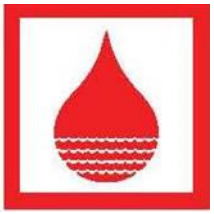
FY 2016 NWPG Water Quality Measure Definitions



Measure Code: WQ-SP10.N11

Measure Language: Number of waterbodies identified in 2002 as not attaining water quality standards where standards are now fully attained. (cumulative)

Type of Measure: Target measure; cumulative measure

Measure Contact: Hazel Groman, EPA Office of Wetlands, Oceans, and Watersheds

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Terms and phrases:

- *Waterbody* means a water body (or "segment") as identified in state-submitted section 303(d) lists and section 305(b) reports also referred to as the Integrated Report, for the 2002 reporting cycle. See EPA's guidance for such reporting under "303(d) Listing of Impaired Waters Guidance."
- *Attaining water quality standards* means that the water body is no longer impaired for any of the causes identified in 2002, as reflected in subsequent Integrated Reports.
- *Impairment* refers to a "cause of impairment" in state- reported data, stored in ATTAINS (Assessment Total Maximum Daily Load (TMDL) Tracking and Implementation System) or its predecessors NTTS (National TMDL Tracking System) or NAD (National Assessment Database). Any water body listed as impaired in these data bases must have an impairment cause entered.

Methodology for computation of results: This measure counts waterbodies (segments). Two impairments removed on the same water body (assuming there were no other impairments on that waterbody) would count as one waterbody for Measure WQ-SP10.N11. (They would count as two impairments removed, however, under measure WQ-SP11; see definition of WQ-SP11.)

This measure is designed to demonstrate cumulative successes of the surface water program in achieving water quality standards in waters formerly assessed as not meeting water quality standards. It holds constant the fixed base of waters known to be impaired in the 2002 reporting cycle and focuses on the cumulative number of those impaired waters that now meet water quality standards. The measure is calculated by comparing the fixed baseline of state- or EPA-listed waters in the 2002 reporting cycle to the current list of impaired waters submitted in state Integrated Reports due on April 1 of every even numbered year (e.g., 2010, 2012, 2014). Waters that are meeting water quality standards in the reporting year for the impairments listed in 2002 will be counted toward meeting this measure in that year. If a water body is impaired by multiple causes, it cannot be counted as meeting this measure until all water quality standards are met, except as noted for mercury.

If a waterbody in the 2002 universe is subsequently re-segmented, it cannot be counted under SP-10 unless all the new segments meet the requirements for counting.

A waterbody in the universe may be counted under this measure when it attains water quality standards for all impairments identified in the 2002 reporting cycle, as reflected in subsequent Integrated Reports Impairments that are identified in later Integrated Reports are not considered for this measure. States have the additional option of reporting improvements of waters that are not part of the 2002 baseline. Although these improvements will not be counted towards what's being reported for this measure, they will be included in the narrative portion of the report to provide a complete picture of the work that is being done. Waterbodies where mercury is among multiple impairments may be counted toward this target when all impairments but mercury attain standards. Of waters counted under this measure, EPA will continue to identify and track separately those waters still needing restoration for mercury. For purposes of this measure, "mercury" includes all forms of mercury, including methyl mercury.

Waters that are delisted for the following reasons can be counted toward meeting this measure:

Delisting Reason in ATTAINS	Can Removal of Impairment Cause Be Used For Reporting Under SP-10?
Applicable WQS attained; due to restoration activities	YES
Applicable WQS attained; due to change in WQS	YES
Applicable WQS attained; according to new assessment method	YES
Applicable WQS attained; threatened water no longer threatened	YES
Applicable WQS attained; reason for recovery unspecified	YES
Applicable WQS attained; original basis for listing was incorrect	YES
Data and/or information lacking to determine water quality status; original basis for listing was incorrect	YES

Note that measure WQ-SP12.N11 uses a different methodology for determining which reasons can be counted. See definition for measure WQ-SP12.N11.

In Integrated Report terminology, to count toward this measure a waterbody must be placed in Categories 1 or 2 for all the Impairments that were identified in the 2002 reporting cycle as not attaining standards. If any 2002 Impairments belong in Categories 4 or 5, the water cannot be counted. The waterbody also cannot be counted if it is moved to Category 3 for the 2002 Impairment(s). Impairments first identified after the 2002 reporting cycle are not considered in counting waterbodies under this measure; however, as noted above, states have the additional option of reporting on other restored waters that are not part of the baseline. This measure may be met and the waterbody counted even if the waterbody becomes listed again in a later reporting cycle.

EPA's goal is to use the ATTAINS data system as the system of record for documenting assessment decisions for this measure. Until this happens, reporting for this measure will be based on each region's evaluation of state data from all available sources. In a continuing effort to improve the ability of the ATTAINS data system to track measures using the 2002 baseline waters, EPA is working with the states and regions to evaluate alternative approaches for reporting progress for future cycles that will enable better tracking of progress using the ATTAINS data system.

Units: Waterbodies (see above)

Universe: The universe consists of an estimated 39,503 waterbodies identified by states or EPA as not meeting water quality standards in 2002. Thus, 2002 is the baseline year for this measure. This universe is sometimes referred to as the "fixed base" or "WQ-SP10.N11 baseline." The universe includes all waters in categories 5, 4a, 4b, and 4c in 2002. Of these waters, 1,703 are impaired by multiple pollutants including mercury, and 6,501 are impaired by mercury alone (see discussion of mercury in Methodology above). Impairments identified after 2002 are not considered in counting waters under this measure; however, states have the option of reporting for inclusion in the narrative as discussed above.

Baseline: The baseline for this measure was zero water bodies in the baseline year of 2002.

Note that this measure is related to former Measure L in the FY 2003-2008 EPA Strategic Plan: "Percentage of waterbodies identified in 2000 as not attaining standards where water quality standards are fully attained (cumulative)." Measure L was reported in FY 2007 and earlier. The primary difference between the two measures is that Measure WQ-SP10.N11 uses a 2002 baseline year rather than the Measure L baseline year of 2000. In addition, WQ-SP10.N11 includes other refinements such as including category 4 waters in the baseline. EPA estimates that 1,980 waters reported under measure L would not count under the new version, and therefore can be added to WQ-SP10.N11 results if a combined total is desired. This combined total is used in calculating the efficiency measure for the PART review of the Water Pollution Control Grants program.

Measure Code: WQ-SP11

Measure Language: Remove the specific causes of waterbody impairment identified by states in 2002. (cumulative)

Type of Measure: Target measure; cumulative measure

Measure Contact: Hazel Groman, EPA Office of Wetlands, Oceans, and Watersheds

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Terms and phrases:

- *Specific cause of waterbody impairment* refers to an "impairment cause" in state- reported data, stored in ATTAINS (Assessment Total Maximum Daily Load (TMDL) Tracking and Implementation System) or its predecessors NTTS (National TMDL Tracking System) and NAD (National Assessment Database). Any waterbody listed as impaired in these data bases must have an impairment cause entered.
- Water body listed as *impaired* means a water body (or "segment") as identified in state-submitted section 303(d) lists and section 305(b) reports also referred to as the Integrated Report. for the 2002 reporting cycle. See EPA's guidance for such reporting under "303(d) Listing of Impaired Waters Guidance."
- *Removal of an impairment cause* means that the original specific impairment cause listed by the state or EPA in 2002 is no longer impairing the water body, as reflected in subsequent Integrated Reports.

Methodology for computation of results: This measure counts impairment causes. This measure is closely related to measure SP10, except that it counts impairments rather than water bodies. Two impairments removed on the same water body would count as two under this measure. See the definition for measure WQ-SP10.N11.

This measure is designed to demonstrate cumulative incremental successes of the surface water program in achieving water quality standards in waters formerly assessed as not meeting water quality standards. It holds constant the fixed base of waters and impairment causes known to be impaired in the 2002 reporting cycle and focuses on the cumulative number of those impairments where the water quality now meets water quality standards associated with those impairments. The measure is calculated by comparing the fixed baseline of impairments in state- or EPA-listed waters in the 2002 reporting cycle to the current list of impaired segments submitted in state Integrated Reports due on April 1 of every even numbered year (e.g., 2010, 2012, 2014).

An impairment in the universe may be counted under this measure when water quality associated with that impairment attains water quality standards as reflected in subsequent Integrated Reports. Impairments that were not identified in the 2002 reporting cycle but are identified in later lists are not considered for this measure. States have the additional option of reporting on impairments attaining water quality standards that are not part of the 2002 baseline. Although these attainments will not be counted towards what is being reported for this measure, they will be included in the narrative portion of the report to provide a complete picture of the work that is being done.

If a water body with an impairment in the 2002 universe is subsequently re-segmented, the impairment cannot be counted under WQ-SP11 unless the impairment has been removed throughout the originally-listed water body (i.e., in each of the new segments).

Impairments that are delisted for the following reasons can be counted towards meeting this measure:

Delisting Reason in ATTAINS	Can Removal of Impairment Cause Be Used For Reporting Under SP-11?
Applicable WQS attained; due to restoration activities	YES
Applicable WQS attained; due to change in WQS	YES
Applicable WQS attained; according to new assessment method	YES
Applicable WQS attained; threatened water no longer threatened	YES
Applicable WQS attained; reason for recovery unspecified	YES
Applicable WQS attained; original basis for listing was incorrect	YES
Data and/or information lacking to determine water quality status; original basis for listing was incorrect	YES

Note that Measure WQ-SP12.N11 uses a different methodology for determining which reasons can be counted.

EPA's goal is to use the ATTAINS data system as the system of record for documenting assessment decisions and tracking TMDL information. Until this happens, reporting for this measure will be based on each region's evaluation of state data from all available sources. EPA is working with the states and regions to evaluate alternative approaches for reporting progress for future cycles that will enable for better tracking of progress using the ATTAINS data system.

Units: Impairment causes for a waterbody (see above)

Universe: The universe consists of an estimated 69,677 waterbody impairments, as identified by states or EPA in the 2002 reporting cycle. Thus, 2002 is the baseline year for this measure. This universe is sometime referred to as the "fixed base" or "WQ-SP11 baseline."

Baseline: The baseline for this measure was zero impairment causes in the baseline year of 2002.

Measure Code: WQ-SP12.N11

Measure Language: Improve water quality conditions in impaired watersheds nationwide using the watershed approach. (cumulative)

Type of Measure: Target measure; cumulative measure

Measure Contacts: Carol Peterson, EPA Office of Wetlands, Oceans, and Watersheds

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Measure Definition

Terms and phrases:

- *Watershed* means (a) a watershed or hydrologic unit at the scale of 12-digit hydrologic unit codes, or HUC-12, as determined by the draft or final Watershed Boundary Dataset (WBD), or (b) a regionally defined hydrologic unit of appropriate scale. Option (b) is provided since some waters, such as coastal and estuary waters, fall outside the WBD, and may or may not be hydrologically definable at a scale comparable to inland HUC-12s. Although watersheds or hydrologic units at the 12-digit scale are technically termed "sub-watersheds" by USGS, the Strategic Plan will use the term "watershed" for simplicity.
- An *impaired watershed* is a watershed containing one or more impaired water bodies.
- *Impaired water bodies* are those identified by states and EPA in the baseline for measure WQ-SP10.N11.
- *Watershed approach* is a coordinating process for focusing on priority water resource problems that:
    - Is focused on hydrologically defined areas,
    - Involves key stakeholders,
    - Uses an iterative planning or adaptive management process to address priority water resource goals, and
    - Uses an integrated set of tools and programs.

Functionally, the watershed approach is a problem-solving tool for protecting water quality and aquatic resources. It recognizes that factors affecting the health of our nation's waters should be understood within their watershed context. It includes assessment of relevant watershed processes and socioeconomic factors, identification of priority issues and most promising corrective actions, involvement by affected parties throughout the process, and implementation at the required scale. See EPA's Water Resource website for more information. Also, see Demonstrating Use of the Watershed Approach below.

The watershed approach can be applied at any appropriate scale, including scales smaller or larger than the HUC-12 watersheds described above. Thus, for this measure, one watershed effort could result in improvements in one or in many HUC-12 watersheds, depending on its scale. For consistency, however, all successes under this measure will be reported as numbers of HUC-12 watersheds.

- Improved means either that:

- One or more of the waterbody/impairment causes identified in 2002 are removed, as reflected in EPA-approved state assessments, for at least 40% of the impaired water bodies or impaired stream miles/lake acres in the watershed (see Option 1 below); OR
- There is significant watershed-wide improvement, as demonstrated by valid scientific information, in one or more water quality parameters or related indicators associated with the impairments (see Options 2a and 2b below).

- Watersheds of focus are watersheds in which regions and states will be focusing application of the watershed approach to attain this measure. Regions and states have identified an estimated 4,767 watersheds of focus. Regions and states will maintain lists of the watersheds of focus. The watersheds of focus include watersheds that may be amenable to water quality improvement in the near term (five years), as well as watersheds where improvement may take much longer. In many cases, the time frame cannot be predicted without more information gathered for watershed planning. EPA envisions flexibility in identifying the watersheds of focus over time. EPA and the states may add, change, or remove watersheds they are focusing on as new information becomes available or as resources are reallocated. The measure thus envisions "living" lists of watersheds.

Methodology for computation of results: The methodology for Measure WQ-SP12.N11 is described in Guidance for Reporting Watershed Improvement under Measure SP-12 - FY 2009 (PDF). (16 pp, 183K, About PDF)

This methodology provides information needed for states and EPA to implement the measure. For a watershed to be counted under WQ-SP12.N11, the state and region must demonstrate that the watershed approach was applied, and that water quality improved. Either Option 1, Option 2a, or Option 2b described below may be used for demonstrating water quality improvement.

Supporting information must be provided using the appropriate template contained in the above methodology. A separate template is available for each reporting option below (1, 2a, or 2b).

An individual watershed may be counted only once under this measure. That is, a watershed may be counted only when it initially meets the definition. Subsequent actions, such as having additional impairment causes removed or additional water quality parameters showing watershed-wide improvement, would not enable the watershed to be counted again in a subsequent reporting period.

Under some circumstances, water quality improvements may result in the same watershed being eligible for reporting under both measure WQ-SP12.N11 and measure WQ-10 (nonpoint source waters restored). Consult the detailed definitions for both measures to determine whether a particular watershed is eligible. See additional discussion in the methodology.

Units: Watersheds at 12-digit HUC scale (see Terms and Phrases above).

Universe: Watersheds of focus (see Terms and Phrases above).

Baseline: 0 watersheds in FY 2002

Measure Code: WQ-SP13.N11

Measure Language: Ensure that the condition of the nation's waters does not degrade (i.e., there is no statistically significant increase in the percent of waters rated "poor" and no statistically significant decrease in the percent of waters rated "good").

Type of Measure: Indicator measure

Measure Contact: Susan Holdsworth, EPA Office of Wetlands, Oceans, and Watersheds

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Measure Definition Critiques by the U.S. Government Accountability Office (GAO) and other independent organizations found that the Nation and the States do not have all the monitoring data to effectively manage their water programs and make scientifically-defensible statements about the condition of waters across the Nation and to track changes over time. States and EPA are working together to implement national surveys that report on the status and trends of the Nation's water. The data from these surveys are key to allowing the Agency to evaluate effectiveness of water quality protection and restoration efforts. This measure rotates among water body types over a 5 year interval driven by the sampling schedule. This measure will report on changes in the condition of coastal waters in FY15, lakes in FY16, rivers and streams in FY17, and wetlands in FY18.

Terms and phrases:

- *Good, Fair*, and *Poor* are defined in the methodology below.
- Does not degrade is defined in the methodology below.

Methodology for computation of results: Targets and results will be reported nationally with a confidence interval of plus or minus 5% They are determined by national assessment protocols, comparing conditions in sampled, coastal waters, lakes, rivers/streams, or wetlands (as appropriate) with regionally relevant thresholds for good, fair, or poor biological integrity or condition. "Does not degrade" in this measure means that the following two conditions must be met in comparing results from two different surveys:

- There is no statistically significant increase in the national proportion of waters in the category of Poor compared to the earlier results, AND
- There is no statistically significant decrease in the national proportion of waters in the category of Good compared to the earlier results.

This means that for measure WQ-SP13.N11 to show success for lakes in 2016 compared to the baseline year of 2007 (see baseline below), the 2012 lakes survey will need to find not more that 31.7 percent of lakes (+/-5%) are in Poor condition and not less than 36.4 percent of lakes (+/-5%) are in Good condition based on the macroinvertebrate MMI.

Units: Coastal waters is reported as square miles of estuarine waters and Great Lakes nearshore waters (expressed as a percentage); lakes is based on the number of lakes (expressed as a percentage); rivers and streams is based on miles (expressed as a percentage) and wetlands are based on acres (expressed as a percentage).

Universe: About 35,400 square miles of marine waters fringing the conterminous US and freshwater coastal waters of the Great Lakes; About 50,000 lakes that are 4 hectare or larger and at least 1

meter; About 1.2 million miles of perennial rivers and streams; and about 62,000,000 acres of wetlands

Baseline: The baseline for coastal waters was 18% poor and 53% good in 1999/2001, for lakes was 32% poor and 36% good in 2007, for rivers and streams was 55% poor and 21% good in 2008/2009,nd for wetlands the baseline was 32% poor and 48% good in 2011. Please note, that the baseline may be slightly different than what was reported in earlier reports if changes were made to the target population or to the way the indicator was calculated.

Measure Code: WQ-SP14a.N11

Measure Language: Improve water quality in Indian country at baseline monitoring stations in tribal waters (i.e., show improvement in one or more of seven key parameters: dissolved oxygen, pH, water temperature, total nitrogen, total phosphorus, pathogen indicators, and turbidity). (cumulative)

Type of Measure: Target measure; annually reported

Measure Contact: Susan Holdsworth, EPA Office of Wetlands, Oceans, and Watersheds

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Measure Definition

Terms and Phrases:

- *Seven key parameters* means seven parameters identified in the EPA's Clean Water Act (CWA) Section 106 Program Guidance for Tribes: dissolved oxygen, pH, water temperature, total nitrogen, total phosphorus, pathogen indicators, and turbidity. For the purpose of this measure, trends can be reported on these parameters or any appropriate sub-components of these parameters. Reporting on the seven parameters would be in accordance with the degree of maturity of the Tribe's monitoring program, consistent with the following table derived from the Guidance.*

For tribes conducting fundamental monitoring programs:

1. Dissolved oxygen
2. pH
3. Water temperature
4. Turbidity

For tribes conducting intermediate monitoring programs: above plus

5. Phosphorus
6. Total nitrogen

* p. 4-11, *Guidance on Awards of Grants to Indian Tribes under Section 106 of the Clean Water Act*, U.S. EPA Office of Water, April 2006.

