



## Conservation Planning Activity

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### Soil Health Management Plan

#### CPA 116

#### Definition

Component of a conservation plan that identifies soil health concerns related to the physical, biological and chemical properties of the soil and identifies conservation practices for use in an adaptive soil health management plan.

#### Applicable Land Uses

This conservation planning activity applies to annual and perennial cropland (including orchards and vineyards), pasture and range.

#### REQUIREMENTS General Requirements

This Conservation Planning Activity (CPA) involves a Technical Service Provider (TSP), hired by a Farm Bill Program participant, providing a conservation plan to document participant objectives, benchmark (current) conditions, resource concerns, alternative actions, the evaluation of alternative actions, and the participant's preferred alternative with the intent to achieve specific ecological, economic and management objectives.

This activity will meet the Natural Resource Conservation Service (NRCS) planning criteria for one or more of the plant, animal, water, air, and soil resource concerns. The overall conservation plan must accomplish one or more purposes as described in the criteria and considerations for each conservation practice, as described in the Conservation planning process as outlined in the NRCS National Planning Procedures Handbook (NPPH), steps 1-7. A summary of those seven steps is in [Appendix A, Conservation Planning Activity, General Requirements](#) at the end of this document. Do not overlook the General Requirements – they are important for this CPA's development.

State-specific conservation planning reference information and technology is provided in the NRCS Field Office Technical Guide (FOTG). The FOTG home page hyperlink is:

<https://efotg.sc.egov.usda.gov/#/>

#### Technical Requirements

The TSP must:

- 1) Arrange a pre-work meeting between participant, TSP and NRCS field office in order to establish collaboration and address any questions among the parties.
- 2) Maintains a written and date-ordered record of discussions with the participant that are related to this planning activity.

- 3) Conducts an on-site inventory of participant's planning area to inventory the current land uses and land management systems in the operation.
- 4) Uses NRCS-approved technology tools and protocols to assess resource concerns, as indicated in the state's FOTG, Section 3.
- 5) Develops a minimum of one conservation alternative to meet the resource needs, participant's objective(s), and adequately addresses the NRCS-recognized Resource Concern(s) that participant chooses to address. The list of Resource Concerns appears in the state's FOTG, Section 3. Contrast this alternative with the no-action alternative (what is predicted to happen if no action is taken).
- 6) Present and explain technically feasible conservation alternatives to the participant and obtain the participant's decision about what conservation practices to use, the practice location(s), and the schedule to guide sequential installation of conservation practices.
- 7) Produces conservation plan products (plan schedule, maps, and other useful supporting material) based on decisions reached in the previous item and in the Deliverables section of this document.

The plan will meet the NRCS planning criteria for one or more of the following resource concerns:

- Soil organic matter depletion
- Soil compaction
- Soil organism habitat loss or degradation
- Aggregate instability
- Concentration of salts or other chemicals
- Plant productivity and health
- Wind erosion
- Sediment transported to surface water
- Sheet and rill erosion
- Naturally available moisture use

This activity includes planning a system of conservation practices that follow the 4 principles of soil health:

- 1) **Minimize soil disturbance** by implementing conservation practices such as reducing tillage, managing irrigation, controlling traffic, prescribed grazing, integrated pest management to improve soil structure and water infiltration, reduce aggregate breakdown, and protect soil organism habitat and organic matter.
- 2) **Maximize soil cover** by implementing conservation practices such as using cover crops and surface residue management to reduce nutrient runoff, buffer soil temperature, reduce evaporation, reduce erosion, reduce aggregate breakdown, protect soil organic matter, and provide habitat for biological organisms.
- 3) **Maximize biodiversity** using diverse crop rotations, application of soil carbon amendments, multi-species cover crops, and livestock to improve nutrient cycling, break disease cycles, and stimulate below ground activity.
- 4) **Maximize living roots** by implementing conservation practices such as using cover crops, crop rotations, and perennial crops to maximize time periods of active growth throughout the year that provide soil biota a continuous food source.

## Definitions

*Soil health* is the continued capacity for soil to function as a vital living ecosystem to support plants, animals and humans.

A *Soil Health Management System (SHMS)* is a collection of NRCS conservation practices that focuses on maintaining or enhancing soil health by addressing four soil health management principles: minimize disturbance, maximize soil cover, maximize biodiversity and maximize the presence of living roots.

*Soil Health Management Unit (SHMU)* is one or more planning land units with similar soil type, land use, and management that can vary in size or acreage depending on soil texture, topography, and cropping system. SHMU is like a conservation management unit but designed to assess soil health status and potential limitations on soil health indicators.

