 - (ii) Is the system too complex for the client to install and operate?
 - (iii) Are adequate resources available, such as land and labor?
 - (iv) Is the planning and evaluation horizon of the client long enough to realize the benefits of the system?
 - (v) Is there a supporting network of agribusiness, agencies, or citizen groups to help the client install and manage the system?
 - (vi) Does the system require increased management skill to install, operate, and maintain, and if so, is training available to help bridge the gap?
 - (vii) Does NRCS information conflict with other agency or private sector information?
 - (viii) Is the system compatible with existing production goals and enterprises?
 - (ix) Are there any incentives or barriers to changing production methods?
 - (x) Are there USDA or other programs that influence the client?
 - (xi) Can the system be implemented on a small scale? On a large scale?
 - (xii) Are the effects visible?
 - (xiii) Have the risk and uncertainty in the analysis of the system been presented to the client?

C. Working with Groups - Building partnerships is another important component of successful voluntary conservation programs. This approach is based on encouraging local land managers and stakeholders to take a greater responsibility for managing the Nation's resources. This, in turn, can empower local people, reduce the Nation's dependence on regulation, leverage both dollars and human resources, and reduce duplication of personnel and programs across Federal, State, Tribal, Territorial, and local agencies. The overarching objective is to create a forum in which individual and group interests can be expressed and reconciled, thereby changing the attitudes and behavior of clients and stakeholders.

- (1) Coordinated Resource Management (CRM) is a collaborative, non-adversarial decision-making process. It is an example of one process that can be used for resource planning, problem solving, and conflict resolution and which allows for direct participation of everyone concerned with natural resource management in a given planning area.
- (2) CRM is based on the concept that coordinating the use and management of resources results in improving resource management, minimizing conflict, and solving problems. It focuses on resource needs, and is not limited by individual, agency, or political boundaries.

- (3) A guiding principle of CRM is that those who live, work, and recreate on a given piece of land are the people most interested in and capable of developing plans for its use. They assume ownership of the resulting plan.
- (4) The CRM process is well suited to developing areawide conservation plans. For more information on this process, see the Coordinated Resource Management Guidelines published by the Society for Range Management.
- (5) Developing a desired future condition held by a broad range of land managers, stakeholders, and agencies is essential for this approach to succeed. An interdisciplinary planning approach, where specialists and groups having different technical expertise act as a team to jointly evaluate existing and future environmental quality, can be very effective in bringing people with different interests together. In addition, the local team must identify critical success indicators or planning criteria to measure progress. Success can be measured using indicators, such as attitude changes, acceptance of involvement in an integrated planning process, significant ecological improvements, leveraged funds and personnel, and inputs by other agencies.

D. Historically Underserved Customers - In working with both individuals and groups, planners must be proactive in identifying historically underserved customers, such as minority, small producers with limited resources, beginning farmers and ranchers, and Tribes. They will ensure that technical assistance and program benefits offered to them are on an equal basis with traditional customers. Also, planners must be aware that barriers may exist that prohibit or discourage participation by these individuals and groups. Those barriers must be identified and addressed in order to ensure equity in program development and participation, and in the delivery of services under both federally assisted and federally conducted programs.

- (1) Examples of Barriers
 - (i) Limited Resources
 - (ii) Educational Background or Training
 - (iii) Lack of Equipment, Labor, or Capital
 - (iv) Language
 - (v) Culture
 - (vi) Farm Size
 - (vii) Lack of Access to Information
 - (viii) Limited Cash Flow
 - (ix) Discrimination
 - (x) Alternatives not culturally relevant
- (2) Examples of Actions to Overcome Barriers
 - (i) Educational meetings
 - (ii) Door-to-door contact
 - (iii) Videos
 - (iv) Focus group meetings
 - (v) Printing publications in the local language
 - (vi) Working with community leaders and Tribal elders
 - (vii) Conducting local demonstration projects
 - (viii) Learning about the client's culture
 - (ix) Increased cost-share level
 - (x) Matching conservation alternatives with client's needs and capabilities
 - (xi) Allowing in-kind labor or equipment for the client's contribution
- (3) These barriers and actions are not all-inclusive. They are meant to stimulate thought and action for identifying and effectively working with underserved customers.

E. Risk Management - Clients make conservation and production decisions in an environment dominated by risk and uncertainty. Risks arise from weather variability, price fluctuations in both inputs and outputs, changes in government programs, regulations, pest infestations, new technology, marketing strategies, financial conditions, and lack of information. The planner must be aware of these risks, how clients manage their risk, and how conservation effects information can help reduce risk.

- (1) The overriding problem in risk management is the lack of relevant, accurate information about probable outcomes. Clients react to the risk problem by using decision rules that mitigate risk (e.g., select the strategy with the best of the worst outcomes, the strategy that provides the least change, or the strategy that ensures survival because loans can be repaid). Clients also seek to reduce production risk by diversifying, selecting more stable enterprises, irrigating, and purchasing insurance (especially crop insurance).
- (2) Market risk can be reduced by spreading sales over time, hedging on the commodity futures market, contracting sales with processors, or participating in various programs. Financial risk can be mitigated by maintaining a cash reserve, using self-liquidating loans (loans that can be paid off with income from collateral; for example, loans for feeder livestock), and steadily increasing net worth.
- (3) Many conservation practices affect a client's risk level. For example, installing terraces may increase the producer's debt, reduce his or her income, and reduce options related to future equipment purchases. On the other hand, terraces can reduce the producer's risk by increasing water availability and preventing soil loss and the formation of gullies that lead to the loss of production and costly equipment repairs. Agronomic practices will have similar risk-increasing or risk-decreasing effects. In all cases, the conservation planner must work with the client to understand his or her risk tolerances and the effects of the conservation system on risk.
- (4) One of the key points to remember is that the risk of a conservation decision can be significantly reduced by providing the decision maker with clear, relevant information on what is needed to install and operate the conservation system, its costs, and the onsite and offsite ecological, economic, and social effects.

F. Stewardship - The term "stewardship" has been used since the beginning of the conservation movement. Webster defines stewardship as "the individual's responsibility to his life and property with proper regard to the rights of others." In this sense, stewardship implies that land managers view their actions in terms of how they affect their neighbors, their grandchildren, and all those that might be influenced by their production and conservation decisions.

Seen in this light, stewardship is about being responsible. It is about changing attitudes, forging local shared visions of the desired state for private and public natural resources, and facilitating the actions needed to realize the desired future condition. Institutionally, stewardship is about assisting land users to care for the resources.

G. Land Ethic - The three broad motives for conservation are self-interest, legislation, and ethics. Although self-interest and legislative motivations for conservation are most often addressed by the client and the conservation planner, the land or environmental ethic can play a powerful role in conservation adoption. Understanding the land ethic requires an appreciation of the role of ethics in day-to-day life.

- (1) In a formal sense, ethics is the science of moral duty that deals with idealized human behavior as it relates to achieving the greatest good. In a practical sense, ethics is expressed as a set of moral rules associated with how an individual interacts with other people and society. Whereas instincts impel a person to compete within the community, ethics induce him or her to cooperate within the community.

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- (2) In a natural resource setting, ethics can be applied to the relationship between humans and nature. In this context, the land ethic is associated with limitations on the range of actions that might be taken to maximize short-run profits or goals.
- (3) Developing an ethical relationship with the environment or land depends on individuals and society understanding of the ecological interconnectedness of the world. As our understanding of natural and human processes improves, the land ethic will evolve from a focus on individual resources, such as soil and water, to a focus on the biotic and abiotic community as a whole.
- (4) In Aldo Leopold's words, "...a system of conservation based solely on economic self-interest is hopelessly lopsided. It tends to ignore, and thus eventually to eliminate, many elements in the land community that lack commercial value, but that are (as far as we know) essential to its healthy functioning. It assumes, falsely, I think, that the economic parts of the biotic clock will function without the uneconomic parts. It tends to relegate to government many functions eventually too large, too complex, or too widely dispersed to be performed by government. An ethical obligation on the part of the private owner is the only visible remedy for these situations." (Aldo Leopold, *A Sand County Almanac*, 1949.)

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Subpart F – Areawide Conservation Planning

600.50 Areawide Conservation Planning

A. This handbook describes the planning process in detail and provides guidance on carrying out each planning step. The process itself is preceded by preplanning activities, which can play a critical role in the outcome and effectiveness of plan development.

B. What is an Areawide Conservation Plan?

- (1) Areawide conservation plans are voluntary, comprehensive plans for watersheds or other broad-based geographical areas. Areawide conservation plan development considers all natural resources in the planning area as well as relevant social and economic considerations. Plan development follows the established nine-step planning process to assist local people, through a voluntary locally led effort, to assess their natural resource conditions and needs, set goals, identify programs and other resources to achieve those goals, develop proposals and recommendations, implement solutions, and measure their success. The locally led effort should consider all Federal, State, and local conservation programs and private sector programs, singly and in combination, as tools to solve natural resource concerns.
- (2) The goal in an areawide conservation planning effort is to develop and implement an areawide conservation plan. Throughout the rest of this handbook, the term “areawide conservation plan” is used for that purpose. Where an areawide conservation planning effort is underway without authorized decision makers available, the product through planning step six is an areawide conservation assessment.

