ACWA Recommendations for Updating the 2013 Long-Term Vision for the CWA 303(d) Program

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Association of Clean Water Administrators

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Executive Summary

Starting in 2011, states and EPA began collaborating to update the implementation of the programs managed under Section 303(d) of the Clean Water Act (CWA). This section of the CWA focuses on identifying waters that do not meet water quality goals and developing plans for these and other waterbodies to provide for restoration or protection of water quality consistent with state Water Quality Standards. Prior to 2011, program management was driven by the response to constructive submission lawsuits affecting states across the nation to increase the production of Total Maximum Daily Load (TMDL) plans under section 303(d). While not all states were subject to the lawsuits, they were all affected by the program focus on the pace of development of TMDLs in response to these lawsuits. This pace approach did result in the development of many TMDLs. However, a study of the program by the Inspector General in 2007 revealed a disconnect between the development of plans and implementation activities that these plans were to support. In the few years following that report state programs were in final stages of completing the TMDL development requirements under the lawsuits and were seeking to change the approach to TMDL program management. Through the pace-based program focus and measures, states developed many TMDLs but could not focus on state-specific water quality priorities or provide better support for TMDL implementation. This prompted the collaboration between State and Federal programs to improve program management within the existing legal frameworks of the CWA and implementing regulations in order to address these issues.

The outcome of this collaboration was the development of "A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program" in 2013. The Vision provided a new focus for the 303(d) program, concentrating on six core principles or goals: prioritization of waters for plan development based on state-specific water quality priorities and the ability to set both short- and long-term priorities; assessment of waters to provide supporting information; flexibility to develop plans using alternative approaches in lieu of traditional TMDL development if more appropriate; ability to also develop plans for water quality protection in addition to the traditional focus on restoration; improved integration of the 303d program with other state and federal environmental programs; and improved outreach and communication with the public and other program partners. The Vision provided a new aspirational approach to managing the work of the 303d program. These changes were well received by state programs. All states completed a new prioritization process, developed commitments for plan development under the Vision, improved coordination and collaboration and are continuing to complete development of plans for priority waters. Additionally, some programs embraced the concept of developing alternative planning approaches or working on water quality protection.

The 2013 Vision period was set to conclude in September 2022, coincident with the 50th anniversary of the Clean Water Act. As this time is nearing, discussions were initiated between states, territories, tribes and EPA to evaluate the interest in renewing the 303(d) program Vision. A series of ACWA webinars and national program meetings were held for that purpose. States overwhelmingly supported the continuation of the Vision process for another 10-year period. This document serves to provide a more detailed review of the development and implementation of the 2013 Vision from a state perspective and provide recommendations for adjustments and improvements to be considered during the next Vision period.

While detailed recommendations are provided for each of the six Vision goals and related program measures and elements, the following summarizes the main conclusions from this report:

- State programs strongly support the continuation of the 303(d) Program Vision for another 10-year period;
- Program-specific prioritization remains the key component of the Vision, with a continued focus on the aspirational aspect of setting and managing program priorities and associated commitments recommended;
- The remaining Vision Goals for Alternatives, Assessment, Protection, Engagement, and Integration are recommended to be considered as an operational framework for the 303(d) program since programs have had experience with these goals, now recommended as program elements, and have integrated them into the daily operations of the program;
- The former Assessment Goal is recommended to be restructured into the Evaluation Element, expanding the scope of data types to support the 303(d) program to include modeling, GIS and other evaluations in addition to traditional water quality data collection. Included in this recommendation is an acknowledgement that data is used to support a continuum of program activities and is not solely limited to data for listing purposes;
- We recommend consolidation of the former Engagement and Integration Goals into a new Engagement and Partnership Element. Both these former goals focused on communication and collaboration but made distinctions between collaboration among environmental programs and outreach to outside partners. Communication, collaboration and building partnerships are key elements of both these goals and support the recommendation for consolidation into one program element;
- Program accountability through measures and reporting platforms such as ATTAINS and How's My Waterway are important to support success in the 303(d) program. However, changes are recommended for revision of program measures to better align with a range of approaches to set program-specific priorities. Additionally, continued improvements for functionality and data accuracy are recommended for ATTAINS and How's My Waterway;
- Expansion of the Vision to include consideration of environmental justice and climate change within the 303d program is recommended.