See also Federal Register Notice, Tribal Grant Guidance, April 26, 2006, 71 FR 24852. The table at p. 4-11 also includes two parameters for mature monitoring programs that are not included among the seven key parameters for this measure – Macroinvertebrates and Basic habitat information.

For tribes conducting mature monitoring programs: above plus

7. Pathogen indicators

- *Improved* means that (a) at least one of the seven key parameters or parameter sub-components(e.g. total Kjeldahl nitrogen, and orthophosphorus) shows an improvement in quality as described in the guidance below, and (b) there is no evidence of deteriorating trends in related parameters included in reporting for this measure. Further guidance for reporting improvement is provided below.

Methodology for computation of results: To meet the definition of "improved," a water body assessment must demonstrate a positive trend/change in at least one of the parameters or parameter subcomponent – dissolved oxygen, pH, water temperature, total nitrogen, total phosphorus, pathogen indicators, or turbidity – over at least two years. The baseline for the trend or change may be derived from monitoring conducted as far back as 1987. Monitoring must be conducted to show that the trend continues into or near the current reporting period, or the improvement is maintained during such period, allowing for averaging intervals and the time to assemble and analyze the data.

Sampling and analysis must be conducted in accordance with an EPA-approved quality assurance project plan or other appropriately developed Quality Assurance Project Plan (QAPP) (e.g., sampling conducted by a federal agency under their own approved QAPP).

Improvement at a station must be shown using one of the following three processes, as described in path "A", "B", or "C" below.

PATH A

Use statistical procedures to demonstrate that significant improvement has occurred with a 90 percent or greater level of confidence. Where data are limited, a level of confidence of 70 percent or greater may be applied. For purposes of this measure, "statistical procedures" are those procedures capable of showing statistically significant change in the water quality parameter(s) (e.g. seasonal Kendall trend test, Wilcoxon sign rank).Supporting documentation should describe the environmental significance of any reported changes in water quality.

PATH B

Provide at least two lines of evidence to demonstrate improvement. This approach is suggested in situations where there is not enough consistent data to support the rigorous statistical tests in “A” above. Evidence must include each of the following:

1. Evidence of an improving trend in one or more of the water quality parameters identified in the measure based on empirical data which may not be statistically significant (e.g. descriptive statistics) but nevertheless supports improvement.

AND

At least one of the following four lines of evidence: Evidence of an improving trend in water quality based on predictive/modeled data, with field level ground truthing. Evidence of relevant load

reductions. Evidence of relevant nonpoint source or point source implementation, or other evidence of watershed implementation actions involving the monitoring waters.
PATH C Report that a waterbody on which the station is located has been restored to attainment with water quality standards associated with one of the seven key parameters. If the Tribe has EPA-approved Tribal water quality standards, these must be used. If not, the Tribe should use one of the following sets of standards: Tribal standards adopted under Tribal law, draft Tribal standards, adjacent state standards, EPA's national recommended water quality criteria issued under section 304(a), or other scientific benchmarks determined by the Tribe. An assessment methodology documenting how the Tribe determines attainment with the appropriate standard is required under this option.

More than one path may be utilized to evaluate data at a station, but only one may be used for reporting an actual water quality improvement. Different paths may be used for different stations.

For all three paths above, there should be no evidence of deteriorating trends in related parameters included in reporting for this measure (dissolved oxygen, pH, water temperature, total nitrogen, total phosphorus, pathogen indicators, or turbidity).

For all three paths above, where data are available, the analysis should take account of differences in streamflow or other natural events that could produce false "trends."

Supporting documentation for stations where improvement has occurred includes:

- The station name/number and waterbody name.
- Whether method "A", "B", or "C" above was used to assess the data, with a brief explanation why.
- The results of the assessment. The assessment will present the summary data from "A", "B", or "C" above demonstrating improved water quality. The assessment must identify the specific parameters used to assess improvements, and must also describe the efforts made to locate and analyze any evidence of deteriorating trends in these or related parameters included in reporting for this measure.

- A brief narrative on why the water quality is thought to be improving, including what action(s) took place to account for the improvement, if known.

Acceptable documentation of improvements can be provided to the region in a variety of formats and can be provided by reference where readily accessible information/data exists.

In accordance with EPA's proposed Section 106 Tribal Grant Guidance, data used in the assessment must be provided to EPA in a format accessible for storage in EPA's data system.

Tribes must provide EPA a list of stations in the baseline. No further documentation is required, however, for stations where insufficient information exists to assess whether an improvement has occurred, or where no improvement has occurred.

EPA regions will review the submitted data and assessments, and enter the results in the Agency Commitment System.

Units: Baseline stations located in Indian country

Universe and Baseline: Baseline stations were selected from among stations located in Indian country that are planned for sampling at times during the FY 2006-2012 period. Stations selected were located on waters that have a potential for improvement in one or more of the seven key parameters. To facilitate the selection, tribes were asked to provide:

a. The total number of monitoring stations identified by the tribe that are planned for sampling (for one or more of the seven key parameters) at times during the FY 2006 – 2012 period. Result: 105 tribes identified 1,661 stations.

b. Of the monitoring stations in (a), how many will be located on waters that have a potential for improvement in one or more of the seven key parameters. "Potential for improvement" means that water quality is or has been depressed, and some restoration activities are underway or planned to improve water quality for those waters. Result: At least 353 stations were identified with depressed water quality. Of these, 185 were identified as having restoration activities underway.

Of the monitoring stations in (b), EPA identified a national target of 50 stations for reporting actual improved water quality as defined in this guidance by 2012.

The following table summarizes the baseline stations in 2005. The baseline is reviewed periodically and will be updated if needed.

Regions	No. of tribes with stations planned	No. stations planned (a)	No. stations with suspected depressed water quality	No. stations with suspected depressed water quality and restoration activities underway (b)	No. stations targeted for improvement by 2012 (c)
Region 1	2	160	Unknown, at least 14	14	4

Region 2	1	14	Unknown	Unknown	0
Region 4	2	37	8-9	2	1
Region 5	32	729	118	44	6
Region 6	8	68	35-41	1	1
Region 7	7	82	4	4	1
Region 8	19	100	Unknown, at least 10	10	10
Region 9	23	203	Unknown, at least 43	43	15
Region 10	11	268	79	67	15
TOTALS	**105**	**1,661**	**At least 311, not more than 761**	**185**	**53**

a. The total number of monitoring stations identified by the tribe that are planned for sampling (for one or more of the seven key parameters) at times during the FY 2006-2012 period.

b. Of the monitoring stations in (a), the number that will be located on waters that have a potential for improvement in one or more of the seven key parameters. "Potential for improvement" means that water quality is or has been depressed, and some activities have been, are, or will be underway to improve water quality for those waters.

c. Of the monitoring stations in (b), the estimated number EPA will show as a Target for reporting actual improved water quality as defined in the measure by 2012.

The following factors affected the development of the data in the above table.

- Many tribes have not yet finalized a water quality monitoring strategy, or are revising their strategy. Therefore, the number of planned stations may be revised.
- Some regions were able to obtain information from all of their tribes; others were able to focus only on tribes with mature or intermediate water quality monitoring programs.
- The majority of stations in column (a) will likely not be able to detect improvements in water quality as defined in the measure for several reasons, including:
- Many stations are located at relatively undisturbed sites, where water quality is not known to be depressed relative to the seven key parameters.

- Some tribes have not developed water quality baselines for the stations that could identify problems.
- Some water quality problems (e.g., mercury contamination) are not addressed by the seven key parameters.
- Only a limited number of tribes have implementation funding (319, watershed grants, etc) or other restoration activities underway. Many of those that do are just getting started. As support for restoring additional tribal waters becomes available, tribes will be able to address more of the degraded waters.
- Although many tribal waters are currently in good shape, development, mining and other anthropogenic impacts are threatening to change this. It is very important for tribes to be able to continue their efforts to monitor these waters and to access funds to protect high water quality. A few tribes expressed concern about having waters head in the wrong direction. The work group strongly supports developing a water quality "maintenance" or "prevention" measure or measure component in the future.
- It is often difficult to predict continuity in tribal monitoring programs. Although a growing number of tribes have developed a routine monitoring program, there is often no guarantee of stability in the program due to changes in level of funding, changes in priority activities, or significant turnover in key trained staff.
- A significant portion of the monitoring conducted by many tribes is on waters just outside or near reservation boundaries. In some cases this is a matter of identifying sites with convenient access that can best characterize tribal waters. In other cases tribes are facing discharges or development pressures outside of tribal boundaries that affect or threaten waters upstream from the tribal area. At least some of the monitoring stations identified in the baseline for this measure are located to monitor those upstream activities. In some cases stations are established to monitor waters on nearby ceded lands.
- It should be noted that the number of stations does not necessarily represent the number of water bodies monitored. The number of stations needed to characterize a water body may vary greatly.

Measure Code: WQ-SP14b.N11

Measure Language: Identify monitoring stations on tribal lands that are showing no degradation in water quality (meaning the waters are meeting tribal water quality objectives). (cumulative)

Type of Measure: Indicator measure

Measure Contact: Susan Holdsworth, EPA Office of Wetlands, Oceans, and Watersheds

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Measure Definition

The objective of the measure is to pilot the identification and tracking of tribal monitoring locations in Indian Country that meet water quality benchmark criteria and show no degradation from the criteria over a period of at least two years.

Terms and phrases:

- *No degradation*, for the purpose of this measure, means that all of the core indicators or indicator sub-components (e.g. ammonia-N as a sub-component for a total Nitrogen core indicator) that are appropriate for assessing the objectives of a tribe's monitoring program meet and continue to meet benchmark water quality criteria over a period of at least two years. This term, "no degradation," and its definition are not related to the term "antidegradation" found in EPA's regulation at 40 CFR Part 131, and nothing in this document alters the existing regulatory requirements regarding antidegradation.
- *Benchmark water quality criteria*: For tribes eligible to be treated in a manner similar to a state (TAS) with EPA-approved water quality standards, the EPA-approved criteria are the benchmark criteria. In all other situations, the tribe may chose benchmark criteria - such as draft tribal standards, tribal standards adopted under tribal law, EPA recommended criteria, or neighboring state water quality standards. Benchmark criteria should be documented within a tribe's Clean Water Act (CWA) sections 106 and 319 QAPP that has been approved by EPA. Benchmark criteria must be at least as protective as EPA's CWA section 304(a) national recommended water quality criteria, where appropriate and when the national recommended criteria exist for the core indicators being monitored. These national recommended water quality criteria may be found on EPA's website of Standards for Water Body Health.

- *Core indicators* might include, but are not limited to, any of the seven indicators identified in EPA's CWA Section 106 Program Guidance for Tribes. These parameters were intentionally identified in the Guidance due to their applicability in interpreting water quality. Other parameters not on this list, which are being monitored for comparison with applicable water quality criteria and related tribal water quality objectives, are relevant as well.
    1. Dissolved oxygen
    2. pH
    3. Water temperature
    4. Turbidity
    5. Phosphorus
    6. Total nitrogen
    7. Pathogen indicators

Methodology for computation of results

Monitoring and analysis must be conducted to show that monitoring locations are meeting benchmark criteria and/or water quality standards and demonstrating no degradation over a period of two years into the current reporting period, allowing for averaging intervals and the time to assemble and analyze the data. For example, to be reportable for FY 2012, no degradation would need to be maintained into (or near) FY 2012.

Given natural conditions, varying sampling frequencies, or other factors, a station may exhibit a downward trend in water quality, and still be counted for this measure as long as the station continues to meet benchmark criteria. This consideration is consistent with the measure's definition of 'no degradation.'

A station may be counted for this measure only if all associated tribal objectives set forth within the tribe's QAPP, monitoring strategy, and/or assessment reports, for that particular station, are meeting associated benchmark criteria.

Monitoring stations reported for the first time must have monitoring data and analysis providing evidence of no degradation over a period of two years previous to reporting. From that point forward, monitoring data and analysis must provide evidence that there continues to be no degradation however, constant, yearly monitoring does not have to occur. It is at the tribe's and EPA's discretion to determine how often a site must be monitored and assessed to ensure evidence of no degradation.

Sampling, analysis and assessment methods must be conducted in accordance with an EPA-approved quality assurance project plan or other appropriately developed QAPP (e.g., sampling conducted by a federal agency under their own approved QAPP).

No degradation at a station must be shown using one of the following two processes, as described in path "A" or "B" below.

PATH A

Use statistical procedures to demonstrate that no degradation has occurred, as defined above, with a 90 percent or greater level of confidence. Where data are limited, a level of confidence of 70 percent or greater may be applied. For purposes of this measure, "statistical procedures" are those procedures capable of showing statistically significant maintenance in the water quality indicator(s) (e.g. seasonal Kendall trend test, Wilcoxon sign rank).

PATH B

Demonstrate no degradation, as defined above, in comparison to benchmark criteria chosen by the tribe. This approach is suggested in situations where there is not enough consistent data to support the rigorous statistical tests in "A" above. Evidence must include no degradation in the applicable waterbody use(s) and/or applicable water quality standard[1](s), which means continued attainment of benchmark water quality criteria, which may or may not be statistically significant (e.g. descriptive statistics) but nevertheless supports no degradation.

[1]Applicable water quality standards refer to those water quality standards established under Section 303 of the Clean Water Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation.

More than one path may be utilized to evaluate data at a station, but only one may be used for reporting no degradation of water quality. Different paths may be used for different stations. For both paths above, where data are available, the analysis should take into account differences in streamflow or other natural events that could produce false "trends."

Supporting documentation for stations where no degradation has occurred includes:

- The station name/number, waterbody name, water body type (e.g., lake, stream, river), hydrologic unit eight digit code, monitoring Location latitude, monitoring Location longitude, monitoring Location horizontal collection method (e.g., whether GPS used), monitoring Location Horizontal Coordinate Reference system (e.g., NAD 83), and Monitoring Location Source Map scale, (these same data fields are used for EPA WQX submissions).
- Whether method "A" or "B" above was used to assess the data, with a brief explanation why.
- The results of the assessment. The assessment will present the summary data from "A" or "B" above demonstrating no degradation of water quality. The assessment must identify the specific indicators used to assess no degradation, and must also describe the efforts made to locate and analyze any evidence of no degradation in these or related indicators included in reporting for this measure.
- A brief narrative on why the water quality is thought to have no degradation, including what action(s) took place to account for the no degradation, if known.

Acceptable documentation of no degradation can be provided to the region in a variety of formats and can be provided by reference where readily accessible information/data exists.

In accordance with EPA's Section 106 Tribal Grant Guidance, data used in the assessment must be provided to EPA in a format accessible for storage in EPA's data system, the STORET Warehouse. A standard template has been made available through EPA regional offices as tribes have begun to implement this reporting requirement. EPA plans to continue to make additional templates available as tools for data submission to EPA evolve[1].

Units: Monitoring locations.

Universe: The total number of monitoring stations on tribal lands that have been identified by tribes as planned for sampling at times during the FY 2009-2015 period.

Baseline: not available

Measure Code: WQ-24.N11

Measure Language: Number of American Indian and Alaska Native homes provided access to basic sanitation in coordination with other federal agencies.

Type of Measure: Target measure; annually reported

Measure Contact: Kellie Kubena, EPA Office of Wastewater Management

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[1] Please access the STOrage and RETrieval and Water Quality eXchange website for more information

kubena.kellie@epa.gov | (202) 566 0448

Matthew Richardson, EPA Office of Wastewater Management

richardson.matthew@epa.gov | (202) 564-2947

Measure Definition

Terms and phrases:

- *Homes* are the houses on American Indian lands and within Alaskan Native Villages
- *Access* is the reduction in the wastewater sanitation deficiency level of a tribal home from a 4 or 5 to a 3 or less. The sanitation deficiency levels definitions are described in Appendix E of the "Indian Health Service Sanitation Deficiency System Guide for Reporting Sanitation Deficiencies for Indian Homes and Communities." EXIT Disclaimer
- *Sanitation Deficiency* is an identified need for new or upgraded wastewater sanitation facilities for existing homes of on American Indian lands or Alaska Native Villages

Methodology for computation of results: The EPA Office of Water, Office of Wastewater Management (OWM) will use the actual number of homes reported in the Indian Health Service's (IHS) Sanitation Deficiency System (SDS) that lack safe wastewater sanitation services to show progress towards this measure. OWM will obtain this value from IHS in order to calculate annual performance. Housing information is collected annually, typically in November, in order to capture progress over the previous construction season.

Units: Homes on tribal lands and in Alaskan native villages.

Universe: Estimated total number of homes on tribal lands, which is dynamic given that additional homes are constructed. The program uses a baseline based on the total number of homes on tribal lands in 2009.

Baseline: The number of American Indian and Alaska Native Village homes provided access to safe wastewater sanitation services between 2003 and 2009.

Measure Code: WQ-01 (a, d)

Measure Language:
WQ-01a – Number of numeric water quality standards for total nitrogen and for total phosphorus adopted by States and Territories and approved by EPA, or promulgated by EPA, for all waters within the State or Territory for each of the following waterbody types: lakes/reservoirs, rivers/streams, and estuaries (cumulative, out of a universe of 278).
WQ-01d – Number of numeric water quality standards planned to be adopted within 3 years for total nitrogen and total phosphorus for all waters within the state or territory for each of the following waterbody types: lakes/reservoirs, rivers/streams, and estuaries, based on a full set of performance milestone information supplied annually by states and territories (cumulative, out of a universe of 278).
Type of Measure: Target measure; cumulative measure
Measure Contact: Gregory Stapleton, EPA Office of Science and Technology
stapleton.gregory@epa.gov | (202) 566-1028
Measure Definition
Terms and phrases:

- *Numeric standards for total nitrogen and total phosphorus* – numeric water quality criteria for total nitrogen (TN) and total phosphorus (TP) incorporated into water quality standards for the protection of Clean Water Act section 101(a)(2) goal uses (protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water). Such criteria are for eutrophication endpoints. Criteria for other endpoints, such as ammonia, nitrate, or

elemental phosphorus toxicity, would not count. The "total" forms of nitrogen and phosphorus are generally preferable from a scientific standpoint because they account for both organic and inorganic forms. Other forms of nitrogen or phosphorus would be counted only if justified scientifically.