C. Who Develops an Areawide Conservation Plan?

NRCS may serve as the planner for areawide conservation plans or assessments or may only provide technical assistance. Technical assistance may include resource information or analysis from discipline specialist. Areawide conservation plans may be developed with informal or formal groups. These groups may include any combination of the following: landowners or operators with agricultural land uses, urban landowners, homeowner associations, agencies, groups, various entities, conservation clubs, schools, or any combination of these or other individuals or organizations. In an informal group, the group is generally the decision maker if they have the authority to make decisions and implement the plan. The decision maker in a formal group, such as an irrigation district or a watershed district, is generally a board of elected or appointed officials who have responsibility under law for developing and implementing areawide conservation plans.

D. Preplanning Activities and Considerations

- (1) Preplanning activities set the stage for conservation planning with the decision makers by ensuring that basic information is obtained and background information, necessary to initiate the planning process, is assembled.
- (2) The activities leading up to planning normally begin in one of three ways: Stakeholders from the potential planning area may contact the conservation district or NRCS to seek assistance in solving identified natural resource concerns or opportunities; NRCS, conservation district, or partner personnel may contact decision makers in potential planning area for the purpose of initiating planning activities; or proactive citizens may contact partners, the conservation district, or NRCS for planning assistance to prevent potential problems from occurring or to take advantage of opportunities.

- (3) Preplanning activities are important to set the stage for areawide planning. Several items should be addressed before planning steps are undertaken.
 - (i) Identify the decision makers and stakeholders who will participate in the planning process and their respective roles.
 - (ii) Establish an interdisciplinary team as appropriate to assist with preplanning activities. Obtain assistance from key individuals in the planning area to identify stakeholders within each underserved user group; limited resource, beginning, and socially disadvantaged and veteran land users and residents.
 - (iii) Invite all interested or effected agencies, organizations, and interest groups to participate. Broad involvement is the cornerstone to successful areawide planning. Their input is vital to the process. Leaving any of them out may cause problems later in the planning process.
 - (iv) Assess the statutory and policy requirements that are required or may affect the planning process.
 - (v) Assess the available resources, tools, and data sources that are available to assist in the planning process.
 - (vi) Describe in general terms the planning process and the expected benefits of having a conservation plan to the stakeholders.
 - (vii) Explain to the decision makers the roles and responsibilities of the decision makers and stakeholders and NRCS.
 - (viii) Explain the role of the conservation district and the relationship the district program has in making technical assistance available to land users.
 - (ix) Define the planning area on a map and geospatial layers.
 - (x) Assemble all needed information and data for use in planning. The FOTG is a principal source of reference material pertinent to the field office.
 - (xi) Identify other sources of information or technical assistance that may be available from other agencies, organizations, etc.

E. People, Partnerships, and Communities

(1) Strengthening Public Involvement

Complex natural resource issues and concerns are inevitable in any community. A variety of State and Federal programs are designed to respond to natural resource needs within the parameters of limited budgets and changing political support. NRCS was founded on the principle of having local landowners identify their goals, assist in developing conservation alternatives, and make decisions to meet their goals. Today, the agency, through locally led conservation and other processes, continues to utilize public involvement as a way to effectively help people conserve soil, water, and other resources.

Figure 600-F1

Areawide planning engages participants from the public, private, and nonprofit sectors. The commitment of stakeholders should be obtained before the planning process begins.

The participants in areawide planning are important also for the resources they bring to the table. People who have expertise in conservation science, landscape architecture, and related areas; political power and connections; or financial resources or an understanding of how to tap needed resources may be particularly helpful in moving an areawide planning process forward.

Possible decision makers...

Possible stakeholders in areawide planning include—

- *Elected officials of the State, regional, and local governments*
- *Planners, managers, and other employees of the State, regional, and local governments*
- *Conservation and water resource districts*
- *Indian Tribes*
- *Research scientists, including conservation biologists, landscape architects, etc.*
- *Nonprofit conservation organizations*
- *State or Federal natural resources or other related agencies*
- *Professors and graduate students in related departments of local universities (e.g., landscape architecture, regional planning, wildlife ecology, landscape ecology, etc.)*
- *Representatives of large and small landowner interests*
- *Industry representatives*
- *Real estate developers*
- *Citizens*

(2) Working With Community Leaders

- (i) Identifying and working with community leaders can be extremely beneficial when promoting conservation through locally led and watershed planning activities. It is even more crucial when working with underserved communities that have not previously worked with NRCS. The advantage of working with a community leader is that you will be working with someone who has already earned the community's trust. Gaining the community's trust will be a major hurdle for you to overcome. In some instances, it can take a period of months, if not years, for you to earn a community's trust. Identifying the right person or leader to work with you can help decrease the length of time it takes to accomplish your goals. If you do not work closely with a community leader, he or she can easily hamper your efforts.
- (ii) Leaders tend to stand out from other community members. Remember, the public is only marginally involved in most issues. Only about 5 percent of community members are directly involved in decision making, and not all of these people are community leaders. Research suggests that leaders might possess some, but certainly not all, of the following characteristics: good at giving instructions, empathetic, talkative, persistent, self-confident, popular, and original or creative.

(3) Developing and Maintaining a Network

A network is a system of relationships in which people exchange information and resources to achieve common goals or serve common interests. Networks are easy to join or leave and tend to be informal. However, networking can also take place through planned meetings. These meetings may or may not occur regularly and may or may not pursue joint initiatives.

Networking is a process for expanding resources while maintaining your organizational autonomy. For most, the motivating factor for being in a network is the access to valuable information and the expertise of others in the group. With more people involved, creativity and options increase. Networks can also provide a strong support system.

(4) Understanding Community Power Structures

Power in a community is the ability to affect the decision making process and the use of resources, both public and private, within a community or watershed group. Power is simply the capacity to bring about change. It is the energy that gets things done. All levels of the conservation partnership need to know about community power structures in order to more effectively implement and maintain locally led conservation initiatives. A community can be defined as a watershed, region, town, county, or other geographic or geopolitical boundary. Examining the concept of power involves looking at the sources and structures that influence local communities and exploring the relationships that shape cooperative efforts. The conservationist who has a basic understanding of social power and who can identify the power actors in a community can enhance the opportunity for success in conservation.

(5) Working With People of Different Cultures

- (i) NRCS offices across the continental United States, Alaska, Hawaii, and many U.S. territories constantly work with people of different cultures. While much of working successfully with people of different cultures is best learned on the job, there are some concepts and methods that have been shown to ease cross-cultural communications. Using such proven concepts and methods to work with people of other cultures will improve NRCS service delivery and build better relations with our expanding customer base.
- (ii) American society is changing rapidly. We are witnessing a growing number of different ethnic and racial groups in America. This increase affects agriculture and NRCS in two primary ways:
 - There is an increase in the number of producers who belong to different cultural groups.
 - The NRCS workforce is growing more culturally diverse.

(6) Using a Multidisciplinary Approach to Conduct a Situational Analysis

- (i) As a conservation planner, do you have a clear and detailed understanding of the social and natural resource processes operating in a geographic area or with a particular group of producers? If not, you may want to conduct a situational analysis. By conducting a situational analysis, conservation planners can discover needs and problems facing stakeholders. Determining the myriad of factors facing stakeholders allows you to customize the conservation planning process. This fact sheet will help you assess the internal and external factors that influence conservation activities, while meeting the goals of the producers and the community.
- (ii) Additional Information regarding working with people, partnerships, and communities can be found on the Conservation Planning and Technical Assistance Division (CPTAD) web site.

F. National Environmental Policy Act (NEPA)

- (1) NEPA is a law that became effective on January 1, 1970. NEPA was written to ensure that Federal decision makers take into account the environmental effects of their proposed actions and consider ways to avoid, minimize, or mitigate adverse effects before implementing the action. This is also the purpose of the NRCS environmental evaluation process.

- (2) USDA regulation 7 CFR Subtitle A, Part 1b, sets forth departmental policy related to NEPA. The regulation states that—
- (i) All policies and programs of the various USDA agencies must be planned, developed, and implemented so as to achieve the goals and to follow the procedures declared by NEPA in order to assure responsible stewardship of the environment for present and future generations.
 - (ii) Each USDA agency is responsible for compliance with this part, the regulations of Council on Environmental Quality (CEQ), and NEPA. Compliance will include the preparation and implementation of specific procedures and processes relating to the programs and activities of the individual agency, as necessary.

Figure 600-F2

NRCS Compliance with NEPA (i) All planning activities will be conducted in compliance with NEPA. See 180-NPPH, Part 600, Subpart D, Section 600.41, for more information on NEPA. This NPPH section provides additional planning guidance to assist planners in incorporating NEPA and other requirements into the planning process. NRCS policy for compliance with NEPA is located in the [Title 190, General Manual, Part 410, "Compliance with NEPA."](#)

(ii) NEPA will be incorporated into all steps and activities of the planning process and should not be considered as a separate process or requirement. The level of NEPA documentation will depend on findings during the scoping process or the environmental evaluation. Environmental evaluations, which may lead to an environmental assessment or environmental impact statement, will be conducted for all NRCS planning activities and will be used to help determine the level of NEPA documentation required.

(iii) Planners should identify the level of NEPA documentation required for each planning activity as early in the planning process as possible and incorporate activities into each planning step to ensure that information required for NEPA documentation is developed simultaneously with the plan document.

(iv) Following the guidance in this handbook will provide much of the information required for NEPA documentation. NEPA documentation may be published as a separate document or incorporated into the plan document. NRCS's programmatic NEPA documents may also contain additional NEPA compliance guidance for specific programs.

(v) The agency's specific responsibilities under NEPA and related laws (like the National Historic Preservation Act (NHPA) and the Endangered Species Act) vary depending upon the level of agency involvement and control. The agency's NEPA policy is designed to help planners meet the requirements of federal law and regulations and must be incorporated throughout the planning process, and likely revisited frequently, particularly as agency actions are defined and redefined.