This document is intended to be a focus point for future conversations between states, tribes, territories and EPA for the renewal and improvement of the 303(d) Program Vision. We look forward to those continued collaborations.

Purpose

States and EPA collaborated to develop a new approach to manage the work of the Clean Water Act 303(d) Program (herein referred to as Program), culminating in the development of a ten-year "Vision." The Vision represented a renewed approach to an existing program that provided additional flexibilities and opportunities including the ability to focus on state-specific water quality priorities. States embraced this new approach and integrated it into the daily operation of their program. Additionally, the improved collaboration with EPA benefited Programs at both the state and federal level. States strongly support continued implementation of the Vision and look forward to continued collaboration with EPA to update and renew the 303d Program Vision and develop new approaches under the Vision to improve the program and address water quality issues.

As the calendar approaches the end of the original timeframe, the Association of Clean Water Administrators (ACWA) worked with EPA, States, as well as the Environmental Law Institute and NEIWPCC, to collect lessons learned and make recommendations for moving forward beyond 2022. Future collaborations should include tribal and territorial representation, but this document did not include participation from tribal or territorial staff. To that end, this document aims to present recommendations to support updating and solidifying the Program Vision. A review of the development and implementation provides history and perspective on the Program Vision for those not involved in the development and early implementation. While this document provides some background on the origins and evolution of the Vision and summarizes recent program activities, the focus centers on the materials and tools created since the start of the Vision to help develop and deploy a successful Program. Additionally, this document identifies historic and emerging needs that deserve attention in the future to advance programmatic goals and move the Vision beyond 2022. This review and the recommendations included provide support for the continuance of the Program Vision and offer a platform for collaboration between States, Tribes, Territories and EPA to update and improve the Vision moving forward.

Background

Many 303(d) programs across the country share a similar origin story. Constructive submission lawsuits resulted in Consent Decree settlements, a court order demanding development of TMDLs for a list of impaired waterbodies. This action forced states to create programs to satisfy the details of the Consent Decree, namely production of X number of TMDLs by X date. Other states not subject to Consent Decree lawsuits started TMDL development before any legal action took place but were affected by program constructs developed to address these lawsuits.

The focus on production to meet Consent Decrees created many TMDLs but often limited resources available to support implementation efforts. This imbalance, detailed in a 2007 report by the Office of the Inspector General, provided the impetus to examine how Programs operated. (https://www.epa.gov/sites/production/files/2015-11/documents/20070919-2007-p-00036.pdf)

As many programs neared the end of and emerged from Consent Decree orders, the only operational guidance rested on the "8-13 year rule" known commonly as "Pace" (EPA Memo, Perciasepe). This vestige left over from the Consent Decree era merely focused on arbitrary

production goals, many times at the expense of more meaningful, useful products. TMDL programs favored the selection of "low-hanging fruit" projects to meet production goals at the expense of addressing water quality and/or community priorities, which further isolated the program from collaboration on implementation activities or efforts to address state priorities that needed a longer planning horizon. As a result, the Pace framework failed to capitalize on the potential of a fully expressed program that could focus on State-specific water quality priorities, meet the growing demands of the quality of TMDL documents and the needs of end users (NPDES, Nonpoint Source Management, etc.).



Lawsuits, best practices, and experience all increased the demands of rigor to attain approval from EPA on TMDL documents. Monitoring networks and the volumes of information available for assessment grew exponentially with more and better technology. Additionally, implementation support of existing TMDL documents emerged as a major component in many programs, with 303(d) staff positioned as the best available subject matter experts in many cases. This created the need to normalize the balancing act of creating new, more in-depth TMDL documents while serving

as technical support in the implementation and revision, as needed, of existing projects.

