



Conservation Evaluation and Monitoring Activity

Forest Management Assessment

CEMA 223

Definition

An in-depth forest stand level resource inventory.

Applicable Land Uses

Forest

REQUIREMENTS

Qualified Individual Requirements

The Natural Resources Conservation Service (NRCS) strongly encourages participants to know the following Qualified Individual (QI) Requirements to ensure the person they hire is a good match for their needs and objectives.

A QI for this CEMA has one of the qualifications listed below:

- The QI will be a Certified Forester, Certified Consulting Forester, or state licensed forestry professional, or
- A non-affiliated consultant with a Bachelor's degree in forestry or natural resources, or
- A minimum of two years' experience in forest inventorying.

General Requirements

- 1) This CEMA includes the performance of work and documentation of the tasks, results, interpretations, and other activities described herein by a QI.
- 2) Prior to initiation of the CEMA, arrange a pre-work conference to ensure all parties understand the participant's objectives, required deliverables, and characteristics of the CEMA tasks.
 - a) The parties in the pre-work conference must include the participant, the QI, and the NRCS field office staff. The parties should agree whether they will join in-person or join via phone, web-meeting, etc.
 - b) If the participant will employ a Technical Service Provider (TSP) to implement a Conservation Planning Activity (CPA) or Design and Implementation Activity (DIA) that will be supported by results of this CEMA, it is recommended to invite them to the pre-work conference too.
- 3) A QI may use any reference information, resource concerns, conservation practice standards and related documents served in the NRCS Field Office Technical Guide (FOTG) for the state where this CEMA is performed. The FOTG home page hyperlink is:
<https://efotg.sc.egov.usda.gov/#/>

Technical Requirements

- 1) The Forestry Management Assessment activities assess the current forest stand condition and will document at a property level, forest inventories for all forested parcels on the property where one or more forest related forest management activities are planned to address one or more resource concerns.
- 2) An on-site visit is required by the QI to complete the forest inventory activities.
- 3) Evaluation of the current forest condition is required to implement the forest management plan and all supporting practices. Provide a narrative that includes:
 - a) Date the site visit(s) was completed.
 - b) Conduct an in-depth stand-level resource inventory and assessment. Inventory needs to comply with State law or requirements.
 - c) Use inventory plot data summarized at the stand level supplemented, as necessary, with site-level assessment information, to document existing benchmark conditions and special environmental concerns.
 - d) The QI will collect data about sensitive features, such as wetlands, endangered species, or cultural/historic sites on the property, as needed. NRCS will use this information to complete the CPA-52.
- 4) Refer to **DELIVERABLES** section for requirements.
- 5) The inventory will be used to:
 - a) Verify the appropriate practice or combination of forest management practices to treat one or more resource concerns as identified in the landowner's forest management plan.
 - b) Write implementation requirements for each planned forestry and/or agroforestry conservation practice including facilitating practices.

DELIVERABLES

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

Cover Page

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

- 1) CEMA name and number.
- 2) Participant information: Name, farm bill program name, contract number (QI obtains contract number from participant), land identification (e.g., state, county, farm, and tract number).
- 3) QI name, address, phone number, email.
- 4) A statement by the QI explaining how they currently meet the QI Requirements for this CEMA. Attaching or enclosing a copy of documentation for how the QI requirements are met is encouraged. Examples include:

- a) Certified Forester, Certified Consulting Forester, or state licensed forestry professional, or
 - b) A non-affiliated consultant with a Bachelor's degree in forestry or natural resources, or
 - c) A minimum of two years' experience in forest inventorying.
- 5) A statement by the QI that services provided meet NRCS requirements, such as:
- I certify the work completed and delivered for this CEMA:*
- *Complies with all applicable Federal, State, Tribal, and local laws and regulations.*
 - *Meets the general requirements, technical requirements and deliverables for this CEMA.*
 - *Is consistent with and meets the conservation objectives for which the program contract was entered into by the participant.*
 - *Addresses the participant's conservation objectives for this CEMA.*
- QI Signature: _____ Date: _____
- 6) A Participant's acceptance statement, such as:
- I accept the completed CEMA deliverables as thorough and satisfying my objectives.*
- Participant Signature: _____ Date: _____
- 7) A space for an NRCS reviewer to certify the agency's acceptance of the completed CEMA and, such as:
- NRCS administrative review completion by:*
- Signature: _____ Title: _____ Date: _____

Notes and Correspondence

- 1) Document each site visit, its participants, the activity completed in the field, and results of each site visit.
- 2) Copies of observations, data, technology tool output, or test results prepared during completion of this CEMA.

Maps

- 1) Maps to include in the CEMA-223 may be incorporated from a CPA-106 or equivalent forest management plan, but not be limited to:
 - a) General location map of the implementation areas.
 - b) Forest management plan base map (this may consist of several maps to account for the entire planning area). This map will specifically include:
 - i) 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, that has common land use and is owned, operated, or managed by the same participant or participants. The PLU is the minimum unit for planning.
 - ii) Acreage of each PLU.
 - iii) Forest stand boundaries.
 - iv) Unique identifying code for each forest stand.
 - v) Location of existing conservation practices.

- vi) If the planning area includes nonprivate lands, such as Federal or Tribal lands, include a land status map displaying land ownership categories (Private, State Trust, BLM, Tribal, and Territorial, etc.).
- c) Resource maps of the PLU.
 - i) Soils maps, and other resource maps as applicable.
 - ii) An existing wetland delineation map, if any.
- 2) At a minimum, all maps developed for the CEMA will include:
 - a) Title block showing:
 - i) Map title.
 - ii) Participant's name (individual or business).
 - iii) Prepared with assistance from USDA – NRCS.
 - iv) Assisted By [name].
 - v) Name of applicable conservation district, county, and State.
 - vi) Date prepared.
 - b) Map scale.
 - c) Information needed to locate the assessment area, such as geographic coordinates, public land survey coordinates, etc.
 - d) North arrow.
 - e) Appropriate map symbols and a map symbol legend on the map or as an attachment.

Evaluation Results

An in-depth stand-level resource inventory. Document findings on resource concerns, existing benchmark conditions, and provide stand-level descriptions and data summaries.

- 1) Forest stand inventories, including plot data, are used in summarizing stand attributes. Follow inventory guidance in NRCS [Forestry Inventory Methods, Technical Note No. 190-FOR-01, Jul 2018](#). Document inventory methods utilized.
 - a) Attach forest inventory plot data as an appendix.
- 2) A stand-level summary, for each stand, will include:
 - a) Forest type.
 - b) Basal area.
 - c) Trees per acre.
 - d) % Stocking.
 - e) Diameter distribution by species.
 - f) Site indices for major species, estimated from published height-age curves.
 - g) Stand health based on observations of insects and disease, fire fuels, invasive species, level of mortality, crown ratios, impacts of past management, etc.
 - h) Estimate of current stand age, or age of dominant/co-dominant canopy trees, if an uneven-aged stand.
 - i) Estimated canopy height for dominant and codominant trees.
 - j) Noxious and invasive plant species.
 - k) Presence of regeneration if pertinent to management recommendation.
- 3) Property level descriptions may be needed for special environmental concerns. Describe benchmark (existing) conditions and any resource concerns or limitations, for the following. NRCS will use this information to complete the CPA-52.
 - a) Protected species, historic properties, and cultural resources.

- b) Adjacent stand or ownerships that present opportunities or limitations to management options.
- c) Recreation uses by the landowner.
- d) Access to the stand and condition of roads, trails, landings, and stream crossings.
- e) Soil and site descriptions, including relevant soil interpretations, slope, topography, and aspect.
- f) Streams, wetlands, ponds, and lakes.
- g) Past management, harvesting, natural disturbances, and/or other land use history that has affected stand condition and/or growth potential.
- h) Fish and wildlife species and habitat elements.
- i) Risk of insect and disease infestation.
- j) Reforestation and afforestation opportunities.
- k) Prescribed burning opportunities.
- l) Wildfire risk (surface and crown fires).
- m) Other important features as determined by the QI.

Deliver Completed Work

- 1) The QI must prepare and provide the participant two sets of all of the items listed in the **General Requirements**, the **Technical Requirements** and the **Deliverables** sections of this document.
- 2) One set is for the participant to keep.
- 3) The other set is for the local NRCS Office.
- 4) The QI may transmit a set of the completed work to the local NRCS Office, if their participant has authorized it.

It is recommended to provide the NRCS field office an opportunity to review the CEMA deliverables, prior to asking for their acceptance.

References

USDA Natural Resources Conservation Service. Cultural Resources Handbook.

USDA Natural Resources Conservation Service. Field Office Technical Guide.

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

USDA Natural Resources Conservation Service. Forestry Inventory Methods, Technical Note No. 190-FOR-01.

<https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=42554.wba>

USDA Natural Resources Conservation Service. National Environmental Compliance Handbook

USDA Natural Resources Conservation Service. National Planning Procedures Handbook.

<https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=44407>