

Field Inventory Guidance for a 319 and Clean Michigan Initiative (CMI) approved Watershed Management Plan (WMP)

The United States Environmental Protection Agency's (USEPA) 2013 *Nonpoint Source Program and Grants Guidelines for States and Territories* requires that WMPs meet nine minimum elements before implementation projects can be funded with Section 319 or matching funds. Field inventories support the nine element requirements and are defined as an on-the-ground inspection of an aquatic system, its riparian zone, or the upland portions of the watershed directly contributing runoff or interflow. The primary goal of a field inventory is to identify the specific sources and causes of nonpoint source (NPS) pollutants impairing a waterbody's designated use as identified in [Michigan's Integrated Report](#). Field inventories require a significant commitment of time and effort, making it important to target and prioritize where they are conducted. In general, the following three steps should be followed when conducting a field inventory.

Step 1: Conduct a desktop analysis of existing data. All watershed planning efforts should start with a comprehensive **desktop analysis**. The desktop analysis should provide an understanding of: potential sources of pollutants; what areas in the watershed are likely to have the greatest impact on water quality; and the spatial, and if possible, temporal, variation in the magnitude of a pollutant. The desktop analysis minimally consists of characterizing the watershed and assessing monitoring data:

- **Characterizing** includes a compilation and summary of the biophysical (e.g., land cover, land use, soil, or topographic data), hydrographic (e.g., linear miles of stream or lake acreage), and social (e.g., population density or other demographic data) attributes of the watershed.
- **Assessing** monitoring data includes a compilation and evaluation of appropriate monitoring data within the watershed, against a standard or reference condition.

The use of [aerial imagery](#) is strongly encouraged as part of the desktop analysis. In addition, grantees should consider collecting additional monitoring data to address data gaps prior to inventory work to better target efforts. Pollutant loading models may be used for prioritizing and targeting areas with little or no monitoring data. Evaluating the information associated with the characterization and assessment components of the management plan will help determine what areas to target for field inventories.

Step 2: Determine how existing data will be used during plan development, identify data gaps, and then write a Quality Assurance Project Plan (QAPP). A QAPP is required for the use and collection of any environmental data funded by Michigan's NPS Program or counted as match for a NPS project. More specifically, the use of existing data for new purposes, conducting a field inventory, and water quality sampling conducted as part of grant funded projects cannot be conducted before QAPP approval. Field inventory QAPPs should be developed following the NPS Program guidance, which is currently being developed. NPS Program Staff are available to assist in the interim.

Step 3: Conduct a field inventory. After the Department of Environmental Quality (DEQ) approves a QAPP, grantees can use existing data for the purposes stated in the QAPP and collect new data according to the QAPP. Nine element plans identify all of the impaired sites on the State's nonattainment list as well as specific causes of impairments and pollutant sources. Summaries of field inventories included in the plans can be used to identify and prioritize specific sites for action.

For **restoration** projects, field inventories form the basis of a detailed nine element WMP in areas with waters on the State's nonattainment list. The NPS Program's Section 319 and CMI matching grants will generally favor applicants proposing structural/vegetated best management practices (BMPs) in areas where an inventory has been conducted because the DEQ is required to show the USEPA the link between BMPs and the priority recommendations in an approved WMP prior to selecting pass-through grant projects.

For **protection** projects in watersheds without waters on the State's nonattainment list, grantees may choose not to conduct a field inventory, as a different type of inventory may be more appropriate. The appropriate type of inventory will be determined on a case-by-case basis and grantees should seek advice from NPS Program Staff if they intend to submit protection plans for approval by the DEQ. At a minimum, protection plans should include a comprehensive desktop analysis in which priority preservation and critical areas are identified. Without an inventory, the management plan will not be competitive for Section 319 or CMI-NPS funds for the reason noted above.

Inventory Form and Data Expectations: The NPS Program has developed a [field inventory form](#) and [instructions](#) for the form to document potential pollutant sources. The use of this form is suggested to ensure that all necessary information is collected. The form includes all information required for using the Spreadsheet Tool for Estimating Pollutant Load model for pollutant load calculations. Conducting pollutant load calculations is required for all nine element plans.

As field inventories are conducted, site specific Global Positioning System (GPS) information should be recorded in the decimal degrees format using the World Geodetic System 1984 geographic coordinate system. At a minimum, WMPs that meet the nine elements have the following attributes:

1. Site specific GPS information (e.g., latitude/longitude) for each proposed physical BMP displayed on a map in the WMP.
2. The WMP clearly states that the GPS information is available and how it can be obtained.
3. The GPS information is provided to the NPS Program along with the WMP for approval.

GPS information should be submitted in the correct format using the [template](#) provided by the NPS program. The GPS information should include: site name, latitude (decimal degrees), longitude (decimal degrees), potential pollutant, potential source, pollutant load estimate, and priority level. If the grantee so chooses, the GPS information can be included as an appendix in the WMP. It is important to be aware that most information submitted to the DEQ is subject to the Freedom of Information Act and can be given to anyone upon request.

WMPs must address water quality impairments and identify potential pollutant sources/causes to meet the nine elements. Field inventories are the best way to gather that information. Also, nine element WMPs must address water quality impairments in the vicinity of waters listed on the State's nonattainment list so inventories should be specifically targeted to those areas. If a

Total Maximum Daily Load (TMDL) document has been completed prior to WMP approval, site specific information identified in the TMDL document must be incorporated into nine element WMPs and be taken into account when determining implementation priorities.

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