Development of the 2013 Vision

A collaborative effort initiated in 2011 between States and EPA to develop a new framework for administering the Clean Water Act 303(d) Program, known as the "Vision," laid the foundation for successful directed evolution. A series of meetings, calls, and workshops with States, Tribes, Territories, EPA, ACWA, the Environmental Law Institute (ELI), and interstate organizations culminated with the release of *A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program* (2013, Appendix A).



Figure 2 Original Vision Goals

The Vision provided an approximate 10-year period to develop and implement this new approach, targeting the 50th anniversary of the Federal Clean Water Act in 2022 as the target end date. Ultimately, the resulting effort of renewing the 303d Program would show progress in resolving water quality issues and protecting water resources in each state and across the country.

The long-term Vision established for the 303(d) Program in the 2013 Vision Document stated:

The Clean Water Action Section 303(d) Program provides for effective integration of implementation efforts to restore and protect the nation's aquatic resources, where the nation's waters are assessed, restoration and protection objectives are systematically prioritized, and Total Maximum Daily Loads and alternative approaches are adaptively implemented to achieve water quality goals with the collaboration of States, Federal agencies, tribes, stakeholders, and the public.

After adoption of this Vision statement in 2013, with support from EPA, states and territories created state-specific prioritization lists, improved communication efforts with external stakeholders and internal partners, and in some select cases, found alternative means to improve water quality and took action to protect waters of high quality. The Vision took on an aspirational, rather than prescriptive approach, acting more as a blueprint for Programs to base their development, counting on the ingenuity of Program managers and the flexibility of EPA for results.

The Vision framework consisted of six goals. Four of these goals are universal pillars that all Programs were encouraged to consider using to build a successful operation and two goals were optional constructs that Programs may utilize to meet program goals. A brief definition of each lies below with extended discussion contained later in the document:

- **Prioritization** Programs review, systematically prioritize, and report priority watersheds or waters for restoration and protection in their biennial integrated reports to facilitate strategic planning for achieving water quality goals.
- Alternatives (Optional) Programs can pursue alternative approaches that incorporate adaptive management tailored to specific circumstances where such approaches are better suited to implement actions to achieve water quality goals.
- Protection (Optional) Programs may identify protection planning priorities and approaches to maintain waters of high quality, prevent impairments in healthy waters, and/or provide TMDL protections for waters that lack enough information to make an impairment determination.
- Assessment Programs evaluate impaired and healthy waters that are subjects of water quality planning studies under Section 303d of the Clean Water Act using appropriate data collection and analysis tools.
- **Engagement** Programs actively engage the public and other stakeholders to help improve and protect water quality with inclusive, transparent, and consistent communication sharing feedback and enhanced understanding of program objectives.
- Integration Programs identify and coordinate implementation of key point source and nonpoint source control actions that foster effective integration with appropriate water quality and environmental programs to help achieve water quality goals.

Throughout the implementation of the Vision from 2013 to present day, various aspects of the framework advanced with EPA support through monthly calls led by ACWA, quarterly webinars led by NEIWPCC, and annual in-depth compendia led by ELI. Many of these calls featured developments and successes by 303(d) Program staff, while others showcased EPA staff unveiling tools to help aid in the implementation of the Vision. Workgroups comprised of staff from EPA and states, tribes, and territories encouraged collaboration and created stronger products.

An annual workshop, sponsored by EPA and administered by ELI since 2008, acted as the clearinghouse of important 303(d) information and as a cauldron of emerging ideas and topics. Discussions bubbling from the annual meeting often became topics for the monthly ACWA calls and focus areas of compendia and other work. Additionally, valuable informal conversations and networking led to a proliferation of ideas and concepts, hopping regional lines to be adapted elsewhere in the country.

