



Conservation Planning Activity

Comprehensive Nutrient Management Plan

CPA 102

Definition

A site specific conservation plan developed for an Animal Feeding Operation (AFO) that includes the following two components: (a) The production area including the animal confinement, feed and other raw materials storage areas, and the waste handling containment or storage areas, and (b) the land treatment area, including any land under control of the AFO owner or operator, whether it is owned, rented, or leased, and to which manure or process wastewater from the production area is, or might be, applied for crop and/or pasture production.

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. The intent is 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 provided 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

- 1) The CPA 102 must be developed by a TSP who meets NRCS Comprehensive Nutrient Management Plan (CNMP) certification requirements.
- 2) Minimum technical criteria to be addressed in the development of a CNMP CPA:
 - a) Must comply with Federal, Tribal, State, and local laws, regulations, and permit requirements and meet the producer's objectives.
 - b) Must be developed to assist participant in taking voluntary actions to minimize potential pollutants from animal confinement facilities and the land application of manure and organic by-products.

- c) Must utilize applicable resource assessment tools to address and recommend planned conservation practices.
 - i) Water Erosion:
RUSLE2 simulation reports for the benchmark and the agreed upon conservation practice changes are included as part of the CNMP-DIA document.
 - ii) Wind Erosion:
Complete the Wind Erosion Prediction System (WEPS) on all fields to document reduction of wind erosion loss after installation of conservation practices. Include the WEPS simulation report.
 - iii) Nitrogen Leaching and Off-site Movement:
Completed state approved environmental risk assessment tool designed to assess the potential for nitrogen movement out of agricultural lands via leaching, surface offsite transport and atmospheric loss. The Leaching Index functionality within RUSLE2 may be used when a state N assessment is not available. Report will document the effect of installed conservation practices.
 - iv) Phosphorus Assessment/Index:
Completed state approved risk assessment showing the installed conservation practice effect on risk of P movement. If using Manure Management Planner (MMP) and MMP includes a valid state risk assessment, include the custom report document.
 - v) Air Quality:
 - (1) Prepare a report by the National Air Quality Site Assessment Tool (NAQSAT) to evaluate air quality resource concern on confinement-based animal operations with a maximum capacity greater than or equal to 300 animal units for the following species: swine, dairy, beef, horse, broiler chickens, layer hens, and turkeys.
 - (2) An updated NAQSAT report must be prepared representing the management of the operation after implementing the potential mitigation options. The NAQSAT is accessible free of charge at <http://naqsat.tamu.edu>.
 - (3) Specify odor management controls for applicable conservation practices that may include:
 - (a) Install visual screen via tree lines or fence rows to contain odors and reduce complaints from neighbors.
 - (b) Divert clean water to help keep the facility dry.
 - (c) A cover will be kept on the silage or it will be kept in "Ag Bags".
- d) Must ensure that the livestock operation remains environmentally sustainable by determining the quantity of manure nutrients (nitrogen, phosphate, and potash) being generated by the operation. Determine how the nutrients will be utilized either on the livestock farm or transported off the farm for utilization elsewhere to ensure a Whole Farm Nutrient Balance. Note: Additions to the Balance for livestock feed or purchased nutrients are not required for CPA 102. Those inputs are required in DIA 101 CNMP Design and Implementation Activity.
- e) Must document participant's decisions.
- f) Requires evaluation and documentation of compliance with the National Environmental Policy Act, the Endangered Species Act, the National Historic Preservation Act, and other effects on the environment. This evaluation and documentation process WILL BE COMPLETED BY NRCS.
- g) In most situations, a combination of conservation practices and management activities will be required to meet the production needs of the AFO participant and the resource

concerns associated with the farmstead and land treatment areas. The FOTG Section III and National Planning Procedures Handbook (NPPH) contains additional information and guidance.

3) The TSP must:

- a) Arrange a pre-work meeting between the participant, TSP and NRCS field office staff in order to establish collaboration and address any questions among the parties.
- b) Maintain a written and date-ordered record of discussions with the participant that are related to this planning activity.
- c) Conduct an on-site inventory of participant's planning area to inventory the farmstead as well as current land uses and land management systems in the operation.
- d) Use NRCS-approved technology tools and protocols to assess resource concerns, as indicated in the state's FOTG, Section 3.
- e) Develop 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).
- f) 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.

4) Produce 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. Farmstead (Production Area):

- a) Review/develop plan map(s) showing existing and planned structures (See Title 180, Part 600 "National Planning Procedures Handbook", Subpart D "Plan Format and Content", Section 600.31(A) for map requirements), and soils map(s) for all fields indicating map units. Note: Provide a brief description of any limitations of the soil for desired use. Appropriate conservation practices, existing or planned, will address the limitations.
- b) Record Animal Inventory Information (both existing and proposed) must include such information as type, number, average weight, and number of days confined.
- c) Record Manure Storage Information must include type of manure storage, existing storage volumes/sizes (when applicable) and maximum length of storage available. When applicable, document planned imports, exports, and on-farm transfers of manure.

5) Crop and Pasture (Land Treatment Area):

- a) Review/develop plan map(s) showing application fields, soils, application setbacks, existing and planned crop and pasture practices.
- b) Review current state of inventory:
 - i) Any existing results of approved risk assessment tools for soil erosion, nitrogen, and phosphorus.
 - ii) Identify sensitive area setback distances required for application of organic or inorganic nutrients to protect water quality.
 - iii) Soil test result data, if available. New or updated soil tests shall be scheduled if analysis exceeds testing recommendations.
 - iv) Manure nutrient analyses, as well as water, compost, organic by-product, and plant tissue sample analyses applicable to the plan. Schedule any new sampling according to LGU recommendations.

- v) Confirm or update the current and/or planned crop rotation including realistic yield goals for the crops.
- vi) Listing and quantification of all nutrient sources, fertilizer recommendations, planned nutrient applications and form.

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 (when using MMP, the national template cover page will meet these requirements):

- 1) CPA name and number.
- 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 FOTG 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) Any additional assessments, maps, and sketches resulting from the planning process used in preparation and arriving at the alternative selected.
- 2) Any photographs or documentation used to support the determination documented.
- 3) Document the effects of each alternative on other resources concerns.
- 4) 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.
- 5) 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 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 copies of correspondence between the TSP and the participant relating to decision-making 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 planning 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. (180 NPPH § 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) Location and description of livestock production facilities.
 - f) Location of land application areas.
 - g) Location of filter strips, grassed waterways, designated buffers and no manure application areas.
 - h) Locations of planned and applied conservation practices.
 - i) 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) Resource maps of PLU:
- a) Soils maps, and other natural resource maps as applicable.
 - b) An existing Wetland determination or delineation map.
- 4) If available, the Geographic Information Systems (GIS) electronic shapefiles created for the operation.
- 5) Maps for this CPA must include these features:
- 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

This planning activity applies to farmstead (production area) and crop and pastureland (land treatment areas).

The practice schedule must meet the NRCS planning criteria on both the production and land treatment areas for water quality (nutrients, organic, and sediments in surface and ground water), soil erosion (sheet and rill, wind, ephemeral gully, classic gully, and irrigation induced), and air quality (emissions of particulate matter (PM) and PM precursors and objectionable odors).

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

- 1) Farmstead (Production Area):
 - a) Record of Decision – Provide a table, titled “Farmstead Practice Schedule” indicating all of the following:
 - i) Tract Number to have practice(s) installed.

- ii) PLU (Field) number to have practice(s) installed.
- iii) Practice Code and Practice Name (Codes and Names are used for conservation practices, conservation activities, enhancements, and bundles) to be implemented.
- iv) Brief description of the planned conservation practices (practice narratives) or practice scenario.
- v) Estimated Amount of each practice to be implemented, and the practice's measurement units.
- vi) Dates (month and year) the conservation activities are intended to be 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 Farmstead Practice Schedule. For practices previously planned and applied with NRCS technical assistance those plans will be in the participant's case file in the local NRCS field office (engineering plans, job sheets, or implementation requirements).

Table 1. Example Farmstead Planned Practice Schedule

Tract Number	PLU (Field) #	Practice Code	Practice Name	Brief Description or Scenario	Planned Amount	Practice Units	Planned Date
1000	HQ	313	Waste Storage Facility	Excavated Storage Pond	423,042	Cu Ft	June 2023
1000	HQ	521	Pond Sealing or Lining, Geomembrane, or Geosynthetic Clay Liner	Flexible Membrane – Uncovered with liner drainage or venting	11,074	Sq Yd	June 2023
1000	HQ	533	Pumping Plant	Livestock Manure Transfer	1	No.	June 2023
1000	HQ	632	Waste Separation Facility	Earthen Settling structure with pipe outlet	254,745	Cu Ft	June 2023
1000	HQ	634	Waste Transfer	Pressure Flow, 8-inch diameter conduit	370	Ft	June 2023