Numeric translators for TN and TP will be counted in this measure if they are binding upon section 303(d) assessments, TMDLs, and NPDES permits, and have been adopted as water quality standards and approved by EPA under section 303(c) for WQ-01a. Response variables, such as chlorophyll-a, clarity, SAV acreage, or dissolved oxygen, are not considered translators for this purpose.

- *Waterbody type* means one of the following three types of U.S. water bodies:
    - Lakes and reservoirs (excluding the Great Lakes)
    - Rivers and streams
    - Estuaries

Note: The majority of states and territories have all three of these waterbody types, but some states do not. See Universe below.

- *For all waters* – To be counted under this measure, water quality criteria values would need to be established for all waters of the waterbody type (see below). The values for each pollutant could be uniform for all such waters, or could vary as appropriate (e.g., for different subtypes, different watersheds, different seasonal periods), but would count as only one criterion for the purpose of this measure. In other words, states could use site-specific criteria to help meet this measure as long as all waters of the waterbody type are covered by some combination of site-specific and non-site-specific criteria.
- *Adopted and approved* by EPA (in WQ-01a) means the state or territory has adopted the criteria through its rulemaking process and submitted them to EPA for review, and that EPA has approved them under section 303(c).
- *Promulgated* by EPA (in WQ-01a) means EPA has issued a final rule promulgating the criteria as federal water quality standards under section 303(c)(4).
- *Full set of performance milestone information* (in WQ-01d) means target dates for completing the following TN or TP development activities for an <u>entire</u> waterbody type (i.e., lakes/reservoirs, rivers/streams, and estuaries):

1. <u>Planning for standard development</u>
2. <u>Collection of information and data</u>
3. <u>Analysis of information and data</u>
4. <u>Proposal of standard</u> – This milestone date describes when the standard will be:
    - proposed and published for public comment;
    - formally provided for review to a legislative body, legislative committee, public commission, or similar body as part of a prescribed regulatory process;
    - recommended to a legislature, public commission, or agency responsible for promulgating standards under its own public process; or
    - issued to begin a public process similar to those described above.
5. <u>Adoption of standard (EPA-approved)</u> – This milestone should assume 60 days for EPA to review and approve the TN or TP standard after the state submits it to EPA. Typically, EPA's approval process takes less than 60 days when states work with EPA during standard development.

For each milestone above, EPA expects the state or territory to provide EPA the following on a regular basis, but not less than annually:

1. a *target* date for completing the activity
2. the *completion* status of the activity, and
3. if necessary, an *explanation* for changes to target date.

Milestones may be provided for waterbody subtypes. For example, the rivers/streams watertype could have two milestone sets – one set for wadeable streams and another for rivers/non-wadeable streams.

Milestone information from states and territories is crucial for management and oversight of nutrient criteria development, *including the annual planning and performance cycle under section 106 and performance partnership agreements*. Additionally, EPA publishes milestone information on its web site, State Development of Numeric Criteria for Nitrogen and Phosphorus Pollution, to keep the public informed about the status of these important efforts.

- *Planned to be adopted within 3 years* (in WQ-01d) means the *Adoption of standard (EPA-approved)* milestone must be no later than 3 years after the reporting fiscal year. For the FY16 reporting cycle, the *Adoption of standard (EPA-approved)* milestone must be September 30, 2019 or earlier.

Methodology for computation of results:

For WQ-01a: The source of information for this measure is EPA's records of approved state and territorial WQS. The results for a state or territory will be computed by adding the number of numeric nutrient standards for each of the waterbody types in the state or territory that have been approved or promulgated.

For WQ-01d: The source of information for this measure is the full set of milestone information (defined above) provided by each state or territory. EPA requires this information as part of annual work plans and performance partnership agreements with states and territories. Similar to WQ-1a, results will be computed by adding the number of numeric nutrient standards for each waterbody type in the state or territory where milestone information indicates the standards are *planned to be adopted within 3 years*.

Standards counted under WQ-1a do not count under WQ-1d, and vice-versa. Consequently, the sum of both WQ-1a and WQ-1d cannot exceed the universe for the state or territory.

Units: Numeric water quality standards

Universe: 278 standards nationwide. The state or territory's universe can have up to 6 standards: 2 standards (TN or TP) for each state watertype (i.e., lakes/reservoirs, rivers/streams, and estuaries). State/Territory universes range from 2 to 6 standards. There are 55 states and territories with lakes/reservoirs, 54 with rivers/streams, and 30 states/territories with estuaries.

Baseline: The number of numeric TN and TP standards had been adopted by states and territories, and approved by EPA as of December 2008.

Measure Code: WQ-02

Measure Language: Number of tribes that have water quality standards approved by EPA. (cumulative)

Type of Measure: Target measure; cumulative measure

Measure Contact: Gregory Stapleton, EPA Office of Science and Technology

stapleton.gregory@epa.gov | (202) 566-1028

Measure Definition

Terms and phrases: *Tribe* means a federally recognized Indian tribe that meets certain conditions (see methodology below). The water quality standards program refers to a tribe that meets the first condition below as an "authorized tribe."

Methodology for computation of results: A tribe will be counted as having EPA-approved water quality standards (WQS) if all three of the following criteria have been met:

a. The tribe has been authorized to administer its own water quality standards program (i.e., EPA has found it eligible for treatment in the same manner as a state, TAS); and

b. The tribe has adopted and submitted an initial set of water quality standards to EPA; and,

c. EPA has approved the initial standards.

Units: Tribes

Universe: All federally recognized tribes who have applied to become eligible for "treatment in the same manner as a state" (TAS) to administer the water quality standards program (as of the end of the preceding fiscal year).

Baseline: The baseline comprises the 25 TAS-eligible tribes that had adopted EPA-approved water quality standards by September 30, 2005.

Measure Code: WQ-03 (a,b)

Measure Language: (WQ-03a): Number, and national percent, of states and territories that within the preceding three year period, submitted new or revised water quality criteria acceptable to EPA that reflect new scientific information from EPA or other sources not considered in the previous standards.

(WQ-03b): Number, and national percent, of tribes that within the preceding three year period, submitted new or revised water quality criteria acceptable to EPA that reflect new scientific information from EPA or other sources not considered in the previous standards. NOTE: WQ-03a is a PART annual output measure for the Water Pollution Control Grants (Section 106) program.

WQ-3a and WQ-3b are reported separately in the EPA Annual Commitment System (ACS).

Type of Measure: Target measure; annually reported

Measure Contact: Gregory Stapleton, EPA Office of Science and Technology

stapleton.gregory@epa.gov | (202) 566-1028

Measure Definition

Terms and phrases:

- *Acceptable* to EPA means that EPA has approved the new or revised criteria for that state, territory, or tribe as of September 30, 2017.

- *Three year period* means May 1, 2014 through April 30, 2017 to allow at least 5 months for EPA-approval.
- *New scientific information* from EPA includes, but is not limited to, draft or final water quality criteria documents, and updated information posted on EPA's Water Science Website. It could also include revised criteria implementation guidance, and scientific information provided by EPA regions or other EPA Offices to assist state, territorial, or tribal adoption of statewide or local criteria.

Methodology for computation of results: Reporting of results for this measure will be generated from the Water Quality Standards (WQS) Actions Tracking Application (WATA) and submitted to the Annual Commitment System after confirmation with Regional WQS Coordinators. Regions will identify in WATA any submissions or submission parts that include one or more new water quality criteria or revised criteria acceptable to EPA that reflect new scientific information not considered in the previous criteria. Adoption and EPA approval of initial tribal standards that include water quality criteria will enable an authorized tribe to be counted under this measure.

The WATA system will be used to identify all submissions received from May 1, 2014, through April 30, 2017 that meet the above criteria and can therefore be reported as meeting the measure.

If a state, territory, or tribe has not adopted any such criteria, the entity can nevertheless be counted under this measure if:

a. EPA has not issued any new or revised water quality criteria applicable to that entity's waters, including revisions to the published table of EPA recommended criteria at EPA's Water Science Website that would trigger this measure. For toxic pollutants, "applicable to that state's water" includes pollutants that are reasonably expected to interfere with designated uses; OR

b. The entity completed a defensible scientific review of the new scientific information EPA has issued and has determined that no changes are needed to their existing water quality criteria. This would be counted for FY 2017 if the associated public review and comment occurred between October 1, 2014, and September 30, 2017; OR

c. For an authorized tribe, EPA approved the tribe's initial water quality standards (including water quality criteria) between October 1, 2014, and September 30, 2017.

Note the overlap in time periods: a state that made such a submittal, in, say, July 2015, could get counted in FY 2015, 2016, and 2017 . Conversely, a state that last submitted such criteria, say, in November 2013, would get counted in FY 2016 but not in FY 2017.

Note that the measure allows EPA from 5 to 41 months to approve the criteria, depending on the date of submission during the three-year period specified above.

Units: States and territories (WQ-3a) or tribes (WQ-3b)

Universe: WQ-03a: 50 states, the District of Columbia, and territories of Puerto Rico, Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands (56 entities). WQ-03b: This universe is the number of authorized tribes with EPA-approved water quality standards at the end of FY 2015, excluding any tribes whose standards are completely promulgated by EPA (currently only the Confederated Tribes of the Colville Reservation).

Baseline: WQ-03a: States and territories that submitted new or revised WQ criteria acceptable to EPA for the first year reporting under this definition (FY 2005). WQ-03b: Tribes that submitted new or revised WQ criteria acceptable to EPA for the first year reporting under this definition (FY 2005).

Measure Code: WQ-04a

Measure Language: Percentage of submissions of new or revised water quality standards from states and territories that are approved by EPA.

Type of Measure: Indicator measure; annually reported

Measure Contact: Gregory Stapleton, EPA Office of Science and Technology

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Measure Definition

Terms and phrases:

- *Submission* means a single package of new or revised water quality standards duly transmitted to EPA in accordance with 40 CFR parts 131 or 132. Typically the submission would be the set of documents transmitted by one letter from a state, territorial, or tribal official, including a certification from the Attorney General or equivalent. A submission can include triennial reviews, statewide WQS revisions, use attainability analyses or site-specific criteria for individual waters, general policies, anti-degradation policies or procedures, and variances. In short, anything duly submitted to EPA pursuant to 131.20 that EPA must act review and approve or disapprove.
- *Partial approvals receive fractional credit* means that partial approvals count proportionally. The proportion is determined by the number of provisions approved compared to the total number of provisions in a submission. For example, a submission would receive a credit of 0.85 submission if the region approved 17 of the 20 provisions in the submission. EPA uses a default of 0.50 submission for a partial approval if the number of provisions in a submission cannot be readily estimated.

Methodology for computation of results: The purpose of this measure is to provide insight into the "approvability" of state submissions. A disapproval or a "no action" does not count toward meeting this measure.

As described under Universe below, the basis for the percentage calculation is the number of new or revised submissions during May 1, 2016, through April 30, 2017. The percentage approved is calculated as the number of submissions (or fractions thereof) that EPA has approved by September 30, 2017, divided by the universe of submissions for FY 2017. Note that this measure allows from 5 to 17 months for an approval to occur, depending on the date of submission.

This measure will be computed using information in the WQS Actions Tracking Application (WATA) system.

Reporting of results for this measure will be generated from WATA and submitted to the Annual Commitment System after confirmation with Regional WQS Coordinators.

Units: WQS submissions from states and territories (expressed as a percentage)

Universe: The universe changes annually based on the number of submissions EPA receives from states and territories. The WATA system will count the number of such submissions or fractions of submissions that EPA approved through September 30.

Baseline: For states and territories, the baseline was 85.6% for the first year reporting under this definition (FY 2007).

Measure Code: WQ-06 (a,)

Measure Language: (WQ-06a): Number of tribes that currently receive funding under Section 106 of the Clean Water Act that have developed and begun implementing monitoring strategies that are appropriate to their water quality program consistent with EPA Guidance.

Type of Measure: Target measure; cumulative measure

Measure Contact: Susan Holdsworth, EPA Office of Wetlands, Oceans, and Watersheds

holdsworth.susan@epa.gov | (202) 566-1187

Measure Definition: In October 2006, EPA issued *Final Guidance on Awards of Grants to Indian Tribes under Section 106 of the Clean Water Act* that requires tribes to develop monitoring strategies appropriate to their capabilities and needs, and provide reports on water quality to EPA. The tribal guidance outlines reporting requirements and data expectations for all tribal programs receiving section 106 funds. These requirements will help tribes to collect critical data and information for effective management of their water quality programs. The requirements will also help EPA measure environmental results of the section 106 Tribal Program and comply with the Government Performance and Results Act (GPRA) and other federal requirements.

Terms and phrases:

WQ-06a is a cumulative measure that counts tribes that have developed, submitted to the region, and begun implementing water monitoring strategies that are consistent with the EPA 106 Tribal Guidance. Regions should count all tribes that have submitted and begun implementing (may include planning implementation) strategies, even those that have not yet been accepted by the region. These strategies are developed in partnership with regional staff and deemed appropriate for the level (fundamental, intermediate or advanced) of any particular tribe as considered by the regional office.

Methodology for computation of results: Regional monitoring and tribal 106 coordinators work with tribes to make determinations on progress as annual workplans for use of monitoring funds are developed. A standard template has been made available through EPA regional offices as tribes have begun to implement this reporting requirement. EPA plans to continue to make additional templates available as tools for data submission to EPA evolve.

Units: Tribes

Universe: The total number of tribes eligible to receive Clean Water Act Section 106 funds. This number could change as new tribes become eligible.

Baseline: The FY 2005 baseline for WQ-06a is 0 tribes.

Measure Code: WQ-09 (a,b,c)

Measure Language: (WQ-09a): Estimated annual reduction in million pounds of nitrogen from nonpoint sources to waterbodies (Section 319 funded projects only).

(WQ-09b): Estimated annual reduction in million pounds of phosphorus from nonpoint sources to waterbodies (Section 319 funded projects only).

(WQ-09c): Estimated annual reduction in tons of sediment from nonpoint sources to waterbodies (Section 319 funded projects only).

Type of Measure: Target measure; annually reported

Measure Contact: Lynda Hall, EPA Office of Wetlands, Oceans, and Watersheds

hall.Lynda@epa.gov | (202) 566-1210

Measure Definition

Terms and phrases: Nonpoint sources are diffuse pollution sources (i.e. without a single point of origin or not introduced into a receiving stream from a specific outlet). The pollutants are generally carried off the land by storm water. Common non-point sources are agriculture, forestry, urban, mining, construction, dams, channels, land disposal, saltwater intrusion, and city streets.

Under Clean Water Act Section 319(h), EPA awards grants for implementation of state NPS management programs. State grant recipients are required to report annually to EPA their progress in meeting milestones, including implementation of NPS pollution control practices and associated reductions of NPS pollutant loadings to waterbodies.

Methodology for computation of results: EPA collects this information in its Grants Reporting and Tracking System (GRTS) for Section 319-funded on-the-ground implementation projects where one or more of these three pollutants (nitrogen, phosphorus, or sediment) are addressed by the project. States are not required to enter this information into GRTS until the best management practices (BMPs) have actually been implemented. Therefore, load reduction data entered into GRTS in a particular year usually reflects the results of projects funded by one or more prior grant appropriations. Results are reported in GRTS by mid-February for the previous year of implementation work. The numbers represent new load reduction estimates that were achieved by any active non-point source (NPS) project that implemented new BMPs. Load reductions for each new BMP are only counted for the first year of implementation rather than for the service life of each particular BMP (reductions are not cumulative). Load estimates may be calculated using EPA-supported STEPL or Region 5 models, or any other model which can sufficiently estimate load reductions (specific models used to calculate estimated load reductions must also be reported in GRTS). The Office of Wetlands, Oceans, and Watersheds (OWOW) provides one national number for each of the three pollutants based on the data entered by states in GRTS. No regional breakdown of load reductions is provided.

Units: Millions of pounds of nitrogen (WQ-09a) and phosphorus (WQ-09b) and tons of sediment (WQ-09c)

Universe: n/a - not historically available for nonpoint sources 2009

Baseline: The reduction (pounds and tons) at a point in time

Measure Code: WQ-10a

Measure Language: Number of NPS impairments that have been eliminated from 303(d)-listed waterbodies/waterbody segments through restoration actions.

Type of Measure: Target measure; cumulative measure

Measure Contact: Adam Jorge, jorge.adam@epa.gov, EPA Office of Wetlands, Oceans, and Watersheds

Measure Definition

Terms and phrases:

- *NPS impairment*s (or NPS causes of impairments) are primarily NPS pollutants or stressors that prevent waters from meeting the water quality standards adopted by the states. Causes of impairment include chemical contaminants (such as motor oil, metals, and oxygen-depleting substances), physical conditions (such as elevated temperature, excessive siltation, or alterations of habitat), and biological contaminants (such as bacteria and noxious aquatic weeds). Note: The determination as to whether an impairment is "primarily" caused by NPS pollutants or stressors will be left to the best professional judgment of the States. EPA does not expect that the State should do a detailed analysis when making a judgment on whether a given impairment is caused "primarily by NPS" when a precise determination would be exceedingly difficult (such as, for example, when an impairment exists in an area impacted by both permitted MS4 areas as well as through non-permitted areas)]. For the purposes of this measure, "impairment" means a waterbody/pollutant combination as presented in a CWA 303(d) Impaired Waters list (referred to as 303(d) list hereinafter).

- *Eliminated* means that 1) the NPS 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.

Methodology for computation of results

To count towards this measure, the NPS impairment eliminated:

- Shall have been listed on the State 303(d) list or Integrated Report (Category 4 and Category 5) 1998 and later.
- Shall have been eliminated by documented corrective actions (e.g., best management practices implemented in a watershed restoration project). Note: While the main funding source for many corrective actions can be section 319 grants, 319 funding investment is not required to support this measure. There are cases when NPS program partners (e.g. USDA, or state agencies) provide significant leveraged funding to assist with restoration activities in lieu of Section 319 funds.