Vision Post 2022 – Recommended Updates from States

In light of the approaching 2022 milestone, and with support from EPA, ACWA Watershed committee calls from 2019-2021 and the National TMDL Workshop in 2020 pointed a spotlight at Vision successes and challenges. The major question of these calls and meetings asked whether the Vision held support to continue as an operational framework post-2022. Additionally, discussions solicited ideas for recommended amendments and changes to improve program implementation.

Based on feedback from surveys deployed by ACWA and discussions facilitated by ACWA and ELI, the infrastructure of the original framework remains viable into the future with strong support across all groups. However, while some goals of the original framework developed as originally forecasted, others did not. Some did not flesh out as originally prescribed, while others did not gain enough momentum to achieve significant results. Additionally, unforeseen advancements in technology to aid communication efforts, a recognition of the importance in modeling, and the need to emphasize implementation of 303(d) work products provide opportunities to refine and update the current Vision. This document identifies lessons learned over the initial eight years of the Vision and suggests how to incorporate those lessons to update and refresh the original document in order to create a framework through 2032.

Recommendations for Updated Organization of the Vision

What started as the Vision, an aspirational document forging a new path through a largely unknown landscape, emerged as something more akin to a de-facto operational framework for 303(d) Programs. By incorporating lessons learned from the implementation of the Vision by Programs across the country, it may be possible to solidify the Vision into a more concrete operational framework. This is particularly true as it relates to the daily workings of the program such as the incorporation of expanded choices for the type of plans to develop, building integration and engagement into foundational program activities and expanding the platform of information on which plans are developed and evaluated. However, it remains imperative to continue to embrace the aspirational and inspirational aspects that the Vision brought to the 303d program. Programs aspire to restore and protect water quality through broad prioritization efforts, identifying stretch goals to be pursued, innovating to develop new approaches to generate supporting information for plan development, and creating new approaches and methodologies for analyzing pollutant loading or setting water quality targets. These remain as aspirational components. We recommend consideration of a revised Vision document as an operational framework for the 303(d) program while maintaining the aspirational and inspirational aspects of the Vision to support further program growth and innovation. In that way, Programs will be more successful in achieving their broad water quality goals and remain consistent with the requirements of the Clean Water Act.

The 2013 Vision document contained an overall Vision statement and accompanying Goal statements with descriptions, milestones and implementation periods to help direct the incorporation of the Vision into individual Programs. The overall Vision statement remains viable. The following pages offer recommended edits and modifications to the broader Vision document and approach.

Goal statements contained in the 2013 Vision document helped Programs understand the purpose and aspirational nature of each goal. As part of an update to the Vision as an operational framework, we recommend restructuring the Assessment, Protection, Alternatives, Engagement and Integration "Goals" from the 2013 Vision, into Program "Elements" in a revised Vision. These Elements are the building blocks for operating the program and provide the critical components of the operational framework. This document refers to Goals when discussing the 2013 Vision and Elements for recommendations beyond 2022 when discussing these Vision components. The Prioritization Goal, however, is set apart from the other Goals. In many ways it is the most important Goal, providing direction and integration and an aspirational platform within which Programs operate. Prioritization integrates across Clean Water Act and other environmental programs, connecting Water Quality Standards, Monitoring and Assessment, and resource management programs with various implementation programs such as NPDES, Nonpoint Source Management, agricultural support, environmental cleanup programs and others. It makes connections across these programs through planning. Taking information from certain programs and seeking action by others or developing partnerships is ultimately not controlled by the 303d Program. We aspire to collaborate and coordinate. We intend to connect these programs through the planning process. But ultimately, while the 303d Program may not control the planning outcome or the timeframe, we work with the intention of making those connections through plan development to support attainment of water quality goals.