G. Farmland Protection Policy Act (FPPA)

- (1) Pursuant to the Farmland Protection Policy Act, the Secretary of Agriculture, in cooperation with other Federal agencies, is required to—
- (i) Use the criteria to identify and take into account the adverse effects of their programs on the preservation of farmland.
 - (ii) Consider alternative actions, as appropriate, that could lessen adverse effects.
 - (iii) Ensure that programs, to the extent practicable, are compatible with State, local governmental, and private programs and policies to protect farmland.
- (2) The FPPA is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that, to the extent possible, Federal programs are administered to be compatible with State, local governmental, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every 2 years.

- (3) The FPPA does not authorize the Federal Government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.
- (4) For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest, pasture, crop, or associated ag land.

Figure 600-F3

Farmland Conversion Impact Rating Form

NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level.

The assessment is completed on Form AD-1006. The sponsoring agency completes the site assessment portion of the AD-1006, which assesses non-soil-related criteria such as the potential for impact on the local agricultural economy if the land is converted to nonfarm use and compatibility with existing agricultural use.

H. Land Evaluation Site Assessment

- (1) The land evaluation and site assessment (LESA) system helps State and local officials make sound decisions about land use. Combined with forest measures and rangeland parameters, LESA can provide a technical framework to numerically rank land parcels based on local resource evaluation and site considerations.
- (2) Land Evaluation
 - (i) In agricultural land evaluation, soils are rated and placed into groups ranging from the best to the least suited for a specific agricultural use, such as cropland, forestland, or rangeland. Then, a relative value is determined for each group. For example, the best group may be assigned a value of 100, while all other groups are assigned lower values. The land evaluation is based on data from the National Cooperative Soil Survey, often called the largest and most valuable natural resource database in the world.
 - (ii) LESA activities, such as measuring land and productivity, assist landowners and others prior to making land use conversions to nonagricultural uses.
- (3) Site Assessment
 - (i) Site assessment involves three major areas:
 - Non-soil factors related to agricultural use of a site
 - Factors related to development pressures
 - Other public values of a site
 - (ii) Each factor selected is assigned a range of possible values according to local needs and objectives. This process provides a rational, consistent, sound basis for making land use decisions.
- (4) Local Committee or Work Group

In most cases, one or more committees or work groups should be organized to assist and guide the development of a LESA system. In areas where an agricultural land protection committee already exists, no new committee should be needed.

Figure 600-F4

Land Evaluation and Site Assessment System Design

When LESA is applied, a value for land evaluation is combined with a value for site assessment to determine the total value of a specific site for agriculture. The higher the total value of a site, the higher the capabilities of that site for agricultural use.

The LESA system can help units of government meet the following two overall objectives:

- *Facilitate identification and protection of important agricultural land*
- *Assist in implementing farmland protection policies*

LESA systems should be designed for consistent use in all applications. LESA provides a framework where land evaluation and site assessment procedures are documented before individual sites are considered. This process allows different individuals to evaluate sites consistently, without bias.

LESA systems are based on existing knowledge, but should be flexible enough to accommodate differences within States, counties, or areas. A LESA system may be developed at various levels of government—State, county, or township—or for an area such as a USDA-designated major land resource area (MLRA). LESA utilizes soil survey information and interpretations that are widely available throughout the United States, and planning concepts and principles that are regularly used by community planners.

LESA systems do not take away the power of local or State officials to make land use decisions, but help them make rational, consistent, and sound land use decisions. To do this, LESA systems include local values and objectives identified by a local work group or committee that helps develop the system. For this reason, a LESA system should be developed at the governmental level where it will be used—State, county, township, or town.

Finally, LESA systems need to be dependable. Planners and others need a reliable system to evaluate land and to determine under what conditions agricultural land should or should not be converted to nonagricultural uses. Soil survey information provides technically sound data for the land evaluation part of LESA. Thorough documentation of the site assessment part of LESA provides reliable information. Involving a local work group in the development phase also lends credibility to the system.

Additional Information regarding working with LESA is contained in exhibit 2.

A full description design and use of LESA systems may be found in the [Land Evaluation Site Assessment Guidebook](#)

I. Areawide Conservation Planning Steps

- (1) The planning process for areawide conservation plans is the same as for individual conservation plans except for scope and scale that would add to both human and natural resource complexities. The process consists of nine steps, divided into three phases, which cover development, implementation, and evaluation. The planning process is not linear, but dynamic and iterative, and previously completed steps may be revisited and refined as more

information is gathered and the process proceeds. Complete and proper documentation is critical at each step of the planning process.

- (2) The next portion of subpart F describes the details for carrying out the nine steps of areawide planning. The planning standard sets the minimum quality level for each step. The inputs provide sources of information to plug into the process, while the products describe the outputs of each step. These lists are not all-inclusive; therefore, planners are encouraged to supplement them as needed.
- (3) Below is a detailed description of what items occur during each planning step along with recommendations on how to accomplish the items.

600.51 Phase I – Collection and Analysis

A. Step 1 – Identify Problems and Opportunities - Identify existing resource problems and concerns and potential opportunities in the planning area.

(1) Description

Identify existing, potential, and perceived natural resource problems, opportunities, and concerns in the planning area. This also provides the first opportunity to determine associated resource concerns and opportunities in interrelated planning areas. The identified problems and opportunities and the decision maker and stakeholder objectives guide the remainder of the planning process and are the basis for the purpose and need for action that are documented on Environmental Evaluation Worksheet, (e.g. NRCS-CPA-52). Initially, the decision makers, stakeholders, and planner may identify a limited number of resource concerns. As planning progresses and additional information is gathered, other resource concerns and opportunities may be identified. Additionally the Environmental Evaluation Worksheet, (e.g. NRCS-CPA-52) provides documentation that may be required in the development of NEPA documentation.

(2) General

Problem identification frequently begins the planning process and continues through the resource inventory and data analysis steps. Initial problems and opportunities are identified onsite based on readily available information and discussion with the decision makers and stakeholders. The planner may have additional information available relating to natural resource needs based on information available from the conservation district or other areawide conservation plans. Generally, this step will not be finalized until the resource data are analyzed in Step 4, “Analyze Resource Data,” although additional problems, opportunities, and concerns may be identified throughout the entire planning process. Some conservation alternatives may create additional indirect resource related issues and concerns that will need to be addressed by the planner and decision makers and stakeholder.

(3) Planning Standard

The decision makers’ resource problems, opportunities, and concerns are identified and documented.

(4) Inputs

- (i) Decision maker and stakeholder input
- (ii) The planner’s experience and knowledge of the area
- (iii) Common resource area information
- (iv) Conservation district long-range plan, annual plan, and priorities
- (v) Locally led assessments
- (vi) Other areawide conservation plans, or comprehensive plans where they exist

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- (vii) Information available from other sources, such as State and Federal agencies, universities, or centers of research
- (viii) Soil survey
- (ix) Discipline manuals and handbooks
- (x) FOTG, Sections I, II, III, and V
- (5) Products
 - (i) Identification and documentation of problems, opportunities, and concerns in the case file assistance notes
 - (ii) Communication with the decision makers
 - (iii) Mapping format, scale, precision, and role of technology
 - (iv) Base map with planning boundary
 - (v) Preliminary identification of SWAPAE+H resource problems and opportunities documented on base maps and short reports

Figure 600-F5

What	How	Resources and Tools
Identify the planning area and stakeholders.	<ul style="list-style-type: none"> Identify the decision makers and stakeholders associated with the planning area. 	<ul style="list-style-type: none"> NRCS past clients, conservation and water resource districts, other Federal, State, Tribal, and local government agencies
Complete an initial assessment of the planning area's problems, opportunities related to natural resources and human considerations.	<ul style="list-style-type: none"> Gather initial information about the area's problems, and opportunities Gather data on planning area existing conditions Identify resource concerns Identify stakeholders that may contribute to planning effort 	<ul style="list-style-type: none"> Interviews with decision makers, meetings with stakeholders Existing plans that include the planning area and any previous NRCS assessments and conservation plans
Establish an interdisciplinary planning team.	<ul style="list-style-type: none"> The planning team should consist of NRCS and non-NRCS technical specialists who have the expertise to effectively evaluate existing natural and cultural resource conditions and to make recommendations for the resolution of natural resource problems. 	<ul style="list-style-type: none"> Meetings with decision maker, meetings with stakeholders Planner's knowledge of available technical specialist in the area
Complete an initial reconnaissance of the planning area.	<ul style="list-style-type: none"> Conduct a field investigation of the planning area with the stakeholders. This should be done by the interdisciplinary team. Representatives of other agencies should be encouraged to participate. 	<ul style="list-style-type: none"> Interdisciplinary team's knowledge of planning area Initial assessment of planning area problems and opportunities
Record identified problems, opportunities, and concerns.	<ul style="list-style-type: none"> Develop a database of the decision makers and stakeholder's problems, opportunities, and concerns associated with all natural resources. Record and organize natural resource problems and opportunities into clear concise statements, resource concern worksheets. Document EE data per State, Tribal, Territorial, and 	<ul style="list-style-type: none"> Nominal group process or other facilitated group process

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What	How	Resources and Tools
	<ul style="list-style-type: none"> • Document stakeholder and decision maker meetings in assistance notes. 	
Garner stakeholder support the process involved in conducting an inventory and evaluation of the resources.	<ul style="list-style-type: none"> • Describe to stakeholders the steps of the conservation planning process. • Gain consensus on moving forward with the planning process. 	NRCS Social Sciences Team information and training

B. Step 2 – Determine Objectives - Identify and document the project objectives.

(1) Description

Determining decision maker's and stakeholder's planning objectives requires developing an understanding with the decision makers and stakeholder of the desired future conditions for the planning area as compared to the existing conditions. This is the purpose for the decision makers and stakeholders to take action. It includes the desired resource uses, resource problem reductions, onsite and offsite ecological protection, and production concerns. As resources are inventoried, their interactions are analyzed, and alternatives formulated, objectives may need to be reviewed and modified.

- (i) There may be times when withdrawal of technical assistance becomes necessary.
- (ii) Technical assistance may be withdrawn when decision maker's and stakeholder's objectives will result in a negative effect on natural resources, onsite or offsite.
- (iii) Technical assistance may also be withdrawn if a decision makers and stakeholder fails to comply with or will not agree to actions required to be taken by NRCS to comply with local, State, Tribal, Territorial, or Federal regulatory requirements.
- (iv) For additional information about withdrawing assistance, see Title 440, Conservation Programs Manual (CPM), Part 525, Subpart A, Section 525.4.

(2) General

The purpose of this planning step is to determine the stakeholders' planning objectives, based on the stakeholders' needs and values regarding the use, treatment, and management of the planning area.

- (i) Help the stakeholders think more broadly about the onsite and offsite problems and opportunities for natural resource protection or enhancement and to consider policy issues, such as State, Tribal, Territorial, and Federal laws or mandates.
- (ii) Assist the decision makers and stakeholder in making informed decisions that result in the wise use and conservation of resources. Due to the dynamic nature of the planning process, objectives may not be finalized until later in the planning process.
- (iii) Review the pertinent local, State, and regional program and legal requirements that could have an impact on current or potential activities of the decision makers. The purpose is to be more proactive in providing relevant information for the decision makers to make decisions. Begin to consider the decision makers' ability and willingness to meet the financial obligations necessary to implement conservation systems.
- (iv) Obtain information needed to comply with NEPA and other environmental laws, and to satisfy specific State or Federal program requirements (i.e., State non-point source pollution abatement mandates, USDA farm program eligibility requirements).

(3) Planning Standard

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Sufficient data and information are gathered to analyze and understand the natural resource conditions in the planning area.

(4) Inputs

- (i) Knowledgeable residents, for an areawide conservation planning situation
- (ii) Stated objectives, and resource problems and opportunities identified
- (iii) Aerial photography, soils maps, and other data collected during Step 1
- (iv) Inventory tools and procedures
- (v) State and Federal reports and evaluations (e.g., soil surveys, highly erodible land determinations, and census data).
- (vi) Previous resource inventories completed by NRCS or others
- (vii) Field observations and measurements
- (viii) FOTG resource references, soils information, planning criteria, and practice standards, sections

(5) Products

- (i) A list of the client's objectives recorded in the case file
- (ii) Assistance notes

Figure 600-F6

What	How	Resources and Tools
1. Reach consensus on the decision makers and stakeholder expectations for the planning effort.	<ul style="list-style-type: none"> Identify the decision makers and stakeholder desired future conditions for the planning area as compared to existing conditions. Identify project financial constraints and possible sources of funding. 	Decision maker and stakeholder meetings
2. Document the decision maker and stakeholder objectives.	<ul style="list-style-type: none"> Record and document the decision maker and stakeholder objectives in terms of the above expectations. Document decision maker and stakeholder meetings in assistance notes. Continue to document the decision maker and stakeholder objectives as they are better defined and understood, by the planner, decision makers, and stakeholders throughout the planning process. 	Nominal group process or other facilitated group process
3. Determine whether the decision maker and stakeholder objectives are consistent with those of the conservation district and NRCS.	<ul style="list-style-type: none"> Utilize the NRCS strategic plan, Chief's priorities, State resource assessment (SRA), district long-range plan, local work group priorities, and other local and State assessments to determine NRCS resource priorities. Explain NRCS priorities and targets to the stakeholders, so that it is understood why NRCS may need to withdraw assistance if the decision makers and stakeholder objectives result in a negative effect for other onsite or offsite resources. Document EE data per State, Tribal, Territorial, and Federal guidance. 	NRCS strategic plan Existing NRCS priorities State, Tribal, and Federal guidance

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What	How	Resources and Tools
4. Determine if NRCS has appropriate technology or resources.	<ul style="list-style-type: none"> Assess the technology and resources needed for this planning effort and their availability from NRCS. Identify appropriate agencies, groups, or other entities to participate as a partner in the planning process, when NRCS does not possess the appropriate technology or resources. 	NRCS staff Other Federal, State and local staff
5. Determine the need to continue the planning process.	<ul style="list-style-type: none"> Review the stated objectives and available resources with the stakeholders to determine if the NRCS planning process will continue, if other organization will assume lead for project, or if project will be discontinued. 	Decision maker and stakeholder meetings
6. Determine the next steps and a schedule to complete the planning process.	<ul style="list-style-type: none"> Determine what information and tool resources will be needed to start resource inventory process. Discuss with the stakeholders the tasks that need to be accomplished and the proposed timelines for completing the planning process. 	Decision maker and stakeholder meetings

C. Step 3 – Inventory Resources - Inventory and document the natural resources and their current onsite and offsite conditions and effects, as well as the economic and social considerations related to the resources.

(1) Description

Collect appropriate natural resource, economic, and social information about the planning area and related areas. Use this information to—

- (i) Identify existing or potential resource concerns or opportunities.
- (ii) Further define known existing and potential resource concerns and opportunities.
- (iii) Clarify resource concerns.
- (iv) Formulate and evaluate alternatives.
- (v) Gather pertinent information concerning the affected resources, the human considerations, and operation and management.

(2) General

Identify of SWAPAE+H resources and special environmental concerns (SECs) that are present and are the basis of all planning efforts. This information furthers the understanding of the presence of the natural resources in the planning area. Planners will inventory all applicable resources. The inventory will provide the planner the understanding of the existing natural resource conditions necessary to convey resource conditions to the stakeholders in a knowledgeable manner.

(3) Planning Standard

Sufficient data and information are gathered to analyze and understand the natural resource conditions in the planning area.

(4) Inputs

- (i) Knowledgeable stakeholders, for an areawide conservation planning situation
- (ii) Stated objectives, and resource problems and opportunities identified
- (iii) Aerial photography
- (iv) Inventory tools and procedures
- (v) State and Federal reports and evaluations (e.g., soil surveys, highly erodible land determinations, and census data).
- (vi) Previous resource inventories completed by NRCS or others

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- (vii) Field observations and measurements
- (viii) FOTG resource references, soils information, planning criteria, and practice standards, sections I, II, III, and IV
- (5) Products
 - (i) Detailed resource inventories of the planning unit, as well as related offsite information completed through self-assessment screening tools or workbook online programs
 - (ii) Information on human considerations
 - (iii) Identification of other ecological concerns, such as threatened and endangered species
 - (iv) Identification of cultural resources
 - (v) Identification of visual resources
 - (vi) Land units, locations, determinations, and decision makers and land relationships described
 - (vii) Identification of infrastructure physical features such as roads, houses, fences, power lines and other utilities
 - (viii) Identification of how the decision makers manage resources, including kinds, amounts, and timing of management activities
 - (ix) Benchmark data for the planning area
 - (x) Assistance notes for technical services provided to the decision makers

Figure 600-F7

What	How	Resources and Tools
1. Establish the types of inventories and degree of detail needed in the inventory.	<ul style="list-style-type: none"> Review the objectives developed in planning Step 2, “Determine Objectives,” as they relate to land uses, production goals, problems, opportunities, and other concerns. Select the appropriate inventories for each proposed land use, using the appropriate discipline handbooks for detailed guidance. Tailor the level of inventory detail to the complexity of the resource setting and the identified problems, opportunities, and objectives. 	Discipline specialist and literature reviews.
2. Collect available information.	<ul style="list-style-type: none"> Establish a list of potential resource concerns and opportunities by reviewing existing plans for the area. Identify factors that could hinder plan development and implementation, such as the project’s financial constraints, managerial skill levels, or commitment. Develop a list of State, Tribal, Territorial, and Federal mandates that currently affect or could affect existing operations. 	<ul style="list-style-type: none"> Soil Survey and other geographic information Conservation district long-range plans Previous areawide plans Existing watershed plans FOTG State and local existing regional or other land use plans Resources and expertise of others
3. Maintain good communications between the stakeholders and the planner through the resource inventory process.	<ul style="list-style-type: none"> Discuss the purpose and importance of the inventory process with the stakeholders. Emphasize to the stakeholders the importance of their knowledge of the planning area and associated resources. Emphasize that their input is essential. Explain what will be done during the inventory process and why. Estimate how much time is required to carry out the field inventories. 	Meetings with stakeholders

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What	How	Resources and Tools
	<ul style="list-style-type: none"> Always obtain permission from landowners before conducting onsite visits. 	
4. Conduct the inventory onsite. Include the stakeholders in the field inventory activities.	<ul style="list-style-type: none"> Familiarize yourself with the resource inventory methods. Follow inventory procedures as described in appropriate discipline handbooks and manuals. Use procedures and guidelines available for specific resource inventories, such as the Water Quality Indicators Guide and other assessment tools listed in the FOTG. Collect the information necessary to describe the existing condition (e.g., resources; types, amounts, and timing of operations and activities) and document. Document EE data per State, Tribal, Territorial, and Federal guidance. Determine the effectiveness of existing management measures and practices in addressing resource concerns. 	
5. Use natural resources as teaching aids while in the field with the stakeholders.	<ul style="list-style-type: none"> Encourage the stakeholders to experience "hands-on" participation in the inventory process by helping with data collection. This provides an opportunity for the stakeholders to learn conservation principles. Encourage the stakeholders to conduct actual measurements, such as clipping vegetation, checking soil conditions, boring trees, and recording information. 	
6. Record the resource inventory data to facilitate analysis in Step 4, "Analyze Resource Data."	<ul style="list-style-type: none"> Identify planning land units. Review, and update as necessary, planning land units with key information, including current land use. Update information on the relationships of the stakeholders on planning land units determined in planning Step 1, "Identify Problems and Opportunities," and Step 2, "Determine Objectives." Record utilities, easements, legal constraints, and determinations. Review soils information for each planning land unit. Record benchmark data Document discussion between planner and stakeholders in assistance notes. 	

D. Step 4 – Analyze Resource Data - Analyze the resource information gathered in Step 3, "Inventory Resources," to clearly define the existing natural resource conditions, along with economic and social issues related to the resources. Information from this step will help to further define and clarify problems, concerns, and opportunities.

(1) Description

Study the resource data and clearly define the natural resource conditions, including limitations to their use and potentials. This step provides the information needed to formulate and evaluate alternatives. The analyses should clearly establish the cause and effect relationships and provide information about existing and future conditions.

(2) General

- (i) To use the information gathered during the inventory process to full advantage, the planner must interpret the inventory data. Analysis is done to provide insight into natural resource information for the planner and to present that information in a meaningful and understandable form to the decision makers. The format in which information is presented to the decision makers has a significant influence on the decision making process.
 - (ii) For some resources, analysis methods are well established. They are described in corresponding NRCS technical discipline handbooks and manuals. The FOTG provides a list of technical references that relate to natural resource analysis. NRCS-approved automated analysis tools and reports generated can provide the planner and decision makers with basic inventory analysis data.
 - (iii) Analysis of the natural resource data will help clarify the products from planning steps 1 and 2. When developing an areawide conservation plan or updating a conservation partner long-range plan, if it is determined that new objectives will not be addressed by application of existing planning criteria, new localized criteria may be developed and submitted to the NRCS State specialists, through the local field office, for approval. These additional criteria, developed with guidance from NRCS, will be based on appropriate scientific guidance, local conditions, and input from partners, as needed.
 - (iv) At this point in the planning process, there should be agreement on problems, opportunities, and objectives. Upon completion of this planning step, the planning process moves into phase II (if other issues are identified, the planner may need to return to previous planning steps).
- (3) Planning Standard
- The existing condition is documented. Results are displayed in easily understood formats depicting current natural resource conditions, physical characteristics of the planning unit, and comparisons between existing and potential conditions. The causes of the resource problems are identified. An environmental evaluation is documented.
- (4) Inputs
- (i) Decision makers' objectives
 - (ii) Identified problems, opportunities, and concerns
 - (iii) Resource inventory data
 - (iv) FOTG, Sections I, II, III and V
 - (v) Resource evaluation tools (RUSLE, WEQ, etc.)
- (5) Products
- (i) A complete analysis of all resources inventoried
 - (ii) A clear statement of the existing condition of the planning unit and related areas
 - (iii) Environmental evaluation data
 - (iv) Cultural resources evaluation data
 - (v) Other program and legal evaluations data
 - (vi) Identification of the causes or conditions that resulted in the resource problems
 - (vii) A complete definition of problems, opportunities, and concerns (planning step 1 is completed to the extent that the decision makers and planner reach agreement)
 - (viii) A complete statement of objectives (planning step 2 is completed to the extent that the decision makers and planner reach agreement)
 - (ix) New planning criteria are established as needed

Figure 600-F8

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What	How	Resources and Tools
1. Determine the method of analyses to be completed.	<ul style="list-style-type: none"> • Determine the types of analyses to be completed by reviewing the project’s objectives, resource concerns, SECs, land and resource uses, and the location of the planning area. • Identify the resource considerations and determine the best method of calculating resource effects and outcomes. • Request appropriate agency, group, or entity for assistance after obtaining the decision maker’s concurrence, in instances where the type or extent of resource problems exceeds the expertise or resources available. 	<ul style="list-style-type: none"> • FOTG • Stakeholders and other resource agencies and groups.
2. Establish scope, intensity, degree of accuracy, and procedures to be used, utilizing discipline specialists as needed.	<ul style="list-style-type: none"> • Review the findings of the cultural resource/historic property inventory. • Recognize cause and effect relationships between planning areas. • Identify resource stressors, which are either natural or human-induced actions or events that cause changes in the existing condition of an ecological system. 	Discipline specialist and literature reviews
3. Conduct the analysis.	<ul style="list-style-type: none"> • Use procedures in appropriate discipline handbooks or manuals and automated analysis tools (e.g., RUSLE2, WEPS, etc.). 	
4. Compare the results of the analysis with planning criteria, problems, opportunities, and objectives.	<ul style="list-style-type: none"> • Compare the results of the analysis with the planning criteria in the FOTG and with the problems, opportunities, and objectives determined in planning Step 1, “Identify Problems and Opportunities,” and Step 2, “Determine Objectives.” • Use the inventory data that were collected, based on project objectives, to determine the type, amount, and extent of existing and potential resource concerns. 	<ul style="list-style-type: none"> • FOTG • Collected Data
5. Describe and record the existing condition.	<ul style="list-style-type: none"> • Describe and record the existing condition, including existing practices, identified resource concerns, human resources, and special environmental concerns. Include the type, amount, and location. Quantities are shown in standard units (e.g., tons per acre per year, parts per volume of water, yield per acre, etc.). • Document EE data per State, Tribal, Territorial, and Federal guidance. • Document discussion between planner stakeholders in assistance notes. 	
6. Produce resource maps and reports.	<ul style="list-style-type: none"> • Display the resource information on maps, showing the location and the extent of the condition. 	

600.52 Phase II – Decision Support

A. Step 5 – Formulate Alternatives - Formulate alternatives that will achieve the objectives, solve identified natural resource concerns, and take advantage of opportunities to improve or protect resource conditions, and demonstrate a variety of technical and economic implementation strategies.

(1) Description

- (i) Develop alternatives that will achieve the objectives of the decision makers, solve the identified problems, take advantage of opportunities, and prevent additional problems from occurring.
- (ii) A broad range of technically feasible alternatives should be developed with the stakeholders. Alternatives may include an appropriate mix of structural and nonstructural measures.
- (iii) Include measures that mitigate potential adverse impacts on the resources. Also consider the potential to address regulatory requirements, based on the decision makers' desires and objectives.

(2) General

- (i) This planning step begins phase II of the planning process. Revisit earlier steps if new objectives or concerns are identified.
- (ii) The purpose of formulating alternatives is to provide the most effective, efficient, and economical conservation treatments that meet planning criteria and are acceptable to the decision makers in solving problems, addressing opportunities, and meeting the stated objectives. These alternatives relate to identified problems and opportunities and are developed in view of the cultural, social, ecological, and economic conditions of the planning area.
- (iii) During the alternative formulation process, the planner can use the associated conservation system guides developed and located in the local FOTG. Identify the State and county in which the plan is being developed to reference localized conservation system guides.
- (iv) Include the stakeholders in the formulation of alternatives. This allows practical alternative formulation, improves decision making, and enhances the chances of successful implementation. For areawide conservation plans, it is essential that stakeholders, the public, special interest groups, and State and Federal agencies participate in the development of alternatives.
- (v) Develop enough alternatives to provide the decision makers with the opportunity to consider several possibilities.
- (vi) If incorrect or insufficient data has been assembled for formulating alternatives, the planner needs to return to planning steps 3 and 4 before proceeding.
- (vii) The planner must have a clear understanding of the problems, including cause and effect relationships. If it is noted that the problem is not clearly identified or defined, return to planning step 4 and review these concerns with the decision makers.

(3) Planning Standard

Alternative treatments are developed to meet planning criteria, the objectives of the decision makers, in conjunction with the stakeholders.

(4) Inputs

- (i) The decision makers and stakeholder objectives from planning step 2
- (ii) Physical, cultural resource, social, economic, and ecological information pertaining to the planning area and related areas
- (iii) List of resource problems, opportunities and concerns, from planning step 1
- (iv) Resource data and analysis from planning steps 3 and 4

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(v) FOTG
(5) Products

A description of the alternatives available to the decision makers

Figure 600-F9

What	How	Resources and Tools
1. Identify conservation systems and other treatments that will address the objectives from planning step 2, and the problems and opportunities from planning step 1. Consider both land treatment (nonstructural and structural) and preventive measures.	Obtain input from the public, special interest groups, Indian Tribes, and local, State, and Federal agencies.	Public meetings, Federal Register notices, and personal contacts with colleagues in other agencies.
2. Develop alternatives.	Make a preliminary evaluation of the effects of each system or practice. Formulate scenarios of future conditions if no accelerated action is taken. Group complementary measures that have a positive effect into alternatives. Each alternative should provide results that meet planning criteria.	Conservation Practice Physical Effects (CPPE), Conservation Effects Assessment Project (CEAP)
3. Estimate the costs and effects of each alternative.	Develop conceptual designs and cost estimates. Complete an initial estimate of ecological, social, and economic effects. Establish the acceptability of the alternatives to the stakeholders, the public, Indian tribes, and State and Federal agencies. Check to determine that the alternative is complete (contains all components, including operation and maintenance) to ensure that it will function as planned and will produce the desired effects. Include measures needed to mitigate any potential ecological damages.	Title 190, General Manual (GM), Part 410
4. Obtain decision makers and stakeholder input.	Keep the stakeholders involved in the process of developing alternatives. Discuss progress made toward alternative development with the stakeholders. Involve the stakeholders in identifying and formulating alternatives. For each alternative, evaluate the likelihood of acceptance.	Public involvement techniques
5. Record the alternatives	Make a record of the alternatives using a format that meets the needs of the stakeholders. Planners may use CPA-52 in the NPPH for documentation or a similar format.	

B. Step 6 – Evaluate Alternatives - Evaluate the alternatives to determine their effects in addressing the project objectives and the identified natural resource concerns and opportunities. Evaluate the projected effects on social, economic, and ecological concerns. Special attention must be given to those ecological values protected by law, treaty or Executive order.

(1) Description

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Evaluate the alternatives to determine their effectiveness in addressing the decision makers' problems, opportunities and objectives. Attention must be given to those ecological values protected by law, treaty or Executive order.

(2) General

- (i) The purpose of evaluating alternatives is to provide the decision makers with the information needed to make sound decisions. This provides the decision makers further opportunity to be involved in the planning process and maximizes the likelihood of full implementation, including proper operation and maintenance.
- (ii) During the evaluation of alternatives, careful consideration must be given to social, economic, and ecological resource factors that influence planning. The planner may discover a need to revisit any or all of the previous steps during discussions with the decision makers or during any part of the evaluation.

(3) Planning Standard

The effects of each alternative are evaluated and the impacts are described. The alternatives are compared to existing conditions to evaluate their ability to solve problems, meet planning criteria, and meet the decision makers' objectives.

(4) Inputs

- (i) The decision makers' objectives from planning step 2
- (ii) FOTG
- (iii) List of problems and opportunities developed during planning step 1
- (iv) Benchmark data from planning step 4
- (v) List of alternatives from planning step 5
- (vi) Environmental and cultural resource evaluations
- (vii) Program information and requirements

(5) Products

- (i) A set of practical alternatives that is compatible with decision makers and NRCS objectives
- (ii) A record of public participation for areawide conservation planning
- (iii) An evaluation, for each alternative, displaying the effects and impacts for the decision makers to consider and use as a basis for decision making for the conservation plan
- (iv) Technical assistance notes reflecting discussions between the planner and the decision makers

Figure 600-F10

What	How	Resources and Tools
1. Quantify the effects on the physical resources, where possible, both for the existing condition and each alternative.	Quantification of the effects should be done according to the action plan or as agreed-to by the interdisciplinary team. The level of detail in the evaluation of the effects for each alternative will vary, and become more refined, as needed, in the selection process. The decision makers, stakeholders, Indian Tribes, other agencies, and interest groups should be included in the quantification process.	<ul style="list-style-type: none"> • The FOTG and associated materials, such as references and technical notes; CPPE, "Site-Specific Practice Effects" worksheets; "Resource Management Systems Options" worksheets; and case studies. • Research publications, experiment station reports, water resource documents. • Simulation models.

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What	How	Resources and Tools
		<ul style="list-style-type: none"> • Effect quantities should be shown in standard units (e.g., tons per acre per year, parts per volume of water or concentrations, a visibility index, yield per acre, or number per acre).
2. Quantify effects of each alternative on social and economic considerations. Describe, in qualitative terms, effects that cannot be quantified.	<ul style="list-style-type: none"> • Consider the consequences of actions on larger and smaller planning areas and economic and social considerations. • If cultural resources are present, an evaluation is conducted according to policy 	<ul style="list-style-type: none"> • Interviews with stakeholders provide insight into the effects of the existing condition and proposed alternatives on human considerations. • 420-GM, Part 401 – Cultural Resources • 200-GM, Part 400 – Economics Policy
3. Convert effects to monetary terms. Detail is determined by the decision makers and stakeholder's desires. Consider the tradeoffs between short-term profit needs and long-term sustainability.	Estimate the costs of other effects must be estimated. The type, amount, and timing of actions included in the alternative should be included.	FOTG
4. Determine the beneficial and adverse impacts of each alternative.	<ul style="list-style-type: none"> • Compare the effects of each alternative to the existing. The stakeholders decide if the impacts are desirable or undesirable. • Evaluate the risk and uncertainty associated with each alternative. 	
5. Present the evaluations in a manner easily understood by the stakeholders.	<p>The same format should be used for the existing condition and all alternatives, and should contain the following:</p> <ul style="list-style-type: none"> • A description of the resource setting • A description of the management system • A complete list of the type, amount, and timing of actions involved in the management system that may change as a result of the plan • Effects of the actions on the resources and human considerations, and • Impacts of each alternative in comparison to the existing condition. 	<ul style="list-style-type: none"> • FOTG • Conservation Effects • Program Manuals
6. Identify NRCS programs, programs of other agencies, and other implementation and funding opportunities	<ul style="list-style-type: none"> • Evaluate program and funding opportunities inside and outside of NRCS for potential implementation opportunities. 	<ul style="list-style-type: none"> • Stakeholder meetings • USDA and other Federal, State and local

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What	How	Resources and Tools
that may be available to implement the alternatives.	<ul style="list-style-type: none"> • Develop a list of USDA programs with a brief description of each. • Solicit input from other agencies, stakeholders, and decision makers for additional programs or funding opportunities available. • Evaluate the potential for specific programs or other funding to implement proposed actions. • Record and review the information with the stakeholders. 	funding opportunity listings

C. Step 7 – Make Decisions - The decision makers and stakeholders reach consensus on their preferred alternatives and work with the planner to schedule the conservation system and practice implementation.

(1) Description

The decision makers determine which alternatives to implement and the planner documents the decisions. Public review and comment are obtained, if needed, before a decision is reached. Documentation includes recording the decision and preparing the conservation plan or areawide conservation plan, NEPA documents, required cultural resources documents.

(2) General

The planner assists the decision makers in selecting conservation treatment alternatives. In this planning step, the planner reviews the conservation alternatives and the decision makers select one or more for implementation.

(3) Planning Standard

Plan alternatives are selected based on the decision makers' clear understanding of the impacts of each alternative. The selected alternative is recorded in the decision makers' plan.

(4) Inputs

- (i) A set of evaluated alternatives
- (ii) Conservation effects and impacts information

(5) Products

- (i) Conservation plan document with the selected alternative, including potential program or implementation opportunities, and operation and maintenance
- (ii) Record of public participation for areawide conservation plans
- (iii) Environmental compliance documentation, including NEPA and NHPA.
- (iv) Cultural resource documents, including findings and negative findings reports
- (v) Revised conservation effects and impacts information

Figure 600-F11

What	How	Resources and Tools
1. Present the alternatives and evaluations.	<ul style="list-style-type: none"> • Review the alternatives and evaluation data from planning step 6 with the stakeholders. • Discuss the advantages and disadvantages of each alternative, including the social, cultural resource, 	Decision maker and stakeholder meetings

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	economic, and ecological effect and constraint imposed by treaty; Federal, State and local laws; and regulations. Point out the beneficial and adverse impacts to aid the stakeholders in reaching a decision.	
2. Provide the opportunity for public response.	Prepare notices, and schedule public meetings to solicit public response.	<ul style="list-style-type: none"> • Public meetings • Mailings • Review of NEPA documents • Federal Register notices, as appropriate.
3. The decision maker makes decisions.	<ul style="list-style-type: none"> • If the decision makers choose one or more of the alternatives, proceed to item 4. • If the decision makers choose to implement only part of an alternative, planning assistance will continue on a progressive basis toward applying alternatives that meet planning criteria. Return to planning step 6 and evaluate the decision makers' selected portion. • If the decision makers do not choose one of the alternatives, yet are interested in exploring more options, return to one or more of the previous planning steps. 	
4. Record the selected alternatives and schedule practices.	<p>Complete the following items:</p> <ul style="list-style-type: none"> • Record the selected alternatives as the planned systems. • Schedule practice application for implementation (This may include initiating the planning process for individual conservation plans within the areawide conservation plan). • Adjust effects and impacts, if needed. • Record assistance notes reflecting discussions with the decision makers not otherwise captured in the plan development. • Explain the interdependency of certain practices as practice scheduling is completed. 	

600.53 Phase III – Application and Evaluation

A. Step 8 – Implement the Plan - The areawide stakeholders or the decision makers of individual conservation plans implement the selected alternatives. The planner or technical expert provides the land manager with detailed practice implementation information, including engineered designs. Conservation staff will also provide practice layout, construction inspection, and certification. Each land manager directs the implementation of each practice. The planner provides encouragement to the stakeholders for continued implementation.

(1) Description

Implementing the plan includes providing technical assistance to plan and implement conservation practices that support the areawide plan and obtaining needed permits, funding, land rights, surveys, final designs, and inspections for structural practices. It also includes the operation, maintenance, and management needed by the areawide or individual decision makers to assure proper functioning of practices following installation.

(2) General

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- (i) Implementing a plan is the process of carrying out the conservation treatments that make up the planned conservation systems. The decision makers must have a clear understanding of the selected alternatives in order to effectively implement the plan. The decision makers may be able to implement the plan without additional technical or financial assistance. Generally, additional technical assistance is necessary, and plan revisions are occasionally warranted. Additional information or documentation may be required by a specific financial assistance program. Thorough planning is essential for providing efficient and effective technical assistance and minimizes plan revisions.
 - (ii) Most areawide conservation plans require the involvement of numerous disciplines, various NRCS office levels, and sponsoring entities, as well as local, State, and Federal agencies.
 - (iii) Implementation includes the design, layout, construction, inspection, management, operation, and maintenance of planned systems and practices. Specific program requirements and deadlines may also be involved and need to be considered when scheduling assistance with areawide or individual decision makers.
- (3) Planning Standard
- The decision makers have adequate information and understanding to implement, operate, and maintain the plan alternatives. Practices implemented with NRCS technical assistance will be installed according to NRCS standards and practice specifications.
- (4) Inputs
- (i) Conservation plan or areawide conservation plan
 - (ii) Case file data
 - (iii) Technical studies
 - (iv) Environmental evaluations and documents
 - (v) All necessary permits
 - (vi) Statements of work
 - (vii) Job sheets
 - (viii) Conservation practice standards and practice specifications
 - (ix) Conservation practice designs
 - (x) Technical assistance
 - (xi) Program requirements
 - (xii) FOTG, Section IV
- (5) Products
- (i) Conservation practices applied
 - (ii) Resource management systems applied
 - (iii) Communication with the stakeholders
 - (iv) Updated plan document
 - (v) Technical assistance notes
 - (vi) Conservation contract where applicable

Figure 600-F12

What	How	Resources and Tools
1. Review the plan with the decision makers and update it to meet current conditions.	Meet with the decision makers to ensure that the plan continues to represent current conditions and will achieve the plan objectives. This activity may result in a plan modification.	

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<p>2. Develop an implementation strategy.</p>	<p>Work with the stakeholders to develop an implementation strategy. The extent of the strategy will depend on the complexity of the plan to be implemented.</p> <p>(2c) The decision makers decide which programs or funding authorities to pursue. Implementation through a specific program or funding authority will require following the guidelines and procedures for that program or authority.</p> <p>Where individual conservation plans will be developed and implemented in the planning area to carry out the areawide conservation plan, follow the guidance for developing a conservation plan under Subpart C, 600.20 – 600.29.</p>	<p>The strategy should identify who, what, where, when, why, and how as appropriate. Specific items to consider include:</p> <ul style="list-style-type: none"> • Form implementation committee from stakeholders • Environmental requirements and documentation • Detailed implementation schedule, funding programs or authorities, program or funding requirements, guidance, and procedures • Permits • Agreements (i.e., operation and maintenance, project) • Mitigation of lost environmental values • Land rights • Treaty rights • Practice design, layout, installation, inspection, and certification • Contracting
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B. Step 9 – Evaluate the Plan - Evaluate the effectiveness of the plan in solving the resource concerns as it is implemented and work with the stakeholders to make adjustments as needed.

(1) Description

The planner obtains information on the results of the alternative implementation, evaluates the effectiveness of the implemented plan to ensure that it is functioning as planned and achieving the objectives, identifies reasons for the lack of progress in plan implementation or variances in sequence completion, and, if applicable, revises the implementation schedule or modifies the conservation plan. Where the actual results differ from those anticipated, provide feedback into the planning process. This could include revision of planning criteria, modification of indicators and target values, changes to current practice standards and practice specifications, revision of other FOTG data, and modifications to the plan. Also take the opportunity to encourage the decision makers to continue plan implementation.

(2) General

- (i) Conservation planning is an ongoing process that continues after the plan has been implemented. Continue contact with the decision makers to evaluate operation and maintenance needs and to determine if management systems and practices are performing properly and meeting the decision makers' and NRCS's objectives. Onsite visits are a part of this process.
- (ii) Technology may be developed through field observation of practices that have been implemented. Every planning area serves as a potential laboratory to help in the continuous process of improving alternative treatments for natural resource problems and concerns, and to take advantage of opportunities. This type of information can also help to focus on research needed.
- (iii) The process of monitoring, evaluating, and experimenting in order to add to resource management information and modify decisions is known as adaptive management.
- (iv) The key to successfully evaluating the results of a plan is to take advantage of the synergistic effect of the decision makers, planner, and technical specialists working

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together as they make observations and record the data. The planner should enlist the help of the technical specialists and nonagency partners, as appropriate.

(3) Planning Standard

The planner maintains contact with the decision makers to determine whether the implementation results are meeting ecological, economic, and social objectives and solving conservation problems in a manner satisfactory to the decision makers and beneficial to the resources. Resource impacts that are different from those predicted are fed back into the FOTG development process (adaptive management).

(4) Inputs

- (i) Copy of the conservation plan or areawide conservation plan
- (ii) Results of previous evaluations
- (iii) Onsite observation and data available from the decision makers
- (iv) New or modified objectives or needs of the decision makers
- (v) Appropriate new technology
- (vi) FOTG

(5) Products

- (i) O&M reports
- (ii) Outline of maintenance needs or other changes
- (iii) A decision to update or revise the plan, if needed
- (iv) Technical assistance notes indicating the effectiveness of the plan
- (v) Case studies, if appropriate, following the guidance provided in the FOTG
- (vi) Recommendations for changes in practice standards, practice specifications, or designs
- (vii) Recommendations for changes in FOTG materials
- (viii) A decision to revise or expand implementation strategies
- (ix) Updated CPPE and guidance documents

Figure 600-F13

What	How	Resources and Tools
Determine if adjustments are needed for management practices or systems.	<ul style="list-style-type: none"> Compare the actual effects of conservation efforts with the planned effects. Determine the decision makers' satisfaction with, the conservation treatment applied and the technical assistance provided. 	Consider the effects and satisfaction in terms of ecological, economic, and social factors considered important by the decision makers and NRCS.
Determine the need for a plan revision, development of a new plan of the plan.	<ul style="list-style-type: none"> If the conservation plan needs revision, or a new plan is needed, repeat planning steps 1 through 7. 	
Update the assistance notes.	<ul style="list-style-type: none"> Enter assistance notes to capture planner and decision maker interaction. 	
Conduct a case study, if appropriate.	<ul style="list-style-type: none"> Follow the procedures in the FOTG. Utilize assistance from other agencies, etc., as appropriate. 	FOTG, Input from stakeholders.

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Subpart G – Component Planning Technical Guidance

600.60 Guidance

A. Conservation plans and implementation requirements may include component plans to provide greater detail in addressing one or more resource concerns. The following is a partial list of some examples of component plans and references to assist in developing them.

- (1) Comprehensive Nutrient Management Planning (CNMP) - As a subset of a conservation plan that is unique to animal feeding operations (AFOs), a CNMP addresses natural resource concerns to the water quality criteria established in the FOTG
 - (i) NRCS policy on preparing CNMPs is located in the Title 190, GM, Part 405
 - (ii) NRCS policy on CNMP certification is located in the 180-GM, Part 409
 - (iii) Title 190, Comprehensive Nutrient Management Field Handbook, Part 620
 - (iv) National Instruction 190-304, “CNMP Technical Criteria”
- (2) Nutrient Management Planning
 - (i) 190-GM, Part 402
 - (ii) National Instruction 190-302
- (3) Integrated Pest Management Planning
190-GM, Part 404
- (4) Prescribed Burn Planning
190-GM, Part 413
- (5) Irrigation Water Management Planning
Title 210, National Engineering Handbook, Part 652, Chapter 10, “Conservation Management Systems and Irrigation Planning”
- (6) Grazing Management Planning
Title 190, National Range and Pasture Handbook

B. Some resource concerns have additional policy guidelines for addressing within a conservation plan and implementation requirements.

- (1) Addressing Invasive Species within the Conservation Plan
190-GM, Part 414
- (2) Addressing Pollinators within the Conservation Plan
190-GM, Part 416

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Subpart H – Exhibits

600.70 Exhibit 1 – System Effects Worksheet

Example System Effects Worksheet. This example shows the effects of an alternative system on a cropland field, for seven identified resource concerns.

Management System Options		Client: Ira Farmer Land Use: Crop						
		Soil Erosion		Soil Quality/Health Degradation		Water Quality Degradation		Degraded Plant Condition
Field or PLU	3/Conservation Practices	2/Sheet, Rill & Wind	Concentrated Flow, Classic Gully and Ephemeral	Organic Matter Depletion	Compaction	Excess Nutrients in Groundwater	Excess Nutrients in Surface Water	Excessive Plant Pressure
5	Alternative #1	4/						
	Crop Residue Use 20%	+2	+1	+1	0	-1	+2	0
	Terraces (Storage)	+5	+3	0	-1	-1	0	0
	Underground Outlet	0	0	0	0	0	0	0
	Contour Farming	+4	+2	+2	0	-1	+3	0
	Nutrient Management	0	0	+2	0	+5	+5	+1
	Integrated Pest Management	0	0	0	+1	+5	+5	+5
Meets Planning Criteria?		Yes	Yes	Yes	Yes	Yes	Yes	Yes

1/ Enter the broad resource considerations illustrated in the CPPE matrix located in Section V FOTG.

2/ Enter identified Resource Concerns.

3/ Develop Alternative Systems by listing combinations of practices logically used to address an identified resource concern on a given land use.

4/ Express the effects of selected practices. Refer to CPPE matrix located in Section V FOTG.

Effects on the **problem**:

- Substantial Improvement +5
- Moderate to Substantial Improvement +4
- Moderate Improvement +3
- Slight to Moderate Improvement +2
- Slight Improvement +1
- No Effect 0
- Slight Worsening -1
- Slight to Moderate Worsening -2
- Moderate Worsening -3
- Moderate to Substantial Worsening -4
- Substantial Worsening -5

600.71 Exhibit 2 – Land Evaluation Site Assessment (LESA)

LESA is an analytical tool to assist Federal, State, and local agencies in assessing, planning for, and preserving agricultural lands through land use planning policies, or other techniques. Use of LESA helps to strengthen the local economy through providing a sound basis to support property tax assessments, tax incentives, and agricultural development programs.

LESA systems may be applied before or during the areawide planning process and provide systematic and objective procedures to access and rank sites for agricultural importance to assist land use and conservation decision making. LESA systems can address questions, including the following:

- What lands uses should be designated for agricultural use in areawide or master plans, or zoning ordinances?
- How do adjacent land uses impact farmlands?
- How can agricultural land be consistently and objectively ranked into multiple land classes?
- Which farm sites should be given priority for purchase of development rights?
- What would be the potential impact to agriculture of proposed zoning changes?
- Which infrastructure and development alternatives have the least impact on agricultural lands?

Although they are often grouped together, a LESA system consists of two distinct components: the land evaluation (LE) system and the site assessment (SA) system. The LE system must provide a consistent methodology to evaluate and rank parcels of land, typically on the basis of their inherent agricultural production potential. LE systems are most often based on properties and conditions that are deemed to be steady over the long term and are typically grounded in soil attributes that related to agricultural productivity. In contrast, the SA component of the LESA system addresses those issues related directly to the particular site of interest and that change over shorter time periods. It provides a way to systematically assess the differences between multiple sites that may possess the same underlying level of soil productivity but have different characteristics based on their location and the availability of related services (such as irrigation or transportation infrastructure).

The impetus to consider developing a LESA system for State or local use can come from various sources, including State and local planners, planning commissions, local elected or appointed officials, USDA agency staff, conservation districts, or other stakeholders. In all cases, developing a LESA system should be seen as a cooperative endeavor between many governments, and potentially nongovernment, entities that are interested in and involved with land management.

Regardless of the entity that takes the lead in the development of a LESA system, the first step in LESA development is to conduct an assessment of potential users and applications for the system. There are federally mandated applications of a LESA system, including the requirement in the Farmland Protection Policy Act (FPPA) that a LESA system be used to assess the potential impact of proposed farmland conversions. System developers should also identify other user needs and potential applications for the proposed LESA system. An appropriate initial assessment will lead to a better understanding of the existing relevant local, State, and Federal policies and the funding and staff requirement for development and maintenance of the LESA system.

The most common process used to develop a LESA system begins with a decision by a State or local government jurisdiction that a new LESA system or an update to an existing LESA system is needed. Once that determination is made, a LESA committee is appointed to develop the system. The following steps are required to successfully develop and implement the system:

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- Specify multiple factors that will allow soils to be ranked based on soil quality for the LE component. The NRCS State office should assist in this step.
- Specify another set of factors relating to non-soil conditions for the SA component.
 - Develop a rating scale for each factor.
 - Assign weights to each of the factors.
 - Note that national SA criteria with weightings are provided in the FPPA (listed in 7 CFR Chapter VI and replicated in the FPPA Handbook (*available on eDirectives*)).
- Tally the weighted factors to obtain a LESA score for the sites analyzed.
- Prepare score thresholds for decision making.

In most cases, an LE system is developed for an entire political jurisdiction (county or State) and rates soils from 0 (lowest quality) to 100 (highest quality). The SA protocol is then applied on a case-by-case basis to compare alternative sites. Another option is to use the SA criteria to develop ratings of a “standard” group of sites or of larger geographic areas. This method is preferred if decision makers are interested in comparing a large number of sites over a large geographic area (e.g., to support zoning and local or regional planning). Soil and other site factors can be systematically combined to produce a score for each site, and sites with similar scores can be group based on established thresholds for recommended actions.

LESA Committees

Because of the potentially wide-ranging application of LESA information, the most successful LESA efforts nationwide have been those where State and local officials and other appropriate stakeholders have been directly involved in the identification and appointment of committee members. Ideally, the composition of the committee should provide a range of State and local expertise to help develop a sound LESA system. A well-accepted committee can also establish public creditability and political acceptability for the system. One of the key LESA concepts is to include knowledgeable people in formulating the local system. The expertise and experience of producers and those working on farms is essential in establishing an effective LESA system. Additionally, a person trained in LESA is essential to coordination of project activities and assisting the LESA committee in developing the system.

LESA Scaling and Evaluation Factors

The LE component of the LESA system rates the soil-based qualities of a site for agricultural use. The four most common kinds of classifications used for LE are as follows:

- Land capability class (LCC)
- Soil productivity ratings such as National Commodity Crop Productivity Index (NCCPI)
- Soil potential ratings
- Prime, unique, and important farmland classifications

In most cases, NRCS staff or other soil scientists will play a major role in selecting and scaling LE factors. Although much of the LE formulation is technical in nature, decisions about relative weights of LE factors should be made by the committee. It is important that local stakeholders with recognized knowledge of agriculture participate in and understand the LE component in order to ensure that the system accurately reflects local circumstances. Local involvement throughout the process will also increase the perceived accuracy and legitimacy of the resulting rating or ranking system.

The LE component should meet the following objectives:

- LE should be understandable to policymakers and other users.

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- LE should establish relative soil classes of soil-based quality to assist decision makers in setting priorities for sites to be protected for agricultural use.
- LE should be based on the best available data, in conformance with established NRCS procedures for soil classification systems.
- LE should give consistent results within the given area.
- LE should be appropriate for the level of government for which the LESA system will be used.

The SA system rates nonsoil factors affecting the site's relative suitability and importance for agricultural use. In general SA factors are grouped into the following three types:

- SA-1 factors measure nonsoil site characteristics related to potential agricultural productivity.
- SA-2 factors measure development or conservation pressures on the site.
- SA-3 factors measure other public values of a site, such as historical, cultural, scenic, or environmental values.

The national list of factors and associated weighting factors may be accepted "as is" or may be changed to reflect location conditions and preferences.

If a local system is desired, the SA committee should choose specific factors reflecting the purpose for which the LESA system is to be used. The SA committee must also decide how to combine the SA factors. Factor selection, combination, and weighting will depend on the intended LESA use. There are however a number of important considerations to be used in selection, defining, and weighting SA factors including the following:

- Weight factors so that the more desirable attributes indicate a stronger argument for keeping the site in agriculture.
- Develop definitions and instructions that are clear, so that each user should obtain the same result when assessing the same site.
- Link factor weights to data and be sure that factor weights correspond to the range of data for the area.
- Generally select factors that apply to most sites.
- It is recommended that each factor be on a scale of 1-100 and then weighted for uniformity in scales and standardization in computation.

SA addresses a much broader range of considerations than LE. Between three and ten SA factors may be needed. Committees formulating SA should be aware that the more factors are included, the more costly it will be to apply the LESA system and the more difficult it will be to explain to stakeholders. Care should be taken to ensure that two or more factors are not measuring the same underlying concern in different ways.

Typically SA factors fall into three classifications:

- SA-1. Agricultural Productivity
- SA-2. Development Pressures Impacting a Site's Agricultural Use
- SA-3. Other Public Values Supporting Retention of Agriculture

The factors and weights should be accepted only if they, and the resulting LESA scores, make sense to local stakeholders and decision makers. With the help of the LESA committee, a proposed LESA system should be thoroughly field checked and adjusted accordingly before it is adopted.

Combining and Weighting LESA Factors

Once LE and SA factors are selected and assigned a factor scale, the next task is to decide how to combine the factors into a LESA system. In most cases, sites are assigned one LE rating and one combined SA rating. This is the approach used within the purview of the Farmland Protection Policy Act (FPPA). Other options for combining LE and SA factors can be used to better capture local preferences. The common alternative methodologies are as follows:

- Integration of the LE and SA-1 factors into the basic system with separate suitability ratings for SA-2 and SA-3 factors
- Integration of the LE and SA-1 factors into the basic system with detractor/bonus points for SA-2 and SA-3 Factors
- Integration of LE, SA-1, SA-2 and SA-3 factors into the LESA system

The local committee must decide the approach that best fits the conditions.

Evaluating the LESA System

After the LESA committee has prepared a draft of the LE and SA factors, factor scales, and weights and made a decision on how to combine the factors, it is essential that the system be evaluated before it is used to inform decision making. The process should include preliminary and field testing of the LESA system.

The following steps are recommended for the preliminary testing:

- Select a sample of sites representing the range of characteristic in the planning area.
- Evaluate the focus of the LESA system including factors, scales, and relative weights to ensure a good fit with the sites to be evaluated.
- Document the data sources for each factor.
- Evaluate the factors for redundancy.
- Evaluate the “reproducibility” of the LESA procedures and factors to determine if similar ratings are achieved by different reviewers.
- Evaluate the “relocalability” for the LESA procedures and factors to determine if similar ratings are achieved for different sites with similar characteristics.

Once preliminary testing is completed and any necessary adjustments are made, the system should be field tested by the committee. The overall goal is to achieve simplicity of use while including the maximum practicable information. The increasing availability of spatially referenced digital data (satellite photos, infrastructure grids, etc.) has made it much easier to evaluate the ratings that result from the application of a LESA system. However, the ready availability of this type of data does not eliminate the need for “on the ground” testing and validation of any proposed LESA system.

Interpreting LESA Ratings for Decision Making

LESA scores can be used as a tool to help plan and set policy or make other land use decisions. While LESA scores may be arrayed, ranked and compared for several sites, it may be useful to devise thresholds for applying scores to decision making. It is important to note that LESA ratings are best used as a component of a multifaceted system that takes into account this physical, economic, and social aspects and likely impacts of current and future land management decisions.

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