- Shall be removed from the state 303(d) list or Integrated Report (Category 4 and Category 5) for the reason that the impairment has been eliminated and thus water quality and/or the designated use can be considered restored, or the waterbody/impairment shall be proposed for removal during the next delisting cycle. In these cases, documentation of a state's intention to delist a waterbody/impairment should be readily available to the EPA. The elimination of an impairment will not be counted towards this measure if no specific management activities have been taken within the watershed to improve water quality.[2]
- Can be one of several impairments eliminated from the same waterbody provided all the other requirements are met. For example, if a waterbody had three NPS causes of impairment eliminated by restoration actions and removed from the 303(d) list, each of those eliminated impairments would be eligible to count towards this measure.
- If the eliminated impairment is the *first* impairment to be removed from the waterbody, the effort leading to the removal of the impairment must be described in a story that is submitted to EPA and posted on EPA's NPS Success Story Website (https://www.epa.gov/polluted-runoff-nonpoint-source-pollution/nonpoint-source-success-stories-about) (see NPS Success Stories section below).
- If the eliminated impairment is a *subsequent* impairment removed from the waterbody, a brief update to a previously published Success Story must be provided to EPA (see NPS Success Stories Update section below).

NPS Success Stories

The first impairment eliminated on any one waterbody must be described by a story on EPA's NPS Success Story Website https://www.epa.gov/polluted-runoff-nonpoint-source-pollution/nonpoint-source-success-stories-about). NPS Success Stories submitted for the first NPS impairment eliminated should be 2 pages or less (approximately 1,000 words) and include the following elements:

- Title
- Name of Waterbody Restored through impairment removal/ (was the first NPS impairment eliminated on that waterbody removed from the 303(d) list)
- Problem
- Restoration Highlights (description of restoration efforts that led to delisting)
- Results (monitoring data or a narrative description of improvements, consistent with state 303(d) listing and delisting methodologies)
- Partners and funding
- Photos and/or Table/graph/chart showing water quality data (where applicable and available)
- Year impairment listed and de-listed (or proposed to be de-listed) from 303(d) list
- Contact information

[2] On an ad hoc basis, EPA may approve counting an impairment towards this measure that has been eliminated but not yet removed from the 303(d) list. This will only occur if a water quality standard has been achieved. An impairment cannot be counted simply because it has been de-listed from a state 303(d) list or moves from categories 4 or 5 to 1 or 2 for reasons other than actual restoration (e.g., it is determined that it was inappropriately listed in the first place, a TMDL has been developed for it).

For detailed information in developing Success Stories (including information on the above elements), refer to the Format and Content for Section 319 Success Stories guidance document, (11 pp, 285K, About PDF). In addition to using this guidance document as a reference, States may also use the *Success Story Builder* tool (2.9MB) to assist in the development of their success story narrative. The tool contains all information necessary to construct a complete document.

NPS Success Stories Updates

Each subsequent impairment eliminated from any one waterbody/segment must be described in a brief update, 1 pages or less (approximately 500 words), to a previously published NPS Success Story. Updates will include the following elements:

- Masthead, with the word, "UPDATE"
- Title of and link to the previously published Success Story (describing the impairment that was first addressed) and the story publication date
- Name of Waterbody restored/Section 303(d) Impairment Status
- Updated results that document the subsequent impairment removal (monitoring data or a narrative description of improvements, consistent with state 303(d) listing and delisting methodologies)
- Highlights of any new restoration activities (e.g. new BMPs implemented, NPS staff activities, description of the environmental processes, and/or other new restoration activities leading to the elimination of one or more additional impairments)
- Any changes or additions to partners and funding sources (only applies if additional restoration work took place after publication of the previously published Success Story and there was a change in partners or funding sources)
- Year impairment listed and de-listed (or proposed to be de-listed) from 303(d) list
- Contact information

Units: Impairments (impairment/waterbody combination eliminated by corrective actions and removed from the 303(d) list or Integrated Report Category 4 and Category 5).

Universe: There is no set universe of NPS causes of impairment for this measure. Any primarily NPS impairment currently on the 303(d) list or Integrated Report Category 4 and Category 5 that is removed due to restorations actions may be counted towards this measure.

Baseline: The number of impairments (impairment/waterbody combination eliminated by corrective actions and removed from the 303(d) list or Integrated Report Category 4 and Category 5) (FY 2015).

Measure Code: WQ-11

Measure Language: Number, and national percent, of follow-up actions that are completed by assessed NPDES (National Pollutant Discharge Elimination System) programs. (cumulative)

Type of Measure: Indicator measure; cumulative measure

Measure Contact: Jackie Clark, EPA Office of Wastewater Management

clark.jackie@epa.gov | (202) 564-6582

Measure Definition: Assessed NPDES programs include 46 authorized states, 4 unauthorized states (MA, NH, NM, ID), 1 authorized territory (VI), 3 unauthorized territories (DC, PR, Pacific Island Territories), and 10 regions (total of 64 programs). These programs are assessed through the Permitting for Environmental Results (PER) program, Permit Quality Reviews (PQRs), and other oversight activities done by EPA Headquarters and Regions.

Terms and phrases:

- *Follow-up actions* – Otherwise referred to by EPA as "action items." OWM tracks the status and completion dates of all action items that address a deficiency or noncompliance with a federal regulation in a separate database. OWM coordinates with regions at mid-year and end-of-year to update status and provides the region's Annual Commitment System (ACS) contact with the number of cumulative completed action items since 2004. The regions are responsible for putting this number into ACS.
- *National Pollutant Discharge Elimination System* (NPDES) – A provision of the Clean Water Act which prohibits discharge of pollutants into waters of the United States unless a special permit is issued by EPA, a state, or, where delegated, a tribal government on an Indian reservation.

Methodology for computation of results: The results are calculated by adding the total number of new action items completed by the end of the fiscal year to the cumulative number of action items completed to date.

Units: Action items

Universe: All follow-up actions for which a schedule has been established to date. The universe increases as additional action items are identified by the regions and through OWM program review.

Baseline: The number of action items that were completed at a point in time (FY 2005).

Measure Code: WQ-12 (a,b)

Measure Language: (WQ-12a): Percent of non-tribal facilities covered by NPDES permits that are considered current.

(WQ-12b): Percent of tribal facilities covered by NPDES permits that are considered current.

Type of Measure: Target measure

Measure Contact: Jackie Clark, EPA Office of Wastewater Management

clark.jackie@epa.gov | (202) 564-6582

Measure Definition

Terms and phrases: *National Pollutant Discharge Elimination System (NPDES)* – A provision of the Clean Water Act, which prohibits discharge of pollutants into waters of the United States unless a special permit is issued by EPA or an authorized state, territory, or tribal government.

The Clean Water Act specifies that NPDES permits may not be issued for longer than five-year terms. Permittees that wish to continue discharging beyond the five-year term must submit an application for permit renewal. If the permitting authority receives a complete application, but does not reissue the permit prior to the expiration date, the existing permit is generally "administratively continued." A "backlogged" permit is an active permit that has been expired for more than 180 days (including those administratively continued permits) or an application for a new permit that has not yet been issued 365 days after receipt of the application, where information is available. A permit is considered current if it has not reached its expiration date or has not been expired more than 180 days.

Methodology for computation of results: Results are determined by calculating the percent of facilities that are covered by permits considered current (i.e., not "backlogged") out of the universe of facilities covered by NPDES individual and non-stormwater general permits.

Units: Facilities (WQ-12a non-tribal, WQ-12b tribal)

Universe: The number of facilities covered under all major individual, non-stormwater minor individual, and non-stormwater general NPDES permits. This measure also does not include EPA's Vessels General Permit.

Baseline: The national percent of facilities covered under all major individual, non-stormwater minor individual, and non-stormwater general NPDES permits that were considered current at a point in time (FY 2005).

Measure Code: WQ-13 (a,b,c,d)

Measure Language: (WQ-13a): Number of MS4s covered under either an individual or general permit.

(WQ-13b): Number of facilities covered under either an individual or general industrial storm water permit.

(WQ-13c): Number of sites covered under either an individual or general construction storm water site permit.

(WQ-13d): Number of facilities covered under either an individual or general CAFO permit.

Type of Measure: Indicator measures; cumulative measures

Measure Contact: Jackie Clark, EPA Office of Wastewater Management

clark.jackie@epa.gov | (202) 564-6582

Measure Definition

Terms and phrases:

- An *MS4* is a conveyance or system of conveyances that is: owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.; designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.); not a combined sewer; and not part of a Publicly Owned Treatment Works (sewage treatment plant).
- *Concentrated Animal Feeding Operations (CAFOs)* are point sources, as defined by the CWA [Section 502(14)]. To be considered a CAFO, a facility must first be defined as an Animal

Feeding Operation (AFO). AFOs are agricultural operations where animals are kept and raised in confined situations.

The largest AFOs are defined as CAFOs based solely on the number of animals confined; smaller AFOs can be defined as CAFOs based both on size and type of discharge.

Methodology for computation of results: For measure (a), report the actual number of MS4s covered under an existing MS4 permit. For measure (b) report the number of dischargers covered under an industrial stormwater permit, and (c), report the number of construction site operators obtaining coverage under a construction stormwater permits. For measure (d) report all CAFOs covered by an NPDES permit.

- WQ-13a: The number of MS4s of all sizes covered under an existing MS4 individual or general NPDES permit at the close of the reporting period. Each co-permittee should be counted individually.
- WQ-13b: The number of facilities covered under a NPDES industrial stormwater permit at the close of the reporting period.
- WQ-13c: The number of construction sites obtaining authorization to be covered under a NPDES construction stormwater general permit during the reporting period.
- WQ-13d: The number of facilities covered under a NPDES CAFO permit at the close of the reporting period.

Units: (WQ-13a) MS-4s; (WQ-13b) facilities; (WQ-13c) construction sites; (WQ-13d) CAFOs

Universe: WQ-13a,b,c: n/a. WQ-13d: The total number of CAFOs, whether or not they discharge/are covered by a NPDES permit.

Baseline: The known number of NPDES permitted MS4s, facilities, construction sites, and CAFOs in FY 2007.

Measure Code: WQ-14 (a,b)

Measure Language: (WQ-14a): Number, and national percent, of Significant Industrial Users (SIUs) that are discharging to POTWs with Pretreatment Programs that have control mechanisms in place that implement applicable pretreatment standards and requirements.

(WQ-14b): Number, and national percent, of Categorical Industrial Users (CIUs) that are discharging to POTWs without Pretreatment Programs that have control mechanisms in place that implement applicable pretreatment standards and requirements.

Type of Measure: Indicator measures; cumulative measures

Measure Contact: Jackie Clark, EPA Office of Wastewater Management

clark.jackie@epa.gov | (202) 564-6582

Measure Definition

Terms and phrases:

- *Categorical Industrial Users (CIUs)* – An industrial user subject to National Categorical Pretreatment Standards.
- *Control Mechanisms* – Permit, order, or similar means to regulate the contribution to the POTW by each Industrial User and to ensure compliance with applicable Pretreatment Standards and requirements.
- *POTWs with Pretreatment Programs* – 40 CFR 403.8(a).Certain POTWs receiving from Industrial Users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to Pretreatment Standards are required to establish POTW Pretreatment Programs to address their issues.
- *POTWs without Pretreatment Programs* – Any POTW not required to develop a pretreatment program.
- Pretreatment Requirements – 40 CFR 403.3(t). Any substantive or procedural requirement related to Pretreatment, other than a National Pretreatment Standard, imposed on an Industrial User.
- *Pretreatment Standards* – 40 CFR 403.3(l). Any regulation containing pollutant discharge limits promulgated by EPA in accordance with section 307 (b) and (c) of the Act, which applies to Industrial Users. This term includes prohibitive discharge limits established pursuant to § 403.5.
- *Significant Industrial Users (SIUs)* – 40 CFR 403.3(v)(1)(i)&(ii). All Industrial Users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR chapter I, subchapter N; and any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any Pretreatment Standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Methodology for computation of results:

For WQ-14a, the region reports the number of SIUs that are discharging to POTWs with pretreatment programs that have control mechanisms in place in the main data field of the EPA Annual Commitment System (ACS). In the comments section of ACS, the regions should also report the universe of SIUs and the percent of SIUs that are discharging to POTWs with pretreatment programs that have control mechanisms in place. The results are calculated by dividing the number of SIUs that have control mechanisms by the universe of SIUs to determine the percent of SIUs that are discharging to POTWs with pretreatment programs that have control mechanisms in place.

For WQ-14b, the region reports the number of CIUs that are discharging to POTWs without Pretreatment Programs and have control mechanisms in place. In the comments section of ACS, the regions should also report the universe of CIUs discharging to POTWs without Pretreatment Programs and the percent of CIUs that are discharging to POTWs without Pretreatment Programs that have control mechanisms in place. The results are calculated by dividing the number of CIUs that

have control mechanisms by the universe of CIUs to determine the percent of CIUs that are discharging to POTWs without pretreatment programs that have control mechanisms in place.

Where EPA is the Approval Authority and the state does not have CIU permitting authority, a control mechanism may consist of notification to CIUs of reporting requirements and tracking by EPA.

Units: SIUs (WQ-14a; CIUs (WQ-14b)

Universe: The universe represents the total number of SIUs and CIUs at the beginning of the most current fiscal year.

Baseline: The number and percentage of SIUs and CIUs with control mechanisms in place at a point in time (FY 2007).

Measure Code: WQ-17

Measure Language: Fund utilization rate (cumulative loan agreement dollars to the cumulative funds available for projects) for the Clean Water State Revolving Fund (CWSRF).

Type of Measure: Target Measure; cumulative measure

Measure Contact: Mark Mylin, EPA Office of Wastewater Management

mylin.mark@epa.gov | (202) 564-0607

Measure Definition

Terms and phrases:

- *Loan agreements* are the dollar amount of loans provided by the State Clean Water State Revolving Fund (CWSRF) to eligible borrowers.
- *Funds available* for projects are the dollar amount of monies in the CWSRF over time that are available to fund projects. Such monies include federal capitalization grants, state matching contributions, bond proceeds, loan repayments, and interest earnings.

Methodology for computation of results: The measure is calculated by dividing cumulative loan agreement dollars into the cumulative funds available for projects.

Units: Dollars (expressed as a percentage)

Universe: The universe is the total cumulative amount of funds available for projects since the program's inception in 1988. Data are collected annually from all 51 state CWSRF programs (50 states and Puerto Rico).

Baseline: The fund utilization rate using data collected annually from all 51 state CWSRF programs (50 states and Puerto Rico) in FY 2005.

Measure Code: WQ-19 (a,b)

Measure Language: (WQ-19a): Number of high priority state NPDES permits that are issued in the fiscal year.

(WQ-19b): Number of high priority state and EPA (including tribal) NPDES permits that are issued in the fiscal year.

Type of Measure: Target measure

Measure Contact: Jackie Clark, EPA Office of Wastewater Management

clark.jackie@epa.gov | (202) 564-6582

Measure Definition

Terms and phrases: *National Pollutant Discharge Elimination System* (NPDES) - A provision of the Clean Water Act which prohibits discharge of pollutants into waters of the United States unless a special permit is issued by EPA, or an authorized state, territory, or tribal government.

Each year, state and regional authorities are provided with a list of permits eligible for selection as priority permits. This "candidate list" is comprised of all permits expired for greater than two years. From this candidate list, states and regions are asked to select at least 20% as "priority permits," meaning that those permits are a high priority for issuance based on programmatic and environmental criteria. States and regions then commit to issuing a certain number of these permits during the fiscal year. Permits that are expired as of the beginning of the fiscal year and those permits that will expire during the subject fiscal year can also be added to the list of priority permits after 20% of the permits expired greater than two years have been selected.

Methodology for computation of results: Results are the total number of selected priority permits issued during the fiscal year.

Units: Permits

Universe: The universe will be calculated just prior to the start of the fiscal year when candidate permit lists are developed and states and regions select priority permits. The candidate lists are created close to the start of the fiscal year in order to have a more accurate list of permits expired greater than two years, taking into account as much of the prior year's permit issuance as possible.

Baseline: n/a

Measure Code: WQ-20 (a, b)

Measure Language: (WQ-20a): Number and percent of major NPDES wastewater treatment plant permits with nutrient limits. (WQ-20b): Number and percent of major NPDES wastewater treatment plant permits with nutrient monitoring requirements.

Type of Measure: Indicator measure; annually reported

Measure Contact: Jackie Clark, EPA Office of Wastewater Management

clark.jackie@epa.gov | (202) 564-6582

Measure Definition

Terms and phrases:

- *National Pollutant Discharge Elimination System (NPDES)* – A program created by Section 402 of the Clean Water Act, which prohibits the discharge of pollutants from point sources into waters of the United States unless a permit is issued by the EPA or authorized state, territory, or tribal government. Under the NPDES permitting program, EPA and authorized states, tribes, and territories are required to issue permits with effluent limits as well as other requirements (e.g. best management practices, water quality trading, nutrient management plans, etc.) to protect water quality standards (WQS) to point sources discharging pollutants to any water of the U.S. This includes limits for nutrient pollution where reasonable potential exists to cause or contribute to an excursion above WQS. EPA continues to work with state and tribal partners to ensure effluent limits for nutrient pollution are included in permits where necessary. In addition, monitoring requirements should be included in permits as appropriate even when reasonable potential has not been found.

- *NPDES wastewater treatment plant permits* – For the purposes of this measure, wastewater treatment plant permits are defined as NPDES permits with the primary permit SIC code of 4952 (sewerage systems) or, where the primary permit SIC code is blank, permits with the facility type indicator of POTW, in EPA'S national database ICIS-NPDES. Only major, individual permits (i.e., no minor individual permits or general permit covered facilities) based on data available in ICIS-NPDES are included in this measure.

Methodology for computation of results:

WQ-20a: Results are determined using data from ICIS-NPDES to count the number of major individual NPDES wastewater treatment plant permits that contain at least one limit for any nitrogen or phosphorus parameter (note that ammonia parameters are not included in this measure). The percentage result is determined by dividing the numeric result by the universe of all major wastewater treatment plants, as defined above.

WQ-20b: Results are determined using data from ICIS-NPDES to count the number of major individual NPDES wastewater treatment plant permits that contain at least one monitoring requirement for any nitrogen or phosphorus parameter (note that ammonia parameters are not included in this measure). The percentage result is determined by dividing the numeric result by the universe of all major wastewater treatment plants, as defined above. Note that all permits with limits also require monitoring and are therefore also counted under this measure.

Units: NPDES permits

Universe: 4,420. The universe is the same for both measures and represents the number of NPDES major individual wastewater treatment plant permits nationwide as of February 2016. This number may change over time and will be updated accordingly.

Baseline: WQ-20a: 1493/4420=33.8%; WQ-20b: 3133/4420=70.9%. The baseline is the national number and percent of major wastewater treatment plant permits with nutrient limits (WQ-20a) and nutrient monitoring requirements (WQ-20b) according to ICIS-NPDES data as of February 2016.