Additionally, Prioritization integrates across Vision Elements within the 303d Program. It provides the platform through which the other program Elements are put into service. In this role, Prioritization can lead to the development of new approaches, larger and more integrated projects, an expansion of Program focus beyond restoration, the development of new tools and analytical frameworks or provide a means to adjust to changing priorities and concerns from the public, within our respective agencies or from EPA. It encourages creativity and innovation for the sake of water quality restoration and protection. These considerations further support the aspirational nature of the Prioritization Goal. It seeks to again make connections, harness creativity, and respond to change. Through the process of setting priorities, Programs aspire to address priority water quality issues. Programs intend to develop and complete plans within a specified time period. Programs, however, are not always in control of the planning outcome or timeframe in all situations.

The Program could limit itself to safe and well-defined priorities, where there is more certainty of plan completion, as was done using Pace as a metric prior to the Vision, but that approach contravenes the Vision which seeks to provide a means for Programs to address water quality priorities for their jurisdiction. If the intent of the original Prioritization Goal was to complete, with certainty, a series of plans within a defined timeframe, then there would be no need to include the priority setting and integration functions which are part of the Goal. It could have been named the Plan Completion Goal, but it was not. It was developed as a direct response and replacement to the former pace-based program measure. As such, we recommend that Prioritization remains a Goal to reflect its aspirational foundations within the 2013 Vision and its continuing role today.

The 2013 Vision outlined six Goals. The Reader will note in this document, that we recommend keeping the content from the original six Goals and restructuring them into five components. Additionally, given the experience in implementing the Goals, we propose updates to the summary statements for each. Each section of the document contains a more expansive discussion of each Element or Goal later in the document.

The Goals in the 2013 Vision also included timelines and milestones. With the exception of the Prioritization Goal, these timelines and milestones did not reflect how most states incorporated Vision into their Programs. The timelines in the 2013 Vision document presented implementation of the goals as linear. However, Programs adopted Vision Goals concurrently. As such, we do not recommend the inclusion of timelines and milestones with the exception for the Prioritization Goal.

Programs can benefit from structured timeframes for updating commitments. Many States used the initial period to develop expanded outreach and collaboration within and outside of their Agency. Having a deadline within the Prioritization Goal for the development of Prioritization Framework to guide Program activities could prove helpful to set up a successful Vision period beyond 2022. We recommend that the first year of the new Vision period be dedicated to development of an updated Prioritization Framework. Completion of that Framework by the end of 2023 would allow for new priorities to be expressed in the 2024 Integrated Water Quality Report, which would be the first report due after the completion of the initial Vision period, ending in September 2022. Other Elements will not include timelines, as discussed throughout the document.

Similarly, milestones provided in the 2013 Vision aimed to assist in the adoption and integration of the Vision for individual Programs. At this point, Programs integrated these Goals into their Vision, rendering further milestone dates unnecessary to support Vision implementation. Again, the Prioritization Goal stands as the lone exception, as milestones for prioritization offer important guiderails for launching the next round of Vision priorities. Having a coordinated identification of commitments for the next Vision period would also help with national management of the Program and measure tracking. We recommend identifying the submission of an updated Prioritization Framework as a milestone during the second Vision period.

Similar to the 2013 Vision, the next iteration of the Vision needs to include an end date. To remain consistent with the intent of the original 10-year Vision, we suggest the timeframe cover October 2022-September 2032. Applying lessons learned from the first iteration of the Vision, new and emerging issues will arise that need to be addressed for the Program to remain effective. In addition to providing structure to Program implementation, an end date builds in a timeframe for review and retrospection on the Program, setting up a process for continual adjustment and improvement as needed.

Of important note, all information contained herein aims to spur further discussion and collaboration between EPA, States, Tribes, and Territories for the betterment of 303(d) program. To help facilitate and organize further discussion, the discussion of each goal from the Vision will include the following:

- Summary of each original 2013 Goal
- Accomplishments / progress accompanied by resource links and visual aids where appropriate
- Discussion of potential updates and changes for each updated program Element/Goal mined from previous discussions and meetings including items of work left to accomplish and/or new aspirational goals

A discussion on measures and some of the tools associated with those measures follows the review of the Elements of the framework. While the original Vision discussed the concept of measures, EPA created those measures in a separate process after many Programs developed priorities, in some cases leading a disconnect between Vision priorities, activities and program measures. Moving forward, discussions of measures should reflect a more holistic view of Program progress with accurate input data. Finally, a discussion on ATTAINS concludes this document.

