

January 16, 2018

Data Quality Record for Strategic Measures

Strategic Measure Text: By September 30, 2022, reduce the number of square miles of watershed with surface water not meeting standards by 37,000 square miles

Goal Number/Objective: Goal 1: Core Mission/Objective 1.2: Provide for Clean and Safe Water

NPM Lead: Office of Water (OW)

1a. Purpose of Strategic Measure:

The purpose of this measure is to track the progress of water quality standards attainment in water previously identified as impaired in the Integrated Report as of October 1, 2018. Progress will be evident by a positive trend in previously impaired waters attaining water quality standards.

1b. Performance Measure Term Definitions:

- Catchment-based indexing:¹ An automated process that corresponds state geospatial information (e.g., streams, lakes, HUCs, basins) with NHDPlus Version 2 catchments. Catchments represent the local drainage area for the individual stream segments of a specific stream network.² The process to correspond the state's geospatial information to catchments varies depending on the type of input file: linear files (representing rivers and streams), area files (representing lakes, ponds, or reservoirs), or boundary files (representing Watershed Boundary Dataset Hydrologic Units). EPA will be responsible for the Catchment Indexing Process (CIP) Tool. For more information about NHDPlus V2 catchments, see <https://www.epa.gov/waterdata/nhdplus-national-hydrography-dataset-plus>.
- Water Quality Standards Attainment means that 1) the impairments have been effectively removed by corrective actions (i.e., restoration efforts) and 2) the waterbody now either fully supports the use or meets the water quality criterion for that particular pollutant or stressor for which it had been impaired.

1c. Unit of Measure: Square miles. The goal is by 2022, reduce the number of square miles with surface water not meeting standards by 37,000 square miles.

2a. Data Source:

- Relevant information system: The Assessment and Total Maximum Daily Load Tracking and Implementation System (ATTAINS) will be the data system of record.
- Entity that reports data to the system: States submit to EPA their Integrated Report on April 1 of every even numbered year. The Integrated Report includes information on the status of the states' waters, which is used to report on this measure.
- Frequency of reporting primary data: In odd years, new information may not be available, so no changes may be seen.
- Reference to Quality Assurance Project Plan: State geospatial data, which is used to calculate these measures, is processed to the NHDPlus using an automated process, and is QA'd following an approved Quality Assurance Project Plan (QAPP). This QAPP is part of the overall ATTAINS task order, and is available upon request.

2b. Data needed for interpretation of (calculated) Performance Result:

- Universe: Area corresponding to the impaired waters (assessment units) identified in the state's most recent Integrated Report (i.e., Categories 4 and 5). The draft universe is 464,020 square miles —based on state Integrated Report data available in ATTAINS as of September 2017. A final universe will be set in

¹ For the Integrated Reporting Georeferencing Pilot Report visit <https://www.epa.gov/waterdata/water-quality-framework>

² EPA is currently working to develop NHDPlus catchments for Alaska.

October 2018 and progress against that universe will be tracked for four years (October 1, 2018 to September 30, 2022).

- Baseline: A baseline for this measure is not applicable
- Frequency of Reporting: Annual. As part of the EPA performance measures reporting process, each fiscal year states are expected to provide a commitment that reflects the assessment units that are expected to be meeting water quality standards by the end of the fiscal year.

3. Methodology:

The measure looks at the assessment unit / pollutant combinations that will be tracked over a 4-year period starting on October 1, 2018 based on the most up-to-date state Integrated Report data available in ATTAINS. The catchment area that is associated with the assessment units will be used to report on the measure.

The process to calculate this measure includes the following steps:

- Step 1: State submits assessment decision data (Integrated Reporting data) to EPA
- Step 2: EPA calculates the universe
- Step 3: State and EPA determine the annual commitments
- Step 4: EPA calculates the end-of-year progress

Additional details about each step are provided below.

Step 1: State submits assessment decision data (Integrated Reporting data) EPA

- On April 1 of every even-numbered year, states are required to submit to EPA their list of assessed and impaired waters, also referred to as the Integrated Report. The Integrated Report assessment decision data (attribute and geospatial data) will be submitted to EPA via the Exchange Network or Cloud Interface.
- EPA will process the state geospatial information through the Catchment Indexing Process (CIP) Tool to select the corresponding NHDPlus V2 catchments. Figure 1 below is a simple graphic showing the relationship of an assessment unit to catchments.
- EPA will conduct an internal QA/QC check of the results from the previous step.
- The catchments, which represent the assessment units, are used solely for the purpose of automating³ the calculation of the measure and providing a consistent geospatial unit of measure that can translate from the disparate geospatial scales that states use to track their assessment units. (See Figure 1).

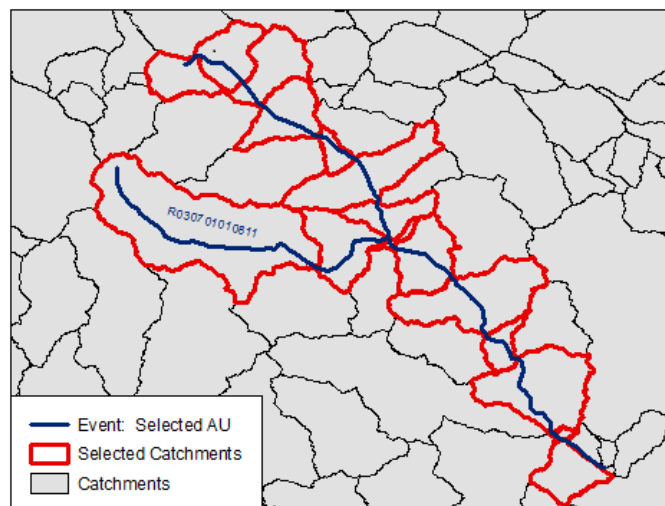


Figure 1: Graphic showing how the Catchment Indexing Process (CIP) Tool relates an assessment unit to catchments as an example to communicate how this process works.

³ Automating refers to the use of technology to run the necessary calculations for the measure. An interactive framework is being developed in the ATTAINS system.

Step 2: EPA calculates the universe

EPA will sum the area of the catchments that correspond to the impaired waters (assessment units) identified in the state's Integrated Report (i.e., Categories 4 and 5). Square miles will be calculated from the catchments.

Step 3: State and EPA determine the annual commitments

Each fiscal year, as part of the EPA performance measures reporting process, states are expected to provide final commitments in September for the assessment unit / pollutant combinations that the state expects to have monitored, assessed, and determined water quality standards attainment during the fiscal year (e.g., FY 2019, FY 2020). Because this measure will apply a weighted approach, EPA will develop a tool similar to the Scenario Builder tool used for the 303(d) and TMDL program measures for EPA Regions and states to interact with and to calculate annual commitments.

How will a weighted approach work? Take for example an assessment unit that has four pollutants and corresponds to a catchment area of 100 acres. If the state monitored and assessed two of the pollutants and determined water quality standards attainment, then the state would report this information in the state's next Integrated Report. The measure would reflect that 50% or 50 acres of the catchment area will contribute to the measure. In most, if not all, instances annual commitments will be based on best professional judgement. And this aspect is not intended to be a burden. EPA encourages continued dialogue with their state counterparts to help navigate this process.

Step 4: EPA calculates the end-of-year progress

EPA will use state assessment decisions submitted as part of their Integrated Report and available in ATTAINS. The assessment decisions (the assessment unit / pollutant combinations) that move from Categories 4 or 5 to Categories 1 or 2) for one or more of the following Water Quality Attainment Reasons:

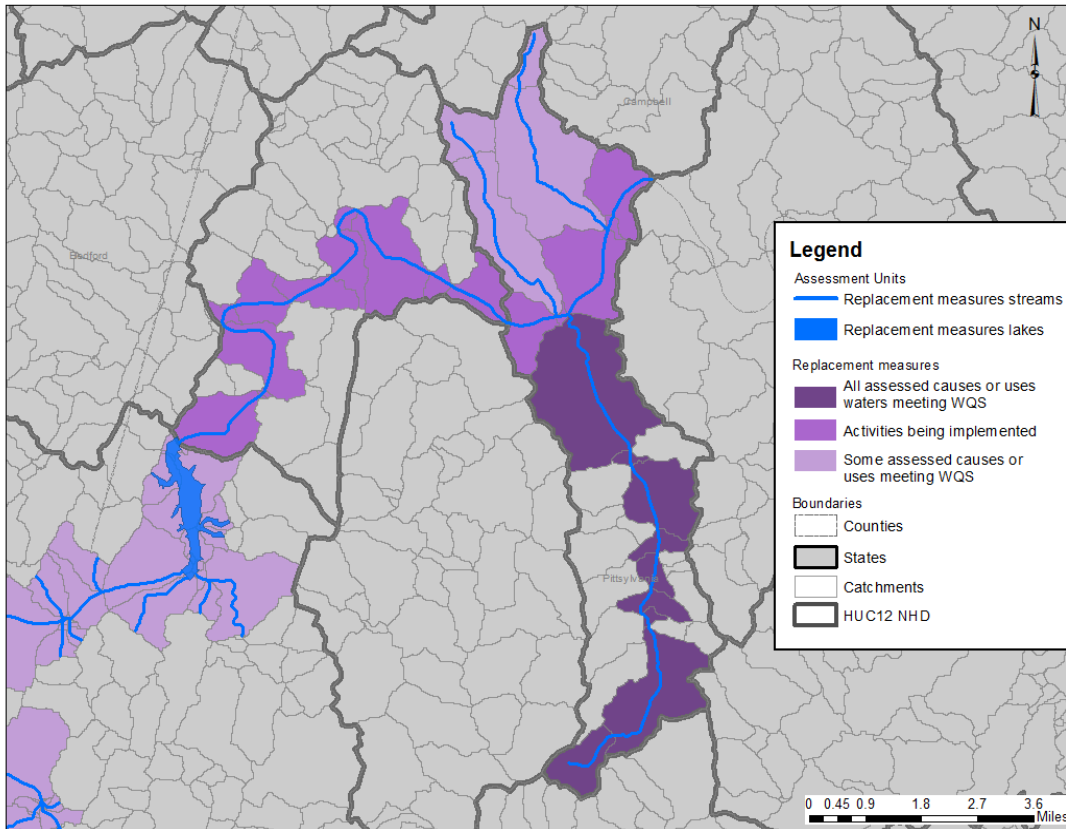
- Applicable WQS attained, according to new assessment method
- Applicable WQS attained, due to change in WQS
- Applicable WQS attained, due to restoration activities
- Applicable WQS attained; original basis for listing was incorrect
- Applicable WQS attained; reason for recovery unspecified
- Applicable WQS attained; threatened water no longer threatened
- Applicable WQS attained; based on new data

EPA will sum the weighted area of the catchments that correspond to each assessment unit / pollutant combination.

How will a weighted approach work? Take for example an assessment unit that has four pollutants and corresponds to a catchment area of 100 acres. If the state monitored and assessed two of the pollutants and determined water quality standards attainment, then the state would report this information in the state's next Integrated Report. The measure would reflect that 50% or 50 acres of the catchment area will contribute to the measure. These results will be reported at the end of each Fiscal Year based on new information reported in a state's Integrated Report and reported to EPA and available in ATTAINS.

Conceptual Display of Progress on Meeting Water Quality Standards in Waters Targeted for Local Action Performance Measure

The groups "all assessed pollutants meeting WQS" and "some assessed pollutants meeting WQS" contribute to this measure.



4. Data Limitations/Qualifications:

The information reported under this performance measure reflects the status of the states’ waters as reported in the Integrated Report. This measure tracks at a high-level reasons for WQS attainment (see below). If additional information is needed for any of these reasons, additional research would need to be conducted.

- Applicable WQS attained, according to new assessment method
- Applicable WQS attained, due to change in WQS
- Applicable WQS attained, due to restoration activities
- Applicable WQS attained; original basis for listing was incorrect
- Applicable WQS attained; reason for recovery unspecified
- Applicable WQS attained; threatened water no longer threatened
- Applicable WQS attained; based on new data

This measure does not measure incremental improvement for individual waters as they progress towards meeting water quality standards. For example, if a water is impaired for sediment, and after some restoration activity, the sediment issues are improving, but not yet meeting Water Quality Standards, this would not be counted under this measure until the water actually meets standards for sediment.

5. Technical Contact:

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6. Certification Statement/Signature

I certify the information in this DQR is complete and accurate.

DAA Signature 