- b) Evaluation of existing waste handling/storage structures for integrity and capacity, site feasibility data if needed (such as topographic survey, soil boring or flow zone information).
 - i) For evaluation of existing waste handling/storage structures, use CEMA 227 Evaluation of Existing Waste Storage Facility Components.
 - ii) Date any applied practices were completed.
- c) Description of Animal Feeding Operation:
 - i) Information Table (As planned): Animal numbers, type, average weight, confinement period, percent confinement, and location.
 - ii) Manure storage: Must include storage identification, type of manure storage including the type and adequacy of the liner for liquid storages, existing capacity, volumes and maximum length of storage available, permanent and total storage on farm.
 - (1) For liquid waste storage: document freeboard, 25 yr. 24 hr. storm, available, permanent, and total storage in gallons, volume of sludge stored and available sludge storage, and an estimate of number of years till sludge cleanout will be needed.
 - (2) For each storage period, document the volume (where applicable): Manure collected, bedding volume, wash water volume, silage leachate, runoff, direct rainfall and total volume required for that period.
 - (3) Document all planned imports, exports, and on-farm transfers of manure (when

applicable). Include location moved from, location moved to, and volume moved.

iii) Narrative description of waste management system and animal mortality management.

2) Land Treatment Area(s) (cropland and pasture and other lands where nutrients from the AFO will be applied):

a) Record of Decision – Provide a table, titled “Land Treatment Areas Practice Schedule” indicating all of the following:

- i) Tract number to have planned practices installed.
- ii) PLU (field) number to have planned practice installed.
- iii) Practice Code and Practice Name (Codes and Names are used for conservation practices, conservation activities, enhancements, and bundles) to be implemented.
- iv) Estimated amount of each practice to be implemented, and the practice's measurement units.
- v) Scenario or brief description of the conservation practice (practice narrative).
- vi) Date (month and year) the planned practice is scheduled to be implemented.

The Practice Schedule is used in conjunction with a conservation plan map to document the participant's decision and vision for conservation implementation. Table 2 provides an example Land Treatment Area Practice Schedule. For practices previously planned and applied with NRCS technical assistance those plans will be in the participant's case file in the local NRCS field office (engineering plans, job sheets, or implementation requirements).

Table 2. Land Treatment Area Example Planned Practice Schedule

Tract Number	PLU (Field) #	Practice Code	Practice Name	Brief Description or Scenario	Planned Amt	Practice Units	Planned Date
1280	3, 5, 7	340	Cover Crop	Multispecies	75	Ac.	Sept. 2023
1280	7, 8, 9, 11	590	Nutrient Mgt	Manure + Commercial Fertilizer	250	Ac.	Sept. 2023
1130	1, 2, 4	590	Nutrient Mgt.	Manure + Commercial Fertilizer	233	Ac.	Dec. 2024
1280	7	590	Nutrient Mgt	Manure + Commercial Fertilizer	30	Ac.	Sept. 2024
1280	7, 8, 9, 11	590	Nutrient Mgt	Manure + Commercial Fertilizer	250	Ac.	Sept. 2025

- b) Summary of risk analyses results, including field identification, erosion estimates, nitrogen, phosphorus and any other risks assessed.
- c) Manure application setback distances, including field identification, location size, and distance to water.
- d) Soil test data, including field identification, date, test type, and result.
- e) Manure nutrient analysis, including date, test type, location, and result.
- f) Existing crop rotation, including year, crop, yield goals, nutrient requirements (N-P-K) and nutrient recommendations.
- g) Develop and provide all supporting documentation, including any additional items required by the State Conservationist including any geospatial layers (if available) for the Planning Land Unit (PLU), practices, resource inventory, and another map features.

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 electronically send 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 DIA deliverables, prior to asking for its acceptance.
- 2) Upload electronic copies of all the items listed under the **Deliverables** heading on NRCS Registry. (If using MMP, include the “.nat-cnmp.doc” and the .mmp file).

References

University of Nebraska Extension publication: Estimating a Whole Farm Nutrient Balance
<https://extensionpublications.unl.edu/assets/pdf/ec189.pdf>

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://www.nrcs.usda.gov/resources/guides-and-instructions/field-office-technical-guides>

USDA Natural Resources Conservation Service. National Agronomy Manual.
<https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=29606>

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/resources-for-certified-technical-service-providers>

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 planning 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 socio-economic 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.

Document Decisions (Step 7)

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