New Focus Areas to Include in a Revised Vision Framework

As we move forward to consider updates to the 303(d) Program Operational Framework, we recommend an expansion of topics included in future revisions. Since the adoption of the first Vision, Climate Change and Environmental Justice emerged as two focus areas for many environmental programs. While Programs may approach these topics at different levels and in different ways, the framework of the 2013 Vision provides the structure to address additional issues by providing flexibility to identify the best ways to address issues.

Programs can address Climate Change, Environmental Justice, and other critical topics a variety of different ways in a revised Vision. For example, amending the Prioritization Element to indicate that Programs may consider Climate Change and Environmental Justice when identifying priority watersheds for plan development. To maintain the spirit of flexibility of the 2013 Vision, we recommend including opportunities for these and other emerging topics in future discussions on revisions to the 303(d) Program Framework.



ASSESSMENT, MODELING & ANALYTICAL TOOLS

Figure 3 Program infographic to help illustrate document structure and principles

Prioritization

Prioritization Goal within the 2013 Vision

Description of Prioritization Goal in 2013 Vision: For the 2016 integrated reporting cycle and beyond, States review, systematically prioritize, and report priority watersheds or waters for restoration and protection in their biennial integrated reports to facilitate State strategic planning for achieving water quality goals

The Clean Water Act and the implementing regulations at 40 CFR 130.7 require priority ranking of all impaired waters in the 303(d) List and an identification of waters targeted for TMDL development in the next two years" (40 CFR 130.7(b)(4)). Historically, the requirement to prioritize waters was interpreted as a commitment to complete TMDL development to the best of a Program's ability and served as the foundation for the Pace-based program metric that was in place prior to initiation of the 2013 Vision. This interpretation provided little consideration of either near- or long-term operational plans for the development of TMDLs. In practice, especially when viewed in combination with consent decree requirements, it focused program activities on prioritizing plans based on the ability to develop TMDLs within 2-year increments. The approach was an impediment to allowing for the expression of broader water quality goals.

The development of the Prioritization Goal within the 2013 Vision returned to the plain language of the 303d program implementing regulations. That regulation requires programs to identify waters for which plans will be in development during the next two years. It does not require completion of those identified plans within the same time frame, if inappropriate for addressing the water quality issue at hand. This understanding provides the opportunities to address water quality priorities that require a longer time-period for plan development while allowing for the completion of plans in the short term if appropriate for the project.

The Prioritization goal in the 2013 Vision provided space for 303(d) Programs to develop a systematic process to prioritize waters based on the State's broader, overall water quality goals. This would not relieve the program of its duty to complete a TMDL for all impaired waters, but rather allowed programs to be more responsive to stakeholders, provide near-term value to broader water quality goals, complete complex projects that span longer periods, and optimize funding for implementation where appropriate. The document allowed programs to create specific processes based on factors deemed most appropriate for that program.

An emphasis on linking water quality priorities between the various Clean Water Act programs and providing transparency to the public established a platform for stakeholders and other regulatory partners to contribute to priority setting. The 2013 Vision suggested venues for sharing program frameworks, including the Performance Partnership Agreement / Performance Partnership Grant (PPA/PPG) and the CWA Integrated Report (IR). The IR process, given the built-in advantages of public notice and TMDL prioritization, provided a particularly logical opportunity for incorporation of stakeholder review.

Prioritization Progress & Accomplishments

Initial Results

As mentioned in the Background section above, EPA and Programs agreed on the need to forge a new direction and replace "Pace" as the base mode of operation. After a few early adopters showed a variety of approaches to achieve the prioritization goal, many Programs followed suit quickly, leading to widespread creation of tailored processes to meet the needs of the Program's territory.