Measure Code: WQ-23

Measure Language: Percent of serviceable rural Alaska homes with access to drinking water supply and wastewater disposal

Type of Measure: Target measure; annually reported

Measure Contact: Matthew Richardson, Office of Wastewater Management
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Dennis Wagner, EPA Alaska Operations Office
wagner.dennisx@epa.gov| (202) 564-0691

Measure Definition

Terms and phrases:

- *Homes* are the houses within Alaskan Native Villages
- *Serviceable* means homes that can be provided with drinking water and/or wastewater service that meets public health standards. Homes that cannot be serviced are those homes such as: seasonal homes, structurally unsound or are cost prohibitive to serve. It is estimated that approximately 6% of the total homes in rural Alaska are not serviceable.
- *Access* means the reduction in the sanitation deficiency level of a tribal home from a 4 or 5 to a 3 or less. The sanitation deficiency levels definitions are described in Appendix E of the "Indian Health Service Sanitation Deficiency System Guide for Reporting Sanitation Deficiencies for Indian Homes and Communities," working draft, May 2003 and may be found online at: http://www.dsfc.ihs.gov/Documents/SDSWorkingDraft2003.pdf EXIT Disclaimer
- *Sanitation deficiency* is an identified need for new or upgraded sanitation facilities for existing homes of American Indians or Alaska Natives

Methodology for computation of results: Housing information is collected annually, typically in March, in order to capture progress over the previous construction season. For example, housing information collected in March 2011 reflects progress through 2010. Analysis and data reviews are conducted in roughly April of each year, and the results available in approximately in May of each year.

The housing information is based on annual housing surveys that include homes served and also homes that have been funded to be served. This allows for the program to account for the progress made through granted funds before the homes are actually served. The annual housing survey also allows for the program to track the construction of new homes that are not served in rural Alaska.

Units: Serviceable rural Alaska homes (Percent homes)

Universe: Dynamic since new homes are constructed

Baseline: Serviceable rural Alaska homes at a point in time (FY 2010)

Measure Code: WQ-25 (a,b)

Measure Language: (WQ-25a) Number of urban water projects initiated addressing water quality issues in the community.

(WQ-25b) Number of urban water projects completed addressing water quality issues in the community. (cumulative)

Type of Measure: Target measures; annual measure (WQ-25a); cumulative measure (WQ-25b)

Measure Contact: Surabhi Shah, EPA Office of Water

shah.surabhi@epa.gov | (202) 564-3833

Measure Definition

Terms and phrases: Please note, the definitions below are pending further discussion with stakeholders.

- *Project initiation* refers to the point in time when an award of the grant or cooperative agreement was made.
- *Project completion* refers to the point in time when an approval of the project's final report was made.
- *Urban Waters Small Grants* focus on research, studies, training, and demonstration projects that will advance the restoration of urban waters by improving water quality through activities that also support community revitalization and local priorities.

Methodology for computation of results

Units: Urban water projects

Universe: n/a

Baseline: The number of projects initiated or completed at a point in time (FY 2012 for WQ-25a and FY 2013 for WQ-25b)

Measure Code: WQ-27

This document is the computational guidance for the WQ-27 performance measure for FY 2016. Over the coming months, EPA will work with states to update this document for FY 2017 to reflect the agreed upon change in the performance measure. In FY 2017, the measure will be modified to 'recognize' a state's priorities when at least one of the priorities (e.g., pollutants and/or designated uses) has been addressed by a plan (i.e., TMDL, alternative restoration approach, or protection approach), and will use a weighted approach in the measure calculation to show this interim progress as the state moves towards and reaches the completion of all plans.

Measure Language: Extent of priority areas identified by each State that are addressed by EPA-approved TMDLs or alternative restoration approaches for impaired waters that will achieve water quality standards. These areas may also include protection approaches for unimpaired waters to maintain water quality standards.

Type of Measure: Target measure; cumulative measure

Measure Contact: Shera Reems, EPA Office of Wetlands, Oceans, and Watersheds
Reems.shera@epa.gov | (202) 566-1264

Measure Definition

Terms and phrases:

Clean Water Act 303(d) Program Vision Priorities: Consistent with the Vision, EPA expects states to identify their long-term CWA 303(d) Program priorities (i.e., FY 2016 through FY 2022) by the beginning of FY 2016. The Vision contemplates that this long-term prioritization process will be focused on identifying watersheds or individual waterbodies for priority restoration and protection activities, taking into consideration how CWA 303(d)-related activities could collectively help achieve a State's broader overall water quality goals. The State long-term CWA 303(d) priorities provide a basis for deciding the location and timing of the development of TMDLs, alternative restoration approaches, and protection approaches.

The State prioritization is a foundation to guide how the State will implement its responsibilities under the CWA 303(d) Program. (See the 2016 Integrated Reporting Memo Appendix A for some factors for States to consider when setting long-term priorities under the CWA 303(d) Program.)[3] States have flexibility in how they define their priorities and may use a variety of ways to describe these priorities, which include:

- by geographic units: assessment units, watersheds, ecoregions, or basins;
- by pollutants; or
- by designated uses.

TMDL (Total Maximum Daily Load): Per 40CFR130.2(i), a TMDL is, "the sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background."[4]

Alternative restoration approach (Category 5-alt): A near-term plan, or description of actions, with a schedule and milestones, that is more immediately beneficial or practicable to achieving WQS than a

[3] https://www.epa.gov/tmdl
[4] http://www.ecfr.gov/cgi-bin/text-idx?SID=4cb5c6bea432a27b97648b6728563639&node=se40.22.130_12&rgn=div8

TMDL. With the exception of impaired waters assigned to Category 4b[5] and Category 4c,[6] impaired waters for which a State pursues an alternative restoration approach to achieve WQS shall remain on the CWA 303(d) list (i.e., Category 5) and still require TMDLs until WQS are attained. For information on factors to consider when pursuing an alternative restoration approach for Category 5-alt and elements to consider including in the description, see the 2016 Integrated Reporting Memo.[7] As long as such waters remain on the CWA 303(d) list, EPA's review of the list would not be affected or delayed by whether a TMDL or an alternative restoration approach is pursued. EPA will consider the adequacy of the State's description of the alternative restoration approach in determining whether to include such an approach under the CWA 303(d) performance measures. As part of reporting progress under the CWA 303(d) Program performance measures WQ-27 and WQ-28, for EPA to continue reporting an alternative restoration approach under the measures, a State should demonstrate by 2022 that such an approach is on track to being more immediately beneficial or practicable in achieving WQS than pursuing a TMDL approach in the near-term, by showing steady and continuing improvements in water quality or adequate progress in implementing the plan.

Category 4b:[8]

- Includes impaired waters for which a State has provided sufficient demonstration that there are other pollution control requirements sufficiently stringent to achieve applicable WQS within a reasonable period of time.
- These impaired waters are not included in the State's CWA 303(d) list consistent with 130.7(b)(1)(iii) (Category 5).
- EPA reviews and approves the exclusion of such waters from Category 5 consistent with CWA requirements.

Protection approach: A planning process and/or a set of practices pursued in the near-term that are designed to maintain water quality standards for waterbodies that have been assessed and are attaining water quality standards.[9] These planning processes and/or sets of practices can be a part of an overall state healthy watershed strategy and coordinated with partner agencies. Some examples of practices that a state may consider for protection include: forest protection, riparian buffer easements, state or local watershed protection ordinances, or headwaters land

[5] For more information on Category 4b, see "Information Concerning 2008 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions," available at https://www.epa.gov/tmdl.
[6] For more information on appropriate placement of waters impaired by pollution under Category 4c, see "Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act," available at https://www.epa.gov/tmdl. For waters placed in category 4c, an appropriate plan to address the pollution impairment is needed for such waters to be counted under program measure WQ-27. See also Section 5 of the 2016 IR Memo, "*Clarification on the assessment and assignment of waters to Category 4C."* https://www.epa.gov/tmdl
[7] https://www.epa.gov/tmdl
[8] For more information on Category 4b, see "Information Concerning 2008 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions," available at https://www.epa.gov/tmdl.
[9] The protection approach for a healthy waterbody will likely address the pollutants that the state has assessed in determining it is meeting water quality standards, and the approach will aim to maintain these and other water quality standards. In some instances, a state may choose to develop a protection approach for a water identified on a state's 303(d) list as threatened, or for a predominantly healthy watershed that may contain some impaired waters.

acquisition. To identify those areas that are appropriate for employing protection practices, a state might use the results of a Healthy Watersheds Assessment https://www.epa.gov/hwp, use a screening tool such as the Recovery Potential Screening Tool available at https://www.epa.gov/rps, or identify candidate areas individually. Between the time the the protection approach is established and 2022, EPA expects that states will demonstrate the continued maintenance of water quality standards for such protected waters.

EPA is working across Clean Water Act Programs (particularly with the Nonpoint Source Control Program) to identify elements to consider and the rationale for their use when pursuing a protection approach. In the interim, EPA will work with states on a case by case basis to determine appropriate protection approaches.

Catchment-based indexing:[10] An automated process that corresponds state geospatial information (e.g., streams, lakes, HUCs, basins) with NHD*Plus* V2 catchments. Catchments represent the local drainage area for the individual stream segments of a specific stream network.[11] The process to translate 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-based indexing process. For more information about catchments, see http://www.horizon-systems.com/nhdplus/. (See Figure 1)

The terms defined below are used by the EPA in the computational guidance for all performance measures to communicate what information will need to be provided for inclusion in the National Water Program Guidance documents.

Units: Area (acres). EPA will use NHD*Plus* Version 2 catchments to calculate these values.

Universe: Area (acres) corresponding to the priorities identified by each state. For example, if a state provides EPA with a list of assessment units that have been identified as their priority, EPA will correspond these assessment units to catchments to calculate the area.

Baseline: Area (acres) corresponding to the state priorities that have a TMDL established or approved by EPA, or an alternative restoration approach or protection plan agreed to by EPA, at the time the priorities are defined by states.[12] For example, a state may include in their priorities, waters for which all the plans are in place. The area corresponding to this subset of priorities is the baseline.

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[10] For the Integrated Reporting Georeferencing Pilot Report visit https://www.epa.gov/waterdata/water-quality-framework

[11] EPA is currently working to develop NHD*Plus* catchments for Alaska.

[12] The term "approved" refers to TMDLs, and the term "agreed to by EPA" refers to alternative restoration approaches and protection approaches. As discussed in the 2016 Integrated Reporting Memo, "…the alternative restoration approach does need to clearly demonstrate how WQS will be achieved for EPA to include it under the CWA 303(d) performance measures."

Commitment (Annual): Area (acres). As part of the EPA performance measures reporting process, each fiscal year states are expected to provide a commitment that reflects the plans and/or approaches that will be in place by the end of the fiscal year and recognized under the performance measure. For this measure, the commitment is cumulative. Examples are provided in Table 1.

The expectation is that the annual commitments will lead to 100% of the state defined priorities (universe) being addressed by a TMDL, alternative restoration approach, or protection approach by the end of FY2022.

Table 1: Commitment Examples

State	Universe (acres)	Baseline (acres)	FY 16 Commitment (acres)	FY 16 End-of-Year Result (acres)	FY 2017 Commitment (acres)
Whoville	77,799	7,171	*60,666* = (53,495* + Baseline)	*65,000* = (57,829* + Baseline)	*67,000* = (2,000* + FY 16 End-of-Year Result)
Seussville	178,697	0	*109,057* = (109,057* + Baseline)	*109,057* = (109,057* + Baseline)	*150,000* (40,943* + FY 16 End-of-Year Result)

*Plans and/or approaches (acres) that will be the focus for the fiscal year of interest.

Methodology for computation of results:

The process to calculate WQ-27 includes the following steps:

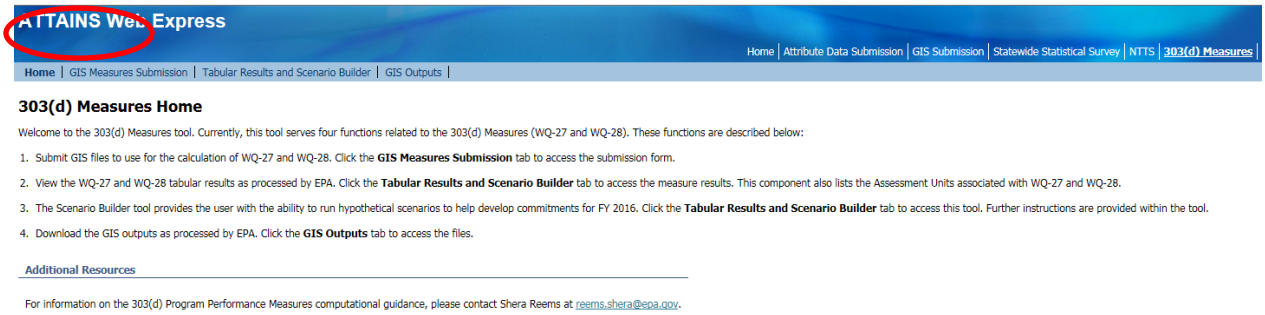
- Step 1: State submits "data" to EPA
- Step 2: Calculate the universe
- Step 3: Calculate the baseline
- Step 4: Calculate the annual commitments
- Step 5: Calculate the progress

Additional details about each step are provided below.

Step 1: State submits "data" to EPA

- State submits priorities to EPA. The state completes the priorities Excel spreadsheet or priorities change request Excel spreadsheet (contact your Region to obtain a copy of the appropriate Excel spreadsheet), and after coordinating with their Region, emails either the priorities or priorities change request to EPA Headquarters. The state or Region then uploads

the geospatial information into the GIS measures submission tab via the 303(d) measures tool. Appendix A provides details on how to obtain access to the 303(d) measures tool.



- EPA will process the state geospatial information that contains the state priorities through the catchment-indexing processing tool to select the NHD*Plus* 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.

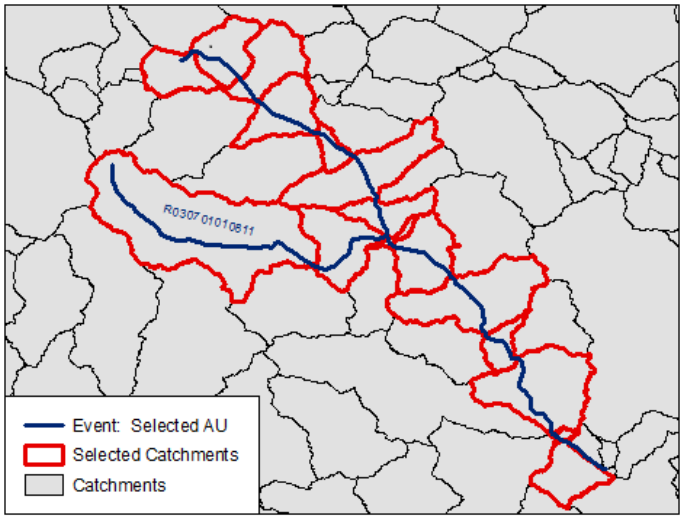


Figure 1: Graphic showing how the catchment-based indexing process corresponds an assessment unit to catchments as an example to communicate how this process works.

Step 2: Calculate the universe

- EPA will sum the area of the catchments that correspond to state priorities—provided via an excel spreadsheet in Step 1—to calculate the universe (acres). The catchments, which represent the state priorities, are used solely for the purpose of automating[13] the calculation of the measure. (See Figure 1).

Step 3: Calculate the baseline

[13] Automating refers to the use of technology to run the necessary calculations for the measure. As discussed later in this document, EPA will work with states to develop an online module, where "with the click of a button" a state would be able to see for example, the translation of priorities to catchments, universe, baseline, and changes in the measure across fiscal years. These discussions are currently underway.

- EPA will use the information in ATTAINS (e.g., state priorities submitted to EPA, and TMDLs, alterantive restoration approaches, or protection approaches)[14] to identify where a priority in its entirety has already been addressed. For example, if a state's priorities include two pollutants for a waterbody, the priority (i.e., waterbody) will be addressed in its entirety when a plan is in place for the two pollutants.
- EPA will sum the area of the catchments that correspond to state priorities with all TMDLs, alternative restoration approaches, or protection approaches in place to determine the baseline (acres). The catchments are used solely for the purpose of automating the calculation of the measure. (See Figures 2 and 3).

For the Universe and Baseline, the results of the measures calculation will be made available via the "Tabular Results and Scenario Builder" tool within the 303(d) measures tool. (See Figure 2). In addition, the geospatial information (i.e., catchments corresponding to state priorities) is available to download via the "GIS output" tool within the 303(d) measures tool. A set of instructions "Instructions – Viewing Scenarios Geospatially" has been developed and is available as a guide to pull together the tabular and geospatial information in ArcGIS.

Step 4: Calculate Annual Commitments: As part of the EPA performance measures reporting process, states are expected to provide draft commitments in July and final commitments in September/October for the priorities that the state intends to address by a TMDL, alternative restoration approach, or protection approach. The expectation is that the sum of the annual commitments from FY 2016 through FY 2022 will equal 100% of the state defined priorities being addressed by a TMDL, alternative restoration approach, or protection plan by the end of FY 2022. For the annual commitments, the Tabular Results and Scenario Builder in the 303(d) Measures Tool could be used. If a tutorial on this tool is needed, please contact EPA to schedule. (See Figures 2 and 3).

[14] State and EPA ensure that all EPA approved and established TMDLs are in ATTAINS. Because alternative restoration approaches and protection approaches are new, it is likely that these types of approaches would not have been in place to be considered as part of a "baseline." If a state does have these approaches and EPA has reviewed them to include them as part of the baseline, EPA will work with the state to ensure the information is entered into ATTAINS and reflected in the baseline.

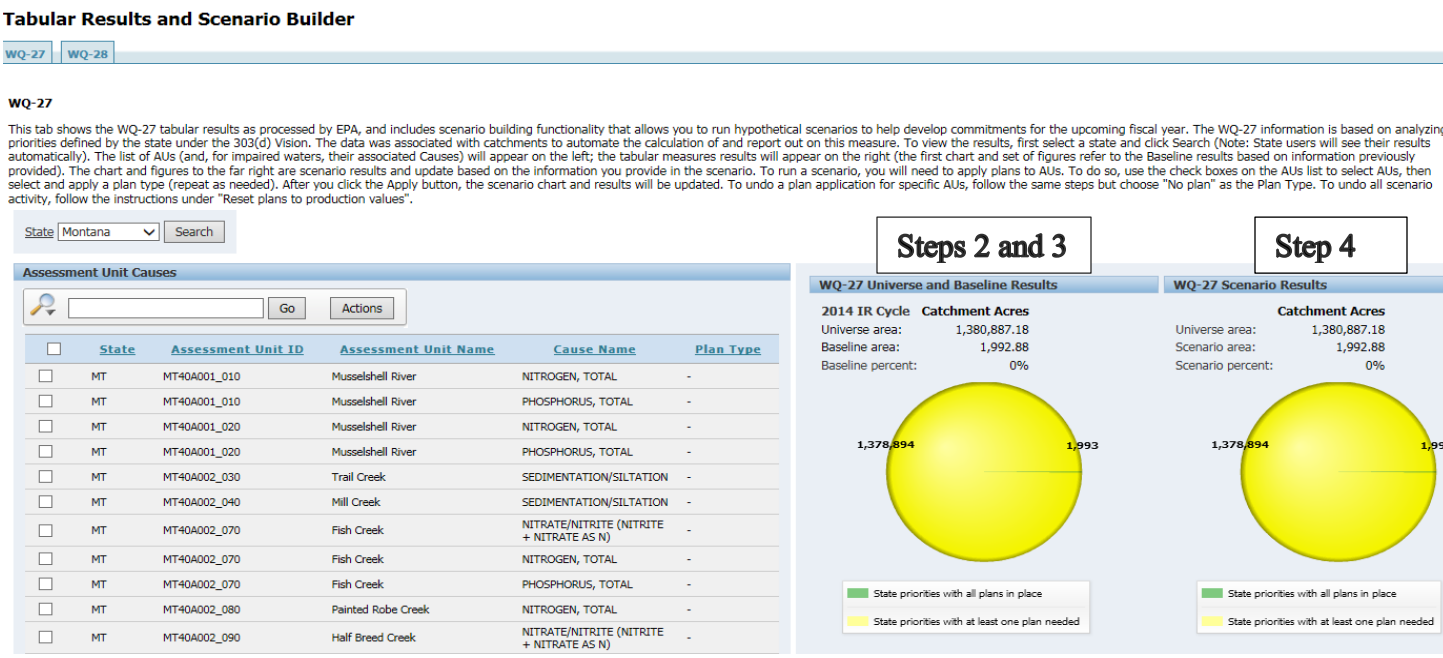


Figure 2: Snapshot of the Tabular Results and Scenario Builder in the 303(d) Measures Tool (https://ofmext.epa.gov/apex/owpub/f?p=ATTAINS_Web_Express)

Step 5: Calculate progress

- EPA will use the information in ATTAINS (e.g., state priorities and TMDLs, alterantive restoration approaches, or protection approaches)[15] to identify where a priority in its entirety has been addressed and should be recognized at the end of the fiscal year.
    - States and EPA should collaborate to ensure that all EPA approved and established TMDLs, and alternative restoration approaches or protection approaches agreed to by EPA (by the end of the fiscal year) are entered into ATTAINS no later than the middle of October.[16]
- EPA will sum the area of the catchments that correspond to state priorities with all TMDLs, alternative restoration approaches, or protection approaches in place to determine the progress (acres). The catchments are used solely for the purpose of automating the calculation of the measure. (See Figures 1 and 3).

[15] State and EPA ensure that all EPA approved and established TMDLs are in ATTAINS. Because alternative restoration approaches and protection approaches are new, it is likely that these types of approaches would not have been in place to be considered as part of a "baseline." If a state does have these approaches and EPA has reviewed them to include them as part of the baseline, EPA will work with the state to ensure the information is entered into ATTAINS and reflected in the baseline.

[16] For several years, EPA has entered TMDLs into ATTAINS. Currently, we have thousands of "older" TMDLs with no geospatial information, so our ability to show them geospatially will be limited. As part of the ATTAINS Redesign, EPA and states will determine what information "data" states will need to provide to EPA in order for the alternative restoration, and protection approaches to "count," and how this information will be provided to EPA (e.g., a web form similar to that used for TMDLs). These discussions with states are currently underway.

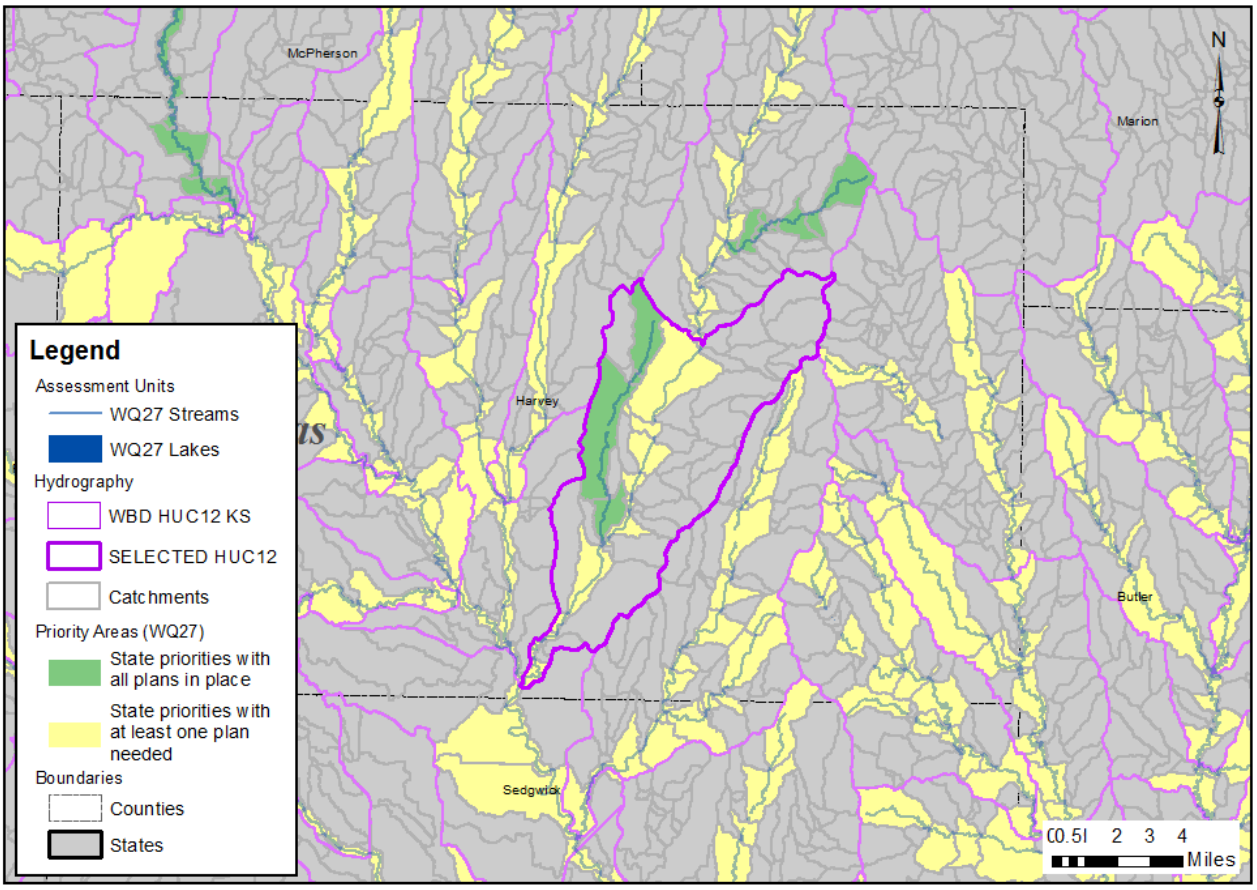


Figure 3: Map displaying where all plans are in place (Green) and where at least one plan still needed (Yellow). The area associated with the green would be recognized in the measure as either the baseline or progress (where appropriate), whereas, the area associated with the yellow would not yet be recognized as either the baseline or progress because there is at least one plan still needed.

Special Circumstances

Adjustments to the Universe, Baseline, and Annual Commitments

While EPA recommends that states keep changes to the universe to a minimum, EPA recognizes that unforeseen circumstances may require some changes. Prior to changing the long-term priorities reported under WQ-27, EPA recommends that states first determine if reporting under the complementary measure (WQ-28) would satisfy a state's intent in recognizing program activities. Two additional circumstances of interest include: 1) a state not setting priorities, and 2) revised TMDLs.

1) **If a state does not identify program priorities:** While the implementation of the Vision is not a requirement and does not alter state and EPA responsibilities or authorities under the CWA 303(d) regulations, it is a new lens through which to view the state and EPA co-led process to implement these responsibilities and authorities. As such, if a state does not identify long-term priorities defined above, then the state's most recent approved 303(d) list would be considered as the basis for calculation of the universe and baseline; the state would still

be expected to provide to EPA the information outlined above that is necessary to calculate the measure.

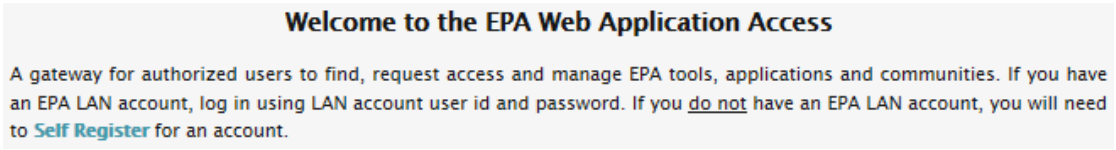
2) **If a state revises TMDLs**: EPA recognizes that there are circumstances that lead to a TMDL revision. If a state would prefer to receive recognition in a future fiscal year for the TMDL revision, the state should notify the EPA to ensure that the original TMDL is removed from the measure calculation at the outset.

Appendix A

Steps to get started:

1. In order to submit GIS information for the measures, you must register for ATTAINS Web Express

2. In order to register for ATTAINS Web Express, you will need an EPA Portal Account
   a. If you already have an account, go to Step 3
   b. If you do not have an account, go to http://portal.epa.gov, and click on "Self Register":



   c. Complete and submit the form – ***please select "General Web Application Access" as the Community.*** For the EPA contact, list Shera Reems (reems.shera@epa.gov; 202-566-1264).
   d. Once you are approved, you will receive an email with your account login information, then Go To Step 3

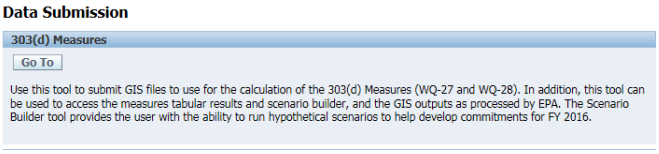
ATTAINS Web Express has been modified to include the GIS Measures Submission form, Tabular Results and Scenario Builder, and GIS Output to support the CWA 303(d) Measures.

3. Go to https://ofmext.epa.gov/apex/owpub/f?p=ATTAINS_Web_Express, which will take you to the ATTAINS Web Express home page:

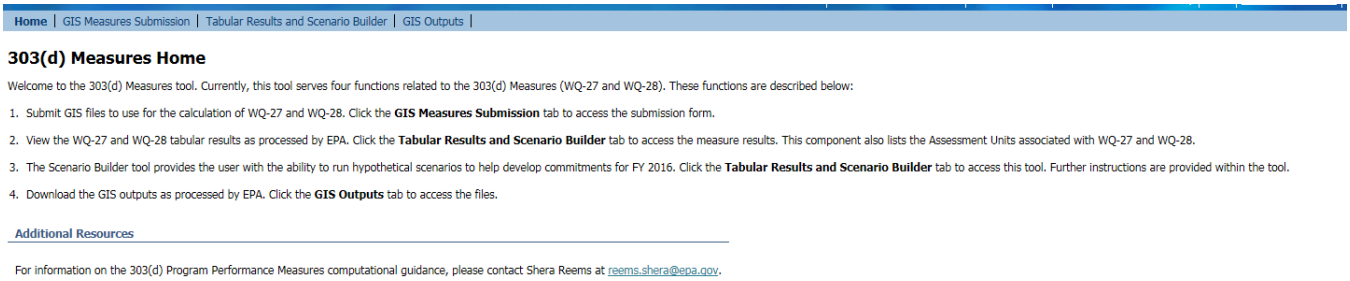
4. At the top left of the page, you will see "Registration". Click on this link and complete the form. *[Note, states should only request access to the "303(d) Measures" and be sure to request no for the other applications listed]* Once you submit this form, you will receive an email within 24 to 48 hours notifying you that you have been granted access.

5. After receiving the email notifying you that you have access, return to https://ofmext.epa.gov/apex/owpub/f?p=ATTAINS_Web_Express

6. Click on "Go To" under "303(d) Measures"



7. You will be taken to the 303(d) Measures Home Page.



8. There are three sections in the 303(d) Measures Home Page

    a. GIS Measures Submission: Click on GIS Measures Submission in the top left of the screen. This form should be used to submit the geospatial information that EPA will use in the calculation of the performance measures (WQ-27 and WQ-28).
        i. The Priorities excel file should be submitted via email by either the state or Region.

    Once EPA has calculated the performance measures for your state, you will receive an email from EPA asking that you return to the 303(d) Measures Home Page and review the information provided in the following tabs:

    b. Tabular Results and Scenario Builder:
        i. Tabular Results: View the WQ-27 and WQ-28 tabular results as processed by EPA
        ii. Scenario Builder: Run hypothetical scenarios to help develop commitments for FY 2016
    c. GIS outputs: Download the GIS outputs as processed by EPA (association of state priorities to catchments for the performance measures WQ-27 and association of state assessment units to catchments for the performance measures WQ-28), and view this information in ArcGIS

Measure Code: WQ-28

This document is the computational guidance for the WQ-28 performance measure for FY 2016. Over the coming months, EPA will work with states to update this document for FY 2017 to reflect the agreed upon change in the performance measure. In FY 2017, the measure will be modified by combining the “planning” and “developing” actions into one action “developing”, and the weights will be adjusted accordingly.

Measure Language: State-wide extent of activities leading to completed TMDLs or alternative restoration approaches for impaired waters, or protection approaches for unimpaired waters.
Type of Measure: Indicator measure; cumulative measure

Measure Contact: Shera Reems, EPA Office of Wetlands, Oceans, and Watersheds
Reems.shera@epa.gov | (202) 566-1264

Measure Definition

Terms and phrases:

TMDL (Total Maximum Daily Load): Per 40CFR130.2(i), a TMDL is, "the sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background."[17]

Alternative restoration approach (Category 5-alt): A near-term plan, or description of actions, with a schedule and milestones, that is more immediately beneficial or practicable to achieving WQS than a TMDL. With the exception of impaired waters assigned to Category 4b[18] and Category 4c,[19] impaired waters for which a State pursues an alternative restoration approach to achieve WQS shall remain on the CWA 303(d) list (i.e., Category 5) and still require TMDLs until WQS are attained. For information on factors to consider when pursuing an alternative restoration approach for Category 5-alt and elements to consider including in the description, see the 2016 Integrated Reporting Memo.[20] As long as such waters remain on the CWA 303(d) list, EPA's review of the list would not be affected or delayed by whether a TMDL or an alternative restoration approach is pursued. EPA will consider the adequacy of the State's description of the alternative restoration approach in determining whether to include such an approach under the CWA 303(d) performance measures. As part of reporting progress under the CWA 303(d) Program performance measures WQ-27 and WQ-28, for EPA to continue reporting an alternative restoration approach under the measures, a State should demonstrate by 2022 that such an approach is on track to being more immediately beneficial or practicable in achieving WQS than pursuing a TMDL approach in the near-term, by showing steady and continuing improvements in water quality or adequate progress in implementing the plan.

Category 4b:[21]

[17] http://www.ecfr.gov/cgi-bin/text-idx?SID=4cb5c6bea432a27b97648b6728563639&node=se40.22.130_12&rgn=div8
[18] For more information on Category 4b, see "Information Concerning 2008 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions," available at https://www.epa.gov/tmdl.
[19] For more information on appropriate placement of waters impaired by pollution under Category 4c, see "Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act," available at https://www.epa.gov/tmdl. For waters placed in category 4c, an appropriate plan to address the pollution impairment is needed for such waters to be counted under program measure WQ-27. See also Section 5 of the 2016 IR Memo, "*Clarification on the assessment and assignment of waters to Category 4C."* https://www.epa.gov/tmdl
[20] https://www.epa.gov/tmdl
[21] For more information on Category 4b, see "Information Concerning 2008 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions," available at https://www.epa.gov/tmdl.

- Includes impaired waters for which a State has provided sufficient demonstration that there are other pollution control requirements sufficiently stringent to achieve applicable WQS within a reasonable period of time.
- These impaired waters are not included in the State's CWA 303(d) list consistent with 130.7(b)(1)(iii) (Category 5).
- EPA reviews and approves the exclusion of such waters from Category 5 consistent with CWA requirements.

Protection approach: A planning process and/or a set of practices pursued in the near-term that are designed to maintain water quality standards for waterbodies that have been assessed and are attaining water quality standards.[22] These planning processes and/or sets of practices can be a part of an overall state healthy watershed strategy and coordinated with partner agencies. Some examples of practices that a state may consider for protection include: forest protection, riparian buffer easements, state or local watershed protection ordinances, or headwaters land acquisition. To identify those areas that are appropriate for employing protection practices, a state might use the results of a Healthy Watersheds Assessment https://www.epa.gov/hwp, use a screening tool such as the Recovery Potential Screening Tool available at https://www.epa.gov/rps, or identify candidate areas individually. Between the time the protection approach is established and 2022, EPA expects that states will demonstrate the continued maintenance of water quality standards for such protected waters.

EPA is working across Clean Water Act Programs (particularly with the Nonpoint Source Control Program) to identify elements to consider and the rationale for their use when pursuing a protection approach. In the interim, EPA will work with states on a case by case basis to determine appropriate protection approaches.

This measure will also track actions that are part of the process that lead to a completed TMDL, alternative restoration approach, or protection approach, and include:

- *Planning actions for* TMDLs, alternative restoration approaches, or protection approaches*:* Planning actions include: review of existing information, data evaluation, and data collection.
- *Developing actions for* TMDLs, alternative restoration approaches, or protection approaches*:* Developing actions include: data analysis, model development, draft of plan, proposal of a TMDL for public comment, and public outreach.

Catchment-based indexing:[23] An automated process that corresponds state geospatial information (e.g., streams, lakes, HUCs, basins) with NHD*Plus* V2 catchments. Catchments represent the local

[22] The protection approach for a healthy waterbody will likely address the pollutants that the state has assessed in determining it is meeting water quality standards, and the approach will aim to maintain these and other water quality standards. In some instances, a state may choose to develop a protection approach for a water identified on a state's 303(d) list as threatened, or for a predominantly healthy watershed that may contain some impaired waters.
[23] For the Integrated Reporting Georeferencing Pilot Report visit https://www.epa.gov/waterdata/water-quality-framework

drainage area for the individual stream segments of a specific stream network.[24] The process to translate 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-based indexing process. For more information about catchments, see http://www.horizon-systems.com/nhdplus/. (See Figure 1)

The terms defined below are used by the EPA in the computational guidance for all performance measures to communicate what information will need to be provided for inclusion in the National Water Program Guidance documents.

Units: Area (acres). EPA will use NHD*Plus* Version 2 catchments to calculate these values.

Universe: Area (acres) corresponding to the impaired waters identified in the state's Integrated Report (i.e., Categories 5, 4a, 4b), as well as healthy or threatened waters for which the state has determined protection approaches will be developed. The universe will be updated to reflect the information reported in the state's most recent Integrated Report and in collaboration with the State.

Baseline: Area (acres) corresponding to the waters within the state that have an EPA approved or established TMDL, or alternative restoration approach or protection approach agreed to by EPA.[25] The baseline will be updated to reflect the information reported in the state's most recent Integrated Report and in collaboration with the State.

Targets: N/A

Methodology for computation of results:

The process to calculate WQ-28 includes the following steps:

- Step 1: State submits "data" to EPA
- Step 2: Calculate the universe
- Step 3: Calculate the baseline
- Step 4: Calculate the end-of-year progress

Additional details about each step are provided below.

Step 1: State submits "data" to 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 data (attribute and geospatial data) should be submitted to EPA via the ATTAINS Web

[24] EPA is currently working to develop NHD*Plus* catchments for Alaska.

[25] The term "approved" refers to TMDLs, and the term "agreed to by EPA" refers to alternative restoration approaches and protection approaches. As discussed in the 2016 Integrated Reporting Memo, "…the alternative restoration approach does need to clearly demonstrate how WQS will be achieved for EPA to include it under the CWA 303(d) performance measures."

Express Tool available at https://ofmext.epa.gov/apex/owpub/f?p=ATTAINS_Web_Express. Contact your Regional data management coordinator to discuss the Integrated Report data submittal.

- EPA will process the state geospatial information through the catchment-indexing processing tool to select the NHD*Plus* 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.

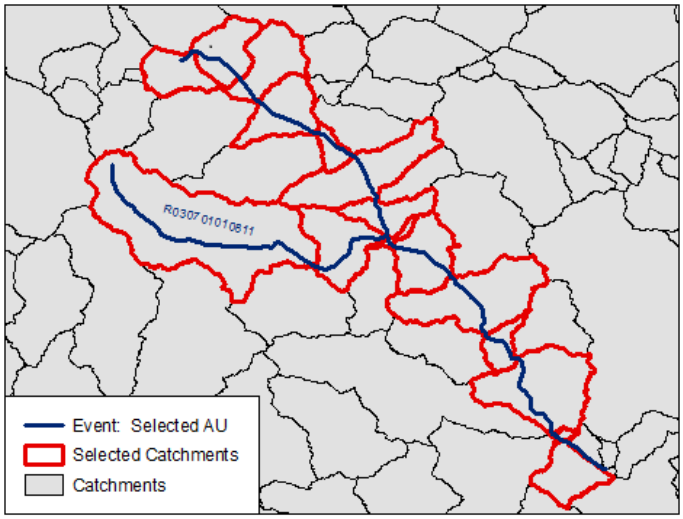


Figure 1: Graphic showing how the catchment-based indexing process relates an assessment unit to catchments as an example to communicate how this process works.

Step 2: Calculate the universe

- EPA will sum the area of the catchments that correspond to the impaired waters identified in the state's Integrated Report (i.e., Categories 5, 4a, 4b), as well as healthy or threatened waters for which the state has determined protection approaches will be developed. The catchments, which represent the waters, are used solely for the purpose of automating[26] the calculation of the measure. (See Figure 1).

Step 3: Calculate the baseline

- EPA will use the information in ATTAINS (e.g., TMDLs, alternative restoration approaches, or protection approaches)[27] to identify where a water has a TMDL, alternative restoration approach, or protection approach in place or being "planned" or "developed".

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[26] Automating refers to the use of technology to run the necessary calculations for the measure. As discussed later in this document, EPA will work with states to develop an online module, where "with the click of a button" a state would be able to see for example, the translation of priorities to catchments, universe, baseline, and changes in the measure across fiscal years. These discussions are currently underway.

[27] State and EPA ensure that all EPA approved and established TMDLs are in ATTAINS. Because alternative restoration approaches and protection approaches are new, it is likely that these types of approaches would not have been in place to be considered as part of a "baseline." If a state does have these approaches and EPA has reviewed

- EPA will sum the area of the catchments that correspond to the water that has a TMDL, alternative restoration approach, or protection approach in place or being "planned" or "developed". The catchments are used solely for the purpose of automating the calculation of the measure. The information immediately below provides a detailed step-by-step walk through of the "automation" process for calculating the baseline.

For the Universe and Baseline, the results of the measures calculation will be made available via the "Tabular Results and Scenario Builder" tool within the 303(d) measures tool. (See Figure 2). In addition, the geospatial information (i.e., catchments corresponding to state waters) is available to download via the "GIS output" tool within the 303(d) measures tool. A set of instructions "Instructions – Viewing Scenarios Geospatially to Tell the Story"[28], is under development and will be available soon, will guide a user to pull together the tabular and geospatial information in ArcGIS.

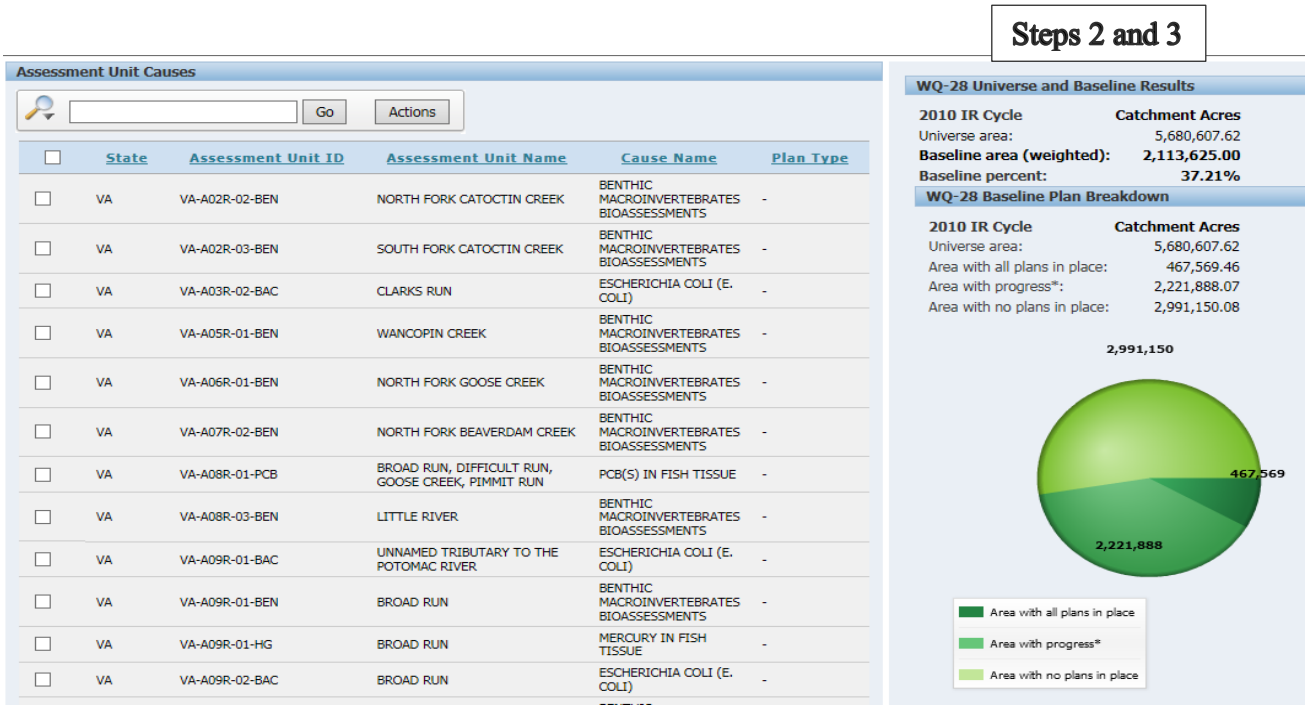

Figure 2: Snapshot of the Tabular Results and Scenario Builder in the 303(d) Measures Tool (https://ofmext.epa.gov/apex/owpub/f?p=ATTAINS_Web_Express)

them to include them as part of the baseline, EPA will work with the state to ensure the information is entered into ATTAINS and reflected in the baseline.

[28] Currently under development for WQ-28

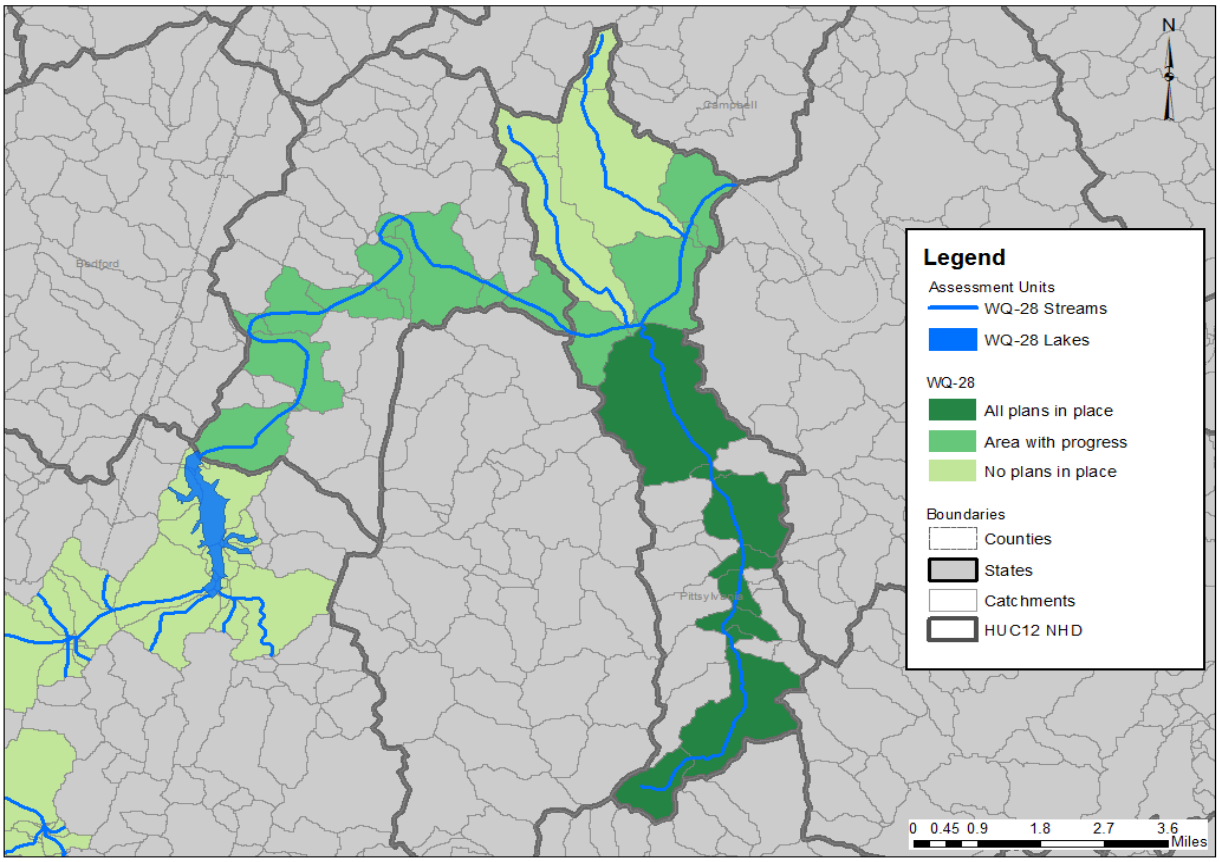

Figure 3: Map displaying where all plans are in place (Dark Green), where progress is being made—some but not all plans in place, as well as developing and planning actions—(Medium Green), and where no plans in place or being developed or planned (Light Green). The area associated with the Dark and Medium Green would be recognized in the measure following the appropriate weighted approach as describe in this document.

Step-by-step walk through of the automated baseline calculation conducted by EPA

As previously mentioned, this measure recognizes TMDLs, alternative restoration approaches, and protection approaches that are in place or being planned or developed, so it applies a weighted approach to remove "double counting" from the baseline. The weights applied for each category (i.e., planning, developing, and complete) are: Planning, 0.25; Developing, 0.5; and Complete (i.e., in place), 1.0. The automated baseline calculation includes:

1) Count the total number of assessment unit (AU)/pollutant combinations for each catchment identified as part of the universe (see Step 2).
2) Count the total number of AU/pollutant combinations in each catchment in the following categories:
    a. Planning
    b. Developing
    c. Complete

3) Calculate a *weighted score* for each category in the catchment by dividing the number of AU/pollutant combinations in that category by the total number of AU/pollutant combinations, and then multiply the *weighting factor* for each category:
    a. Planning, weighting factor = 0.25
    b. Developing, weighting factor = 0.5
    c. Complete, weighting factor = 1.0
4) Add the *weighted scores* for each category in the catchment to calculate the *weighted score* of the catchment.
5) Multiply each catchment's size *(acres)* by the *weighted score* for the catchment to get the catchment's *weighted size (acres)*.
6) Calculate the sum of all the catchment *weighted size (acres)*, using the catchments identified as part of the universe, to get the *weighted baseline* size (acres).
7) Divide the weighted baseline size (acres) by the universe size (acres) and multiply by 100 to calculate the *weighted baseline percent*.

For example, catchment A has a total of 6 AU/pollutant combinations that fall into the categories shown in
Table *1*. Table 1.

Table 1[1]: Example Catchment Status for the Baseline.

Catchment ID	Catchment Size (Acres)	Total Number of AU/Pollutant Combinations	303(d) List (Cat. 5)	303(d) List Cat. 5-alt Complete	303(d) List Planning	303(d) List Developing	Completed TMDL or protection approach
A	6.67	6	1	0	2	2	1

[1] Communicating this information in a table becomes tricky. A few notes include: 303(d) List Category 5 means that impairments are not yet being addressed; 303(d) List Category 5-alt means that a restoration approach or set of actions is complete; 303(d) List Planning means a TMDL, alternative restoration approach or protection approach is a planning action; 303(d) List Developing means a TMDL, alternative restoration approach or protection approach is developing action; and Completed TMDL or protection approach means these are complete (Category 5-alt is not included in this column since it has its own column).

Now, a *weighted score* for the catchment will be calculated. For this example, catchment ID A is 6.67 acres. In addition, the *weighted catchment size* will be calculated. See table 2 below followed by a text description of these steps.

Table 2: Step by Step Calculation of Weighted Catchment Size for Example Catchment for the Baseline

Total Plans Needed (TMDLs, alternative restoration approaches, or protection approaches)	Total Number of Assessment Unit/Pollutant Combinations = **6**
Weighted Score for Planning Category (Weighting Factor = 0.25)	2/6 * 0.25 = 0.083

Weighted Score for Developing Category (Weighting Factor = 0.50)	2/6 * 0.50 = 0.167
Weighted Score for Completed (Weighting Factor = 1.00)	1/6 * 1.00 = 0.167
Weighted Score	0.083 + 0.167 + 0.167 = 0.417
Catchment Size	6.67 acres
Weighted Catchment Size	6.67 acres * 0.417 = 2.78 acres

In the example above, catchment A has a total of six (6) AU/pollutant combinations that need to be addressed. Five (5) of these six (6) AU/pollutant combinations are in some category of being addressed, while one (1) has not started planning.

1. Two (2) of these AU/pollutant combinations have actions in the planning category. So, to calculate the *weighted score* for the planning category, take the number of actions in the planning category (2) and divide by the total needed for the catchment (6) and multiply by the weighting factor for the planning category (0.25) to get 0.083.
2. Two (2) of these AU/pollutant combinations have actions in the developing category. So, to calculate *weighted score* for the developing category, take the number of actions in the developing category (2) and divide by the total needed for the catchment (6) and multiply by the weighting factor for the developing category (0.50) to get 0.167.
3. One (1) of these AU/pollutant combinations has a completed TMDL or protection approach. So, to calculate the *weighted score* for the completed category, take the number of actions in the completed category (1) and divide by the total needed for the catchment (6) and multiply by the weighting factor for the completed category (1.00) to get 0.167.
4. Calculate the weighted score for the catchment by adding up the weights for each category. In this case: 0.083 for the planning category + 0.167 for the developing category + 0.167 for the completed category = 0.417.
5. Calculate the weighted catchment size: multiply the catchment size (6.67 acres) by the weighted score for the catchment (0.417) calculated in the previous step to get the weighted catchment size: 6.67 * 0.417 = 2.78 acres

So, the weighted catchment size for catchment A is 2.78 acres in the baseline year. Because the waters that have a TMDL, alternative restoration approaches, or protection approach will change each Fiscal Year, the baseline will be adjusted at the beginning of each fiscal year.

Step 4: EPA to calculate progress—at the end of each fiscal year—to report the total weighted area (acres) that have TMDLs, alternative restoration approaches, or protection approaches that are in place or being planned or developed.

- EPA will use the information in ATTAINS (e.g., TMDLs, alternative restoration approaches, or protection approaches)[29] to identify where a water has a TMDL, alternative restoration approach, or protection approach in place or being "planned" or "developed".
- EPA will sum the area of the catchments that correspond to the water that has a TMDL, alternative restoration approach, or protection approach in place or being "planned" or "developed". The catchments are used solely for the purpose of automating the calculation of the measure. The information immediately below provides a detailed step-by-step walk through of the "automation" process for calculating the progress each fiscal year.