## DELIVERABLES

The TSP must provide documentation showing all the tasks indicated in the **General Requirements** section, the **Technical Requirements** section, and the following sections:

### Cover Page

The cover page must include the following:

- 1) CPA name, number, land use(s), units, and amount.
- 2) Participant information: Name, farm bill program name, contract number (TSP obtains contract number from participant), land identification (e.g., state, county, farm, and tract number).
- 3) TSP name, TSP number, TSP expiration date, mailing address, phone number, email address.
- 4) A statement by the TSP that services meet the CPA requirements, such as:

*I certify the work completed and delivered for this CPA:*

- *Complies with all applicable Federal, State, Tribal, and local laws and regulations.*
- *Meets the General and Technical Requirements for this CPA.*
- *The planned practices are based on NRCS Conservation Practice Standards (CPSs) in the state Field Office Technical Guide where the practices are to be implemented.*
- *Is consistent with and meets the conservation goals and objectives for which the program contract was entered into by the participant.*
- *Incorporates alternatives that are both cost effective and appropriate to address the resource issue(s) and participant's objective(s).*

TSP Signature \_\_\_\_\_ Date \_\_\_\_\_

- 5) Participant's acceptance statement indicating:

*I accept the completed CPA deliverables as thorough and satisfying my objectives. Participant*  
Signature \_\_\_\_\_ Date \_\_\_\_\_

- 6) A designated space for an NRCS reviewer to certify the agency's acceptance of the completed CPA.

*NRCS administrative review completion by:*

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

## Resource Inventory and Assessment Documentation

Results from NRCS-approved resource assessment technology tools that are appropriate for the resource conservation needs and participant objectives to compare the benchmark condition with the planned alternative condition, including as applicable:

- 1) Soil Health Testing 216 Conservation Evaluation and Monitoring Activity
- 2) In-Field Soil Health Assessment for Cropland
- 3) Pasture Condition Score Sheet
- 4) Interpreting Indicators of Rangeland Health reference sheet
- 5) Any additional assessments, maps, and sketches resulting from the planning process used in preparation and arriving at the alternative selected.
- 6) Any photographs or documentation used to support the determination documented.
- 7) Document the effects of each Alternative on other resources concerns.
- 8) Considerations to avoid or mitigate any adverse effects on unique resources and other soil, water, air, plants, animals (including livestock, fish, and wildlife), energy, or human concerns, as well as on special environmental considerations.
- 9) An evaluation of the alternative's effects on the participant's land use, capital, labor, management, risk, profitability, and public health and safety.

## Notes and Correspondence

- 1) Provide notes, in date-order that:
  - a) Document the participant's objectives.
  - b) Document each interaction with the participant, results of that interaction, and the date of the interaction.
  - c) Document each site visit, those present, the activity completed in the field, and results of each site visit.
  - d) Provide initials of the note-maker, if more than one person provides the assistance.      2)

Information provided to support the participant's understanding of the planned conservation practices such as applicable "Conservation Practice Overview" sheets from the FOTG, or other prepared material.
- 3) Provide all copies of correspondence between the TSP and the participant relating to decisionmaking and completion of this CPA. For example, description of alternatives presented for evaluation and decision-making.

## Maps

Maps for this CPA must include, but are not limited to:

- 1) General location map of the planning area showing access roads to the location.
- 2) A CPA map (this may consist of several maps to account for the entire planning area). This map will specifically include:
  - a) Boundary lines for the Planning Land Units (PLUs) with labels (name, number, or both). A PLU is a unique geographic area, defined by a polygon, which has common land use and

is owned, operated, or managed by the same participant or participants. The PLU is the minimum unit for planning.

- b) Land-use designation and any applicable land-use modifiers such as irrigation for each PLU, as appropriate. The NRCS-recognized land use names and land use modifiers are listed in the National Planning Procedures Handbook, Definitions section. (Handbook 180, Part 600.2). Here is a link to the National Planning Procedures Handbook: <https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=44407>
  - c) Acreage for each PLU.
  - d) Location of sensitive resources and setbacks, if applicable.
  - e) Locations of planned and applied conservation practices.
  - f) If the planning area includes nonprivate lands, such as Federal or Tribal lands, a land status map must be included to display land ownership categories (Private, State Trust, BLM, Tribal, and Territorial, etc.).
- 3) Soil interpretative map(s) and other natural resource maps used to support the planning activity as defined by the state including drainage class and hydrologic group, ecological site, soil health properties and interpretations.
- 4) Resource maps of the PLU and/or SHMU
- Soils maps, and other resource maps as applicable.
  - An existing Wetland delineation map, if any.
- 5) All maps developed for the CPA will include:
- a) Map title.
  - b) Participant's name.
  - c) Assisted By [TSP planner's name].
  - d) Name of applicable conservation district, county, and State.
  - e) Date prepared.
  - f) Map scale.
  - g) Information needed to locate the planning area, such as geographic coordinates, public land survey coordinates, etc.
  - h) North arrow.
  - i) Appropriate map symbols and a map symbol legend on the map or as an attachment.

## Practice Schedule

A record of the participant's decision, which includes:

- 1) A table, titled "Practice Schedule" indicating all of the following:
  - a) Tract Number to have practice(s) installed.
  - b) PLU (Field) number to have practice(s) installed.
  - c) Practice Code and Practice Name (Codes and Names are used for conservation practices, conservation activities, enhancements, and bundles) to be implemented,

- d) Estimated Amount of each practice to be implemented, and the practice's measurement units.
- e) Dates (month and year) the conservation activities are intended to be installed, or were previously installed.

The Practice Schedule is used in conjunction with a conservation plan map to document the participant's decision and vision for conservation implementation. Table 1 provides an example Practice Schedule.

**Table 1. Example Practice Schedule**

| Tract Number | PLU (Field) # and/or SHMU label | Practice Code | Practice Name                    | Planned Amt | Practice Units | Planned Date   |
|--------------|---------------------------------|---------------|----------------------------------|-------------|----------------|----------------|
| 1000         | 3, 5, 7                         | 340           | Cover Crop                       | 75          | Ac.            | September 2022 |
| 1000         | 9, 11                           | 600           | Terrace                          | 3,000       | Ft.            | May 2023       |
| 1000         | 9, 11                           | 638           | Water and Sediment Control Basin | 2           | No.            | May 2023       |

- 2) Brief descriptions of the planned conservation practices to explain their use in the context of this plan. For example, "Cover Crop - Plant grasses, legumes, or forbs for seasonal vegetative cover to protect or improve natural resources."
- 3) Existing conservation practices by field, PLU, or SHMU
- 4) Operation equipment inventory
- 5) Existing nutrient management strategies by crop rotation, as applicable
- 6) Existing Pest Management Strategy (PAMS narrative and pesticides typically utilized in operation with EPA registration #)
- 7) Soil amendments used in the operation by field or SHMU
- 8) Livestock utilized in the operation and management details, as applicable

### Deliver Completed Work

The TSP must:

- 1) Prepare and provide their participant two sets of the items listed in Deliverables.
  - a) One set is for the participant to keep.
  - b) The other set is for sharing with the local NRCS Office.
  - c) The TSP may transmit a set of the Deliverables to the local NRCS Office, if their participant has authorized it. It is recommended to provide NRCS field office an opportunity to review the CPA deliverables, prior to asking for its acceptance.
- 2) Upload electronic copies of all the items listed under the **Deliverables** heading on NRCS Registry.

### References

- USDA Natural Resources Conservation Service. Cultural Resources Handbook.  
<https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=42752>
- USDA Natural Resources Conservation Service. Field Office Technical Guide.  
<https://efotg.sc.egov.usda.gov/#/>
- USDA Natural Resources Conservation Service. National Agronomy Manual.

USDA Natural Resources Conservation Service. National Environmental Compliance Handbook.  
<https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=39467>

USDA Natural Resources Conservation Service. National Planning Procedures Handbook.  
<https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=44407>

USDA Natural Resources Conservation Service. National TSP Resources.  
<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/technical/tsp/?cid=nrcseprd1417414>

USDA Natural Resources Conservation Service. National TSP Website.  
<https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/technical/tsp/>

## Appendix A - Conservation Planning Activity, General Requirements Overview

The Technical Service Provider (TSP) hired by a participant to complete this Conservation Planning Activity (CPA) is expected to complete conservation planning steps 1 through portions of 7 of the Natural Resource Conservation Service (NRCS) 9 step conservation planning process, as outlined in the NRCS National Planning Procedures Handbook (NPPH). Those steps are described below. The NPPH may be consulted for more detailed descriptions of the steps. NPPH is located at the following link: <https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=44407>.

### Identify Problems and Opportunities (Step 1)

Visit with the participant to identify and document existing, potential, and perceived natural resource problems, opportunities, and concerns in the planning area. The identified problems and opportunities as well as the participant objectives guide the remainder of the planning process and are the basis for the purpose and need for action that are documented in NRCS Environmental Evaluation. This will include items such as soils, ecological sites or forage suitability groups, where applicable, and discuss opportunities to maintain and/or enhance resource conditions.

### Determine Objectives (Step 2)

Determine the participant's planning objectives by developing an understanding with the participant of the desired future condition for the planning area, as compared to the existing conditions. This is the purpose for the participant 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.

### Inventory Resources (Step 3)

The resource inventory documents benchmark (current) conditions of natural resources in the CPA planning area. The inventory documentation requirements and resource concerns to be evaluated specifically for each CPA are provided in the CPA's **TECHNICAL REQUIREMENTS** section. Use NRCS Field Office Technical Guide (FOTG) Sections 1 and 2, plus Web Soil Survey (WSS) and other helpful resources to support the inventory. In addition, each CPA requires the following inventory documentation as applicable: 1) General description of the enterprise/operation,

- 2) Document any previously installed or implemented conservation practice(s) and indicate whether the existing practice(s) is currently accomplishing the conservation practice purpose indicated in the NRCS conservation practice standard in the state's FOTG, Section 4,
- 3) Equipment, technology and management activities currently being used by the participant,
- 4) Soils, climate, topography,
- 5) Environmentally sensitive areas in and around the planing area- for example riparian areas, cultural resources and historic properties, habitat for rare or protected species, and wetlands,
- 6) The need for Highly Erodible Land or Wetland compliance determinations associated to the planning land unit,



- 7) Pertinent Federal, State, Tribal, and local laws, regulations, policies and their associate permit requirements.

- 8) Identification of existing conditions through a resource inventory.
- 9) After the prior steps, identify if/what you have learned about other relevant soil, water, air, plant and animal resource concerns.
- 10) Provide a landscape setting description explaining how surrounding management affects the property as well as how the participant's actions impact their neighbors. Consider aesthetic quality, privacy, wildlife movement and habitat, noxious weeds, urban encroachment, wildland fire interface, if applicable.

#### **Analyze Resource Data (Step 4)**

Run applicable resource assessment tools and compare the current (benchmark) conditions with the desired future conditions to identify resource concerns that need to be addressed. Analyses and documentation requirements are provided in the **Technical Requirements** and **Deliverables** sections.

Analyses documentation will include at a minimum:

- 1) Benchmark conditions,
- 2) Results of assessment tools (as applicable), and
- 3) The need for conservation actions, in terms of a desired future condition, 4) NRCS resource concerns identified.

#### **Formulate Alternatives (Step 5)**

Develop a minimum of two alternatives. The first is a **no-action alternative** in which current management activities are assumed to continue. The second is an **action alternative** identifying a conservation practice or a system of conservation practices and management activities to address the identified resource concern(s). Additional action alternatives may be developed to identify different ways of achieving participant objectives. Each action alternative must meet the participant's objectives and comply with Federal, State, Tribal, and local laws, regulations, and policies.

#### **Evaluate Alternatives (Step 6)**

Evaluate the alternatives and describe the natural resource, environmental and socio-economic effects associated with each alternative. Review with NRCS and the participant the analysis of the resource inventory and the evaluation of alternatives. This information will provide the participant with information needed to select their preferred alternative.

When evaluating the no-action alternative, provide information to the participant about what will occur if current management activities continue, and no new practices are implemented.

When evaluating conservation practice effects, the short and long-term effect on natural resources and the applicability and effect on special environmental concerns identified in Step-3 (Resource

Inventory) must be documented. Include recommendations that will avoid or mitigate any adverse effects on soil, water, air, plants, animals (including livestock, fish, and wildlife), energy, or socioeconomic concerns, as well as on special environmental concerns.

Prepare the following documentation, at a minimum:

- 1) Documentation of alternatives discussed and site level resource inventory and assessment data, and analysis used to formulate management alternatives.
- 2) Considerations to avoid or mitigate any adverse effects on those unique resources and other soil, water, air, plants, animals (including livestock, fish, and wildlife), energy, or human concerns, as well as on special environmental considerations, and
- 3) An evaluation of the alternative's effects on the participant's land use, capital, labor, management, risk, profitability, and public health and safety.

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### **Make Decisions (Step 7)**

Document the participant's preferred alternative as a decision via a Conservation Plan Map and Practice Schedule.