In 2016, the Environmental Law Institute published the report <u>An Overview of State CWA 303(d)</u> <u>Program Vision Prioritization Frameworks</u>, a compendium project funded by EPA. The report categorizes the various frameworks from <u>44 state programs</u>. The report focused on the processes used for prioritization throughout the country and grouped those processes under common themes.

While a few states used the framework simply to document their Vision priorities, the majority used the opportunity to describe a process for prioritizing waters, in some cases developing new processes and outreach to identify priorities. These processes held the potential for continued use for waters identified as impaired on future impaired waters lists. Many states included explanations of their framework and maps identifying impaired waters.

Further, states differed in their focus on how to develop the priority lists. Some states used geography as their entry point to prioritization while others started with pollutants of importance, specific uses, or input from the public. Other programs used a hybrid approach, combining elements of those approaches to hone in on the right priorities for their program. The myriad approaches used to develop the priority lists revealed the complexity of state-specific needs for identification of priorities, the creativity of program managers, and the flexibility of EPA in accepting various approaches.

Overall, the frameworks provided by state programs generally included one or more of the following:

- Selection of Vision priority waters
- Explanation of the basis for the selections
- Ordered list of priority waters
- Identification of near-term and/or long-term priorities

The approaches used to develop priority lists by Programs can be grouped by two critical differences: 1) how Programs identified commitments for priority plan development over shortand long-term timeframes and 2) the underlying approach regarding timeline to complete priority plans. These two aspects are defining characteristics which can explain much of the differences between programs and relate to various issues identified throughout this document pertaining to how the Programs operate and how they provide accountability related to their commitments.

Establishing Commitments for Development of Priority Plans:

Two schools of thought generally supported how Programs identified commitments to develop plans through the prioritization process Both approaches were based on identifying long-term priorities, but the means by which those priorities were translated into Program commitments differed.

One set of Programs created a "candidate pool" of waters from which waters for plan development would be selected periodically. For example, Iowa established priorities based on addressing water quality impairments on waterbodies with a high potential for social impact. This was further refined to identify lake systems affected by eutrophic conditions and bacteria impaired lake beaches. From this effort, a list of lakes that were candidates for TMDL development was identified. The prioritization document states that lakes for TMDL development would be selected from this list and identified as priorities through the Integrated Water Quality Reporting cycle every two years. Through that process, additional lakes may be added to the priority list based on new impairments. This priority list provides the Program with a blueprint to define which waters to focus on. What it did not do, however, was create a program commitment for completing TMDLs for all waters on the priority "candidate pool" list within the Vision timeframe. The commitment for plan development came through successive promotion of waters from the candidate pool to the commitment list during each integrated reporting cycle.

Another set of Programs identified priority waterbodies for which plans would be developed over the course of the entire Vision period, 2014-2022. Kansas provides an example of this approach. Like the other group of Programs, Kansas established a water quality focus for their prioritization efforts, addressing water quality impairments related to excessive nutrients in state waters. Also, like the other group of Programs, Kansas compiled a list of waterbodies relating to the priority concern. The difference, however, between the two approaches is that Kansas identified a subset of those waters for which plans would be developed through their Vision commitments. The remaining waters, while important, were not identified as Vision priority commitments and other waters were not used as a candidate pool from which to select additional waters during the Vision period. Kansas took a long-term approach to priority setting, identifying all their priority commitments for the full Vision period once, in 2014 when priority plan commitments were required by EPA. Furthermore, Kansas identified that any additional work addressing parameters not initially set as a priority or any work based on technical support for implementation programs such as the NPDES or 319 watershed planning programs would be accounted for outside of the priority commitment measure (WQ-27 at the time), using the then WQ-28 measure for actions related to planning for waters not on the Vision commitment list.

Both approaches are valid under the Vision and EPA should be commended for their willingness to accept different approaches to declaring Vision commitments. There are ramifications, however, when it comes to reconciling these approaches with the current approach to program measures, which will be discussed further within that portion of this document. The takeaway lesson is that the framework for program functionality and accountability must be sufficiently flexible in order to allow for both of these approaches to work well within the larger 303d program framework.