Step-by-step walk through of the automated end-of-year progress calculation conducted by EPA

As previously mentioned, this measure recognizes TMDLs, alternative restoration approaches, and protection approaches that are being planned or developed, or have been completed, so it applies a weighted approach to remove "double counting" from the progress each fiscal year. The weights applied for each category (i.e., planning, developing, and complete) are: Planning, 0.25; Developing, 0.5; and Complete, 1.0. The automated progress each fiscal year calculation includes:

1. Count the total number of AU/pollutant combinations for each catchment identified as part of the universe.
2. Calculate the total number of AU/pollutant combinations in each catchment in the following categories:
    a. Planning
    b. Developing
    c. Complete
3. Calculate a *weighted score* for each category in the catchment by dividing the number of AU/pollutant combinations in that category by the total number of AU/pollutant combinations, and then multiplying the *weighting factor* for each category:
    a. Planning, weighting factor = 0.25
    b. Developing, weighting factor = 0.5
    c. Complete, weighting factor = 1.0
4. Add the *weighted scores* for each category in the catchment to calculate the *weighted score* of the catchment.
5. Multiply each catchment's size (acres) by the *weighted score* for the catchment to get the catchment's *weighted size (acres).*
6. Calculate the sum of the *weighted catchment sizes (acres),* using the catchments identified as part of the universe, to get the *weighted results size (acres)* for the end-of-year reporting.
7. Divide the *weighted results size* by the *universe size* and multiply by 100 to calculate the *weighted results percent*.
8. Compare the *weighted results percent* for the End-of-Year with the Baseline.

[29] State and EPA ensure that all EPA approved and established TMDLs are in ATTAINS. Because alternative restoration approaches and protection approaches are new, it is likely that these types of approaches would not have been in place to be considered as part of a "baseline." If a state does have these approaches and EPA has reviewed them to include them as part of the baseline, EPA will work with the state to ensure the information is entered into ATTAINS and reflected in the baseline.

Using the previous example, the status for work in catchment A has changed at the end of the year. It still has a total of 6 AU/pollutant combinations, but progress has been made.

Table 3 shows the updated status of the catchment.Table 3 shows the updated status of the catchment.

Table 3[1]: Example Catchment Status at the End of the Fiscal Year.

Catchment ID	Catchment Size (Acres)	Total Number of AU/Pollutant Combinations	303(d) List (Cat. 5)	303(d) List Cat. 5 alt Complete	303(d) List Planning	303(d) List Developing	Completed TMDL, or protection approach
A	6.67	6	0	0	1	3	2

[1] Communicating this information in a table becomes tricky. A few notes include: 303(d) List Category 5 means that impairments are not yet being addressed; 303(d) List Category 5-alt means that a restoration approach or set of actions is complete; 303(d) List Planning means a TMDL, alternative restoration approach or protection approach is a planning action; 303(d) List Developing means a TMDL, alternative restoration approach or protection approach is developing action; and Completed TMDL or protection approach means these are complete (Category 5-alt is not included in this column since it has its own column).

Now, a *weighted score* for the catchment will be calculated. For this example, catchment ID A is 6.67 acres. In addition, the *weighted catchment size* will be calculated. See Table 4 below followed by a text description of these steps.

Table 4: Step by Step Calculation of Catchment Weighted Size for Example Catchment for the End of the Fiscal Year

Total Plans Needed (TMDLs, alternative restoration approaches, or protection approaches)	Total Number of Assessment Unit/Pollutant Combinations = 6
Weighted Score for Planning Category (Weighting Factor = 0.25)	1/6 * 0.25 = 0.042
Weighted Score for Developing Category (Weighting Factor = 0.50)	3/6 * 0.50 = 0.25
Weighted Score for Completed (Weighting Factor = 1.00)	2/6 * 1.00 = 0.33
Weighted Score	0.042 + 0.25 + 0.33 = 0.622
Catchment Size	6.67 acres
Weighted Catchment Size	6.67 * 0.622 = 4.15 acres

In the example above, Catchment A has a total of (6) AU/pollutant combinations that need to be addressed. Six (6) of the AU/pollutant combinations are in some category of being addressed.

1. One (1) of these AU/pollutant combinations has an action in the planning category. So, to calculate the *weighted score* for the planning category, take the number of actions in the planning category (1) and divide by the total needed for the catchment (6) and multiply by the weighting factor for the planning category (0.25) to get 0.042.
2. Three (3) of these AU/pollutant combinations has an action in the developing category. So, to calculate the *weighted score* for the developing category, take the number of actions in the developing category (3) and divide by the total needed for the catchment (6) and multiply by the weighting factor for the developing category (0.50) to get 0.25.
3. Two (2) of the AU/pollutant combinations have a completed TMDL or protection approach. So, to calculate the *weighted score* for the completed category, take the number of actions completed category (2) and divide by the total needed for the catchment (6) and multiply by the *weighting factor* for the completed category (1.00) to get 0.33.
4. Calculate the weighted score for the catchment by adding up the weights for each category. In this case: 0.042 for the planning category + 0.25 for the developing category + 0.33 for the completed category = 0.622.
5. Calculate the *weighted catchment size*: multiply the catchment size (6.67 acres) by the weighted score for the catchment (0.622) calculated in the previous step to get the *weighted catchment size*: 6.67 * 0.622 = 4.15 acres

So, the *weighted catchment size* for catchment A has increased from 2.78 acres in the baseline year to 4.15 acres for the end-of-year result due to the progress achieved.

Measure Code: WQ-29

Measure Language: Number of states protecting or improving water quality conditions, as demonstrated by state-scale statistical surveys:

- On average, water quality is improving or at least not degrading (there is no statistically significant decrease in mean water quality);
- The percentage of waters in good condition is increasing or remaining constant; and,
- The percentage of waters in poor condition is decreasing or remaining constant.

Objective: Use water quality monitoring results from state statistically-representative surveys to track statewide changes in water quality conditions for specific water body types (e.g., rivers, streams, lakes, coastal waters and wetlands). This measure differs from existing measures, in that it captures incremental success in protecting and improving water quality across a state by answering the following questions:

- Are waters in good condition being protected? (i.e., no decrease in percent of waters in good condition);
- Are waters not getting worse? (i.e., no increase in percentage of waters in poor condition); and,
- How is overall water quality changing (i.e., the mean value is shifting in a positive, improving direction).

This measure is a complement to existing measures that track:
- waterbodies listed as impaired in 2002 that are fully attaining water quality standards (SP-10)
- waterbodies that are partially restored because specific causes of impairment have been removed (SP-11)
- watersheds with impaired waters demonstrating incremental improvements in water quality using the watershed approach (SP-12).

Background: Following the *Elements of a State Monitoring and Reporting Program, (EPA 2003)* and the *2008 Guidelines for the Award of Monitoring Initiative Funds under Section 106 Grants to States, Interstate Agencies, and Tribes*, states began implementing statewide statistical surveys to address the gap in reporting on the condition of waters state wide. Statewide statistical surveys are water quality assessments designed to yield unbiased estimates of the condition of a resource class (such as *all* lakes greater than 4 hectares) based on monitoring a representative sample of those waters. States use statewide statistical surveys to describe how widespread water quality problems are in the state by providing a statewide characterization of the extent of waters in different condition categories, with documented confidence. The survey results complement site-specific, targeted monitoring activities which provide detailed information about individual waters.

Over time surveys can be used to track changes in water condition across the state scale or sub-state scale depending on design. Reporting on this measure will be supported by data from the statewide statistical surveys that states have adopted as part of their state monitoring programs either independently or in conjunction with the National Aquatic Resource Surveys. It is important to recognize that this is a long term measure with most states rotating through each water body type (e.g., river, stream, lakes, wetlands, etc) on a 5 year rotating cycle. Each year a different water body type may be reported, but it will take decades to document significant changes in condition for each of those water body types.

Type of Measure: Indicator

Measure Definitions

a) Terms and phrases:

Improved: The results of successive statewide statistically valid surveys for a specific waterbody type and core indicator demonstrate that:
- There is no decrease in the percent of waters in good condition;
- There is no increase in the percentage of waters in poor condition; and,
- The mean value for water quality condition is shifting in a positive direction.

State-wide statistically valid survey: A state-scale survey that meets the criteria set out in the *2008 Guidelines for the Award of Monitoring Initiative Funds under Section 106 Grants to States, Interstate Agencies, and Tribes* (http://www.epa.gov/fedrgstr/EPA-WATER/2008/July/Day-17/w16385.pdf)

Core indicators: Indicators or chemical/ physical parameters selected by the state and reported consistently to track water quality (e.g., biology, habitat, total suspended solids, total nitrogen and phosphorus). Refer to the elements of a state monitoring program and the national aquatic resource surveys for examples of appropriate core indicators.

Condition categories: Categories are defined by the state (e.g., excellent, good, fair, poor) and used to describe gradations of water quality in general groupings. They may be defined based by state implementation methodologies for interpreting biological data to reflect aquatic life use characteristic of applications of the reference condition approach and the biological condition gradient approach. For purposes of this measure, "higher" (or the "highest") condition categories are those with better (or the best) water quality conditions.

Good condition and poor condition: EPA recognizes that states use different terminology and gradients to classify water quality condition. For purposes of this measure, "good condition" means the state-defined condition category (or categories) with the higher water quality conditions. In general, waters in good condition meet water quality standards. "Poor condition" means the state-defined condition category (or categories) with the lowest water quality conditions.

Mean value for water quality condition: The mean value of a water quality parameter or indicator for the set population. For example, the mean score for the population of waters surveyed for biological condition using the states' Index for Biotic Integrity for benthic macroinvertebrates is shifting in an improving direction, usually a higher score is better for IBI. For stressors like nutrients, a lower concentration is better, the improving direction would be a lower mean concentration of nutrients across the population of waters surveyed.

b) **Methodology for computation of results**:

The data used to report on this measure should be derived from state-scale statistically-valid surveys that meet the criteria contained in the *2008 Guidelines for the Award of Monitoring Initiative Funds under Section 106 Grants to States, Interstate Agencies, and Tribes* (2008 Guidelines). This may include, but is not limited to data collected through participation in the national aquatic resource surveys. State-scale statistical surveys are conducted for specific waterbody types and results are reported as the percentage and amount of waters within each state-defined condition category by core indicator. For example, "Stream Condition Index scores showed that 10% of streams are in excellent condition, 20% are in good condition, 50% are in fair condition and 20% are in poor condition."

A baseline for this measure begins with the first report of state-scale survey results. Measure results indicating states are protecting or improving water quality across the state cannot be reported until a

state has completed at least two statewide statistical surveys for a specific waterbody type, which EPA recognizes may not happen for several years. The surveys being compared across time must include core indicators that are interpreted consistently across the surveys (i.e., the parameters, collection and analytical methods, and interpretation thresholds).

The measure is intended to track positive shifts or improvements across the water quality spectrum (i.e., low to high quality) while ensuring there is no degradation in water quality.

States will estimate the percentage and amount of waters in each state-defined condition category and compare these results to successive statewide statistical surveys for a specific waterbody type and core indicator. For example, a state has completed a state-scale statistically-valid survey for lakes and the results indicate that for biological condition, 10% of the state's lakes are in excellent condition, while 50% are in good condition, 20% are in fair condition, and 20% are in poor condition. Five years later, the state completes a second statewide statistical survey of lakes and the biological condition scores show 10% of the state's lakes are in excellent condition, while 60% are in good condition, 25% are in fair condition, and 5% are in poor condition. In this case, 15% of lakes showed incremental improvements in water quality (i.e., 10% increase in lakes in good condition plus a 5% increase in lakes in fair condition).

States also estimate the mean value of the population for each core indicator, which can then be compared among successive surveys to track changes over time in average water quality condition. As data sets grow in size and power, states may also estimate trend slope to determine the rate of change over time and whether water quality conditions are improving or declining.

States can take credit for improvement if there is a shift in mean value in the indicator that reflects better water quality or a net shift in the percentage of waters moving from a lower condition category to a high condition category, as long as there is no degradation in the water quality condition for the specific waterbody type being surveyed. No degradation means that, in comparing results from different surveys, there is no statistically significant increase in the proportion of waters rated in lowest condition category compared to the earlier results, and there is no statistically significant decrease in the proportion of waters in the state's highest condition category compared to earlier results.

States may choose which core indicators to report on for this measure, but must include a biological indicator and at least one physical/chemical parameters. The core indicators must be the same (i.e., parameters, collection and analytical methods and confidence intervals are comparable) from cycle to cycle. EPA recommends that the core indicators selected represent applicable designated uses consistent with the *2008 Guidelines* and *Elements of a State Water Monitoring and Assessment Program* guidance (refer to Table 1).

In addition to biological condition (required), states are requested to report on the following:

- Habitat assessment
- Nutrients (Nitrogen and/or Phosphorus) or Chlorophyll a
- Trophic status (lakes/estuaries)

- Human health indicator such as fish tissue contaminants, pathogen indicator or algal toxin indicator

Baseline: The baseline for the indicator measure will be established as states report the results of state-scale statistical surveys as part of their Integrated Report, consistent with the *2008 Guidelines*. The agency would like to work with states to evaluate and refine the reporting template so the IR electronic reporting tool can be used to support this measure as well. States that have completed more than one survey cycle may begin to report change under this measure at any time.

Reporting Requirements: Documentation of the state's statistical survey design and assessment methods should be contained within the state's monitoring strategies and associated quality assurance project plans or quality management plans. States using NARS data may refer to the national QAPP for the individual NARS surveys.

In the Integrated Reporting Memorandum, EPA recommends that States report their state-wide statistical survey findings as part of the Integrated Reporting (IR) for Clean Water Act Sections 303(d), 305(b), and 314. To assist states with reporting statewide statistical survey data as part of the IR, EPA is developing a template for states to complete and submit to EPA. An early version of this template was provided in Appendix 1 of the March 21, 2011 Integrated Reporting Memorandum. EPA intends for states to be able to use this template to submit information for reporting on this measure. EPA HQ will use the information in the template to report in the Agency Commitment System (ACS) the number of states that reported a baseline and in subsequent years the number of states that were able to document incremental improvements in water quality for at least one core parameter.

Frequency: Each 2-year IR reporting cycle should include an update for one or more water body types as they rotate through water body types over time. The specific timing and frequency with which a state reports on a particular waterbody type will depend on the state's schedule for completing statistically valid surveys.

Units: Number for states.

Universe: 50 states

Baseline: 12 states reported baseline survey results as of 2014 IR

Start: 2014 Integrated Report

Measure Code: WQ-30

Measure Language: Number of WaterSense partners working to improve water use efficiency.

Type of Measure: Cumulative measure (no target)

Measure Contact: Veronica Blette, blette.veronica@epa.gov, 202-564-4094

Measure Definition: Cumulative number of WaterSense partners.

Terms and phrases:
WaterSense is a voluntary partnership program that seeks to protect the future of our nation's water supply by offering people a simple way to use less water with water-efficient products, new homes, and services.
WaterSense partners include manufacturers, retailers and distributors, local and state governments, utilities, water districts, trade associations, nonprofits, professional certifying organizations, licensed certification providers, and builders.

Methodology for computation of results: WaterSense maintains a registry of active WaterSense partners. The Headquarters program is responsible for collecting and reporting the numbers. Regions can help to recruit new partners, but applications are sent to the HQ office for processing.

Units: Count

Universe: WaterSense has not defined the universe and it would be impractical to attempt to do so.

Baseline: As of the end of CY 2015, WaterSense had 1,740 partners.

Measure Code: WQ-31

Measure Language: Number of water and wastewater utilities that use the EnergyStar Portfolio Manager to manage energy.

Type of Measure: Cumulative measure (no target)

Measure Definition:

Terms and phrases: Portfolio Manager is a web based energy tracking and benchmarking tool sponsored by US EPA. It is free to the public and is intended to serve and promote energy efficiency. The tool does not diagnose or model energy consumption and conservation measures, rather it tracks and benchmarks energy, allows the user to set reduction goals, and allows all such data to be shared with other users within Portfolio Manager.

Methodology for computation of results: Unique utilities that enter at least 12 months of energy data within the previous two years (from the time of reporting) will be counted. Thus utilities counted in a particular year might be dropped from the count in future years if they do not remain active in their entry of energy data. Since the data is not **deleted, unless the user does so, this methodology may be revisited as we learn more.**

Units: Count

Universe: The universe consists of the roughly 16,000 wastewater utilities in the US, of which 98% are publicly owned, and the roughly 170,000 public drinking water systems, of which 54,000 are community owned. Both wastewater and drinking water utilities may span the full size range from less than 1 MGD to the largest. Utilities do not have to be a participant in any EPA program nor have any formal relationship with EPA to be counted.

Baseline: As of CY 2014, 2,177 cumulative drinking water and wastewater utilities that provided benchmark energy use data to the EnergyStar Portfolio Manager.

Measure Code: WQ-32

Measure Language:

Type of Measure: TBA

Measure Contact: TBA

Measure Definition: TBA

Terms and phrases: TBA

Methodology for computation of results: TBA

Units: TBA

Universe: TBA

Baseline: TBA

Measure Code: WQ-33

Measure Language: Number of CWSRFs/DWSRFs that use financial incentives to promote climate resilience projects in the last year.

Type of Measure: Indicator, reported annually

Measure Contact: Kiri Anderer (DWSRF – 202.564.3134) and Kelly Tucker (CWSRF – 202.564.0608)

Measure Definition: Evaluates the extent to which CWSRF and DWSRF programs are encouraging utilities to become more resilient to climate events.

Terms and Phrases: "Financial incentives" include, but not limited to, offering interest rate breaks, creating reserves for resiliency projects, and providing additional subsidization (i.e., principal forgiveness, grants, and negative interest rates). A "climate resilience project" is an infrastructure project designed to improve/secure a utility or system's ability to withstand and respond to changes resulting from climatic factors (e.g., increased risk of flooding, reduced availability of water supplies, drinking water quality impacts, increased intensity of storm events) or to recover quickly from climate-related events.

Methodology for Computation of Results: Data will be gathered during annual reviews of the CWSRF and DWSRF programs conducted by the EPA Regions. The SRF annual review checklist includes a section on climate change. EPA Regions will ask States about the use of any financial incentives to encourage climate resilience projects during the previous fiscal year. For example, during FY16 reviews, EPA Regions will ask the states about financial incentive programs developed/implemented in FY15. The Region will include this information in the annual review checklist, which is then provided to EPA Headquarters.

Unit: CWSRF and DWSRF programs

Universe: 51 (50 states and Puerto Rico), 102 program total between CWSRF and DWSRF

Baseline: Baseline will be the FY16 EOY result