



CONSERVATION PLANNING ACTIVITY

Soil Health Management Plan

DEFINITION

Component of a conservation plan that identifies soil health concerns related to the physical, biological and chemical properties of the soil.

CRITERIA

General Requirements

The Conservation Planning Activity (CPA) documents client objectives, benchmark (current) conditions, resource concerns, alternative actions, the evaluation of alternative actions, and the client's preferred alternative.

Applicable land uses for this CPA are provided in the **DELIVERABLES** section.

The TSP will complete conservation planning steps 1 through portions of 7 of the NRCS 9 step conservation planning process as outlined in the NRCS National Planning Procedures Handbook (NPPH). The steps include identify problems and opportunities (step 1), determine objectives (step 2), inventory and analyze resources (steps 3 and 4), formulate and evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7).

The TSP will maintain an ongoing record of CPA related discussions with the client. The TSP will document on a conservation assistance notes form (CPA-6) or other format that includes all components of the CPA-6 (client objectives, dates of assistance, all parties present, notes of significant assistance provided, alternatives considered, and decisions reached). Any correspondence between the TSP and the client related to the development of the CPA will be included in the record.

1. IDENTIFY PROBLEMS AND OPPORTUNITIES (Step 1)

Visit with the client 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 client 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.

2. DETERMINE OBJECTIVES (Step 2)

Determine the client's planning objectives by developing an understanding with the client of the desired future condition 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.

3. INVENTORY RESOURCES (Step 3)

The resource inventory documents benchmark (current) conditions of natural resources in the CPA planning area. The specific inventory documentation requirements and resource concerns to be evaluated are provided in the **DELIVERABLES** section. Inventory documentation required may include such items as:

- Current agricultural or forestry practices and management activities,
- Environmentally sensitive areas (e.g., wetlands, sinkholes, wellheads, gullies, ditches, etc.),
- Soils, climate, topography,
- Equipment and technology currently being used by the landowner,
- Highly erodible land or wetland compliance determinations associated to the planning land unit,
- Pertinent Federal, State, Tribal, and local laws, regulations and policy, and
- Special Environmental Concerns that may be applicable on, or in the vicinity of the planning area. The special environmental concerns to be inventoried include, at a minimum, the following:
 - Clean Air Act
 - Clean Water Act / Waters of the U.S.
 - Coastal Zone Management
 - Coral Reefs
 - Cultural Resources / Historic Properties
 - Endangered and Threatened Species
 - Environmental Justice
 - Essential Fish Habitat
 - Floodplain Management
 - Invasive Species
 - Migratory Birds / Bald and Golden Eagle Protection Act
 - Natural Areas
 - Prime and Unique Farmlands
 - Riparian Area
 - Scenic Beauty
 - Wetlands
 - Wild and Scenic Rivers

NRCS state offices may identify additional state, tribal, or local laws, regulations or ordinances that must routinely be evaluated.

Use NRCS data available in the Field Office Technical Guide (FOTG) Sections 1 and 2, plus Web Soil Survey (WSS) and other helpful resources to support the inventory.

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.

4. ANALYZE RESOURCE DATA (Step 4)

Analysis of a resource inventory will document benchmark (current) conditions of natural resources in the CPA planning area. A comparison between benchmark (current) conditions and planning criteria/quality criteria (desired future conditions) will help identify resource

concerns. Analysis and documentation requirements are provided in the **DELIVERABLES** section.

Analysis documentation will include at a minimum:

- NRCS resource concerns identified,
- Benchmark conditions,
- (as applicable) Results of assessment tools, and
- A description of the need for conservation actions.

5. FORMULATE ALTERNATIVES (Step 5)

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

When providing technical assistance to existing organic operations, ensure recommended conservation practices and management activities are consistent with the client's Organic System Plan (OSP) and the National Organic Program (NOP) regulations. If client's objective is to transition to organic production, use CPA 138 – Conservation Plan Supporting Organic Transition.

6. EVALUATE ALTERNATIVES (Step 6)

The TSP will evaluate the alternatives and describe the environmental effects associated with each alternative. The analysis will be reviewed with the client. The analysis should provide the client with the information needed to select their preferred alternative.

When evaluating the no-action alternative, the TSP will provide information to the client on 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 human concerns, as well as on special environmental concerns.

After analyzing the proposed alternatives, prepare the following documentation, at a minimum:

- Documentation of alternatives discussed (CPA-6, correspondence),
- (as applicable) Results of assessment tools,
- 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

- An evaluation of the alternative's effects on the client's land use, capital, labor, management, risk, profitability, and public health and safety.

7. CLIENT'S PREFERRED ALTERNATIVES (Step 7)

The TSP will present all alternatives to the client and document the client's preferred alternative.

Technical Requirements

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

Two copies (hardcopy or electronic) of the plan must be developed—one for the client and one for the NRCS field office. At the client's request, Technical Service Provider (TSP) can deliver

NRCS's copy to the NRCS Field Office. The client's copy must include the maps and preferred alternative, unless the client requests other documents from this section. The NRCS copy must include all items identified herein. An additional electronic copy of the plan should also be uploaded on NRCS Registry.

This plan documents soil health concerns related to the physical, biological, and chemical properties of the soil. The purpose is to identify soil health resource concerns and develop an adaptive management plan.

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

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

1. Cover Page

Cover page reporting the technical services provided by the TSP. Cover page(s) must include the following:

- a. Client information: Name, farm bill program, contract number, and contract item number.
- b. TSP information: name, address, phone number, email, TSP number, TSP expiration date; and county of service.
- c. CPA information: CPA name, land use(s), units, and amount.
- d. Statement by TSP that services provided:
 - i. Comply with all applicable Federal, State, Tribal, and local laws and requirements.
 - ii. Meet applicable program requirements and recommended planned practices are based on NRCS conservation practice standards and specifications.
 - iii. Are consistent with and meet the conservation program goals and objectives for which the program contract was entered into by the client.
 - iv. Incorporate alternatives that are both cost effective and appropriate to address the resource issues.
- e. TSP certification statement: signature and date.
- f. Client confirmation: signature and date.
- g. Block for NRCS reviewer acceptance (to be completed by NRCS): signature and date

2. Conservation Assistance Notes and Correspondence

- a. Conservation Assistance Notes (NRCS-CPA-6) or other format that includes all components of the CPA-6.
 - i. Document the client's objectives.
 - ii. Document each interaction with the client, include notes and results of that interaction, date, and initials of the TSP.
 - iii. Document each site visit, activity in the field, results of each site visit, all parties present, date, and initials of the TSP.
- b. Any correspondence between the TSP and the client relating to the development of the CPA.

3. Maps

- a. Maps to include, but not be limited to:
 - i. General location map of the planning area showing access roads to the location.
 - ii. CPA map (this may consist of several maps to account for the entire planning area). This map will specifically include:
 - Boundary lines for the Planning Land Units (PLUs) and/or SHMUs 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 client or clients. The PLU is the minimum unit for planning.
 - Land-use designation and any applicable modifiers such as irrigation for each PLU and/or SHMU, as appropriate.
 - Acreage for each PLU and/or SHMU.
 - Location of sensitive resources and setbacks, if applicable.
 - Soil map units identified by field or SHMU and interpretations or soil properties as defined by the state including drainage class and hydrologic group, ecological site and forage suitability group, soil health properties and interpretations.
 - Location of planned and applied conservation practices.
 - 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.).
 - iii. Resource maps of the PLU and/or SHMU
 - Soils maps, and other resource maps as applicable.
 - An existing Wetland delineation map, if any.
- b. At a minimum, all maps developed for the CPA will include:
 - i. Title block showing:
 - Map title.
 - Client's name (individual or business).
 - Prepared with assistance from USDA – Natural Resources Conservation Service.
 - Assisted By [TSP planner's name].
 - Name of applicable conservation district, county, and State.

- Date prepared.
- ii. Map scale.
- iii. Information needed to locate the planning area, such as geographic coordinates, public land survey coordinates, etc.
- iv. North arrow.
- v. Appropriate map symbols and a map symbol legend on the map or as an attachment.

4. Conservation Plan

A record of the client's preferred alternative, which includes:

- a. For all land uses
 - i. PLU and/or SHMU label (name, number, or both)
 - ii. Existing conservation practices by field, PLU, or SHMU
 - iii. Operation equipment inventory
 - iv. Existing nutrient management strategies by crop rotation, as applicable
 - v. Existing Pest Management Strategy (PAMS narrative and pesticides typically utilized in operation with EPA registration #)
 - vi. Soil amendments used in the operation by field or SHMU
 - vii. Livestock utilized in the operation and management details, as applicable
 - viii. NRCS conservation practice name and code for applied and planned practices required for the system by SHMU
 - ix. Estimated amount planned or applied
 - x. Brief description of the planned conservation practices (practice narratives)
 - xi. As needed, applicable "Conservation Practice Overview" sheets or other prepared material

5. Resource Inventory and Assessment Documentation

- a. Results from NRCS-approved resource assessment technology tools, that are appropriate for the resource conservation needs and client objectives, to compare the benchmark condition with the planned alternative condition, including as applicable:
 - i. Soil Testing 216 Conservation Evaluation and Monitoring Activity
 - ii. In-Field Soil Health Assessment for Cropland
 - iii. Pasture Condition Score Sheet
 - iv. Interpreting Indicators of Rangeland Health reference sheet
- b. Any additional assessments, maps, and sketches resulting from the planning process used in preparation and arriving at the alternative selected in Part 4.
- c. Any photographs or documentation used to support the determination documented.
- d. Document the effects of each Alternative on other resources concerns.
- e. 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.
- f. An evaluation of the alternative's effects on the client's land use, capital, labor, management, risk, profitability, and public health and safety.

References

- USDA Natural Resources Conservation Service. National Planning Procedures Handbook.
<https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=44407>
- 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. Cultural Resources Handbook.
<https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=42752>
- USDA Natural Resources Conservation Service. National TSP Website.
<https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/technical/tsp/>
- USDA Natural Resources Conservation Service. National TSP Resources.
<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/technical/tsp/?cid=nrcseprd1417414>