Timeline for Priority Plan Completion

Again, there are two general approaches to considering commitments to complete plans for waters declared as Vision priorities. One set of Programs was invested in the aspirational aspect of prioritization. They declared commitments for plan development with the intention of completing the plans by September 2022, but recognized that in some cases, the priority commitments may be aspirational: they would like to complete them, will work to complete them, but may in the end not be able to complete them by the deadline. The Programs may have pushed themselves, identifying commitments that stretched their program capacity. This concept of working to completing commitments but recognizing that 100% completion may not be possible, was acknowledged through the development of the Vision and the program measures, including a measure to track progress towards completion of Vision priority plans or activities in waters outside of the priority commitments.

Another set of Programs established priorities based on a level of effort where they would provide more certainty that plans would be developed for all priority waters within the Vision period. This was done either through a planning process that provided for biennial adjustments to priority commitments or identification of a limited, more attainable set of program priorities.

Both approaches to program commitments, aspirational or attainable, are valid. These approaches, however, affect how individual Programs function and how Programs are identified via 303d Measures. Each Program had the ability to craft and advocate for an approach to Prioritization and program commitment, that would be deemed acceptable through consultation with their respective EPA Regional 303d Program coordinator. Different Programs and different coordinators took different but valid approaches. The challenge moving forward is to craft an updated Program framework and associated accountability measures that equally supports both approaches to establishing commitments. With one approach, there may be more waters declared as a priority for plan development. With the other, there may be fewer waters, but plan development is more certain within a given time period.

Tools to Support Prioritization: Recovery Potential Screening Tool

EPA led the creation and development of the <u>"Recovery Potential Screening (RPS)"</u> Tool, a model initially designed to help States identify waterbodies for water quality protection. Under Vision, Programs also used this tool to determine a watershed's likelihood of improving water quality to the point of removal from the 303(d) list. The RPS Tool uses a range of ecological, stressor, and social inputs that can influence successful restoration projects. EPA provided a basic tool to each state and territorial program and then worked with them to customize the input data most relevant to that program.

The RPS Tool proved popular in shaping priorities. Some programs used the output of the RPS Tool to help define the candidate pool while it aided others in ranking watersheds for TMDL development for long term priority setting. EPA updated the tool and published a website with background information, training materials as well as state-specific and generic versions of the updated tool, available to states and the public.



Protection and Alternatives in Priority Setting

Sections later in this document will address both the Protection and Alternatives Elements at length independently. However, as they relate to priorities, Programs have the ability to and have identified protection and alternative approaches in their priority universe. Importantly, identification of plans in addition to TMDLs represent a choice that costs the Program time and/or money to develop. This choice comes at the expense of TMDL development. Programs and EPA should know that a fixed capacity will buy a "basket of goods" over time and that protection and alternative approaches will replace some level of TMDL production, as envisioned within those elements. However, these choices are made to facilitate water quality restoration and protection, using the best approaches in support of those outcomes.

Open Window for Updating Priorities

The need to establish periods where States could adjust their priority lists became apparent after the Vision commenced. EPA established the practice in response to Program requests during the National 303d Program Meeting. They offered periodic opportunities to update and/or change priorities during the Vision period multiple times. These opportunities, however, did not occur on a predictable schedule. Early on, EPA clearly communicated these opportunities, but communication became inconsistent and/or uneven later in the Vision period. Some programs used these opportunities, previously referred to as "open season" periods, to update their priority list to keep it consistent with changes in their 303(d) Lists. For example, programs add watersheds that fit into their program's process to their candidate pools for development when identified as impaired on a new 303(d) List (submitted every even-numbered year) while removing other watersheds no longer impaired. Other programs used the opportunity to shift directions to account for unexpected changes in state priorities, add new projects to replace a completed set of priorities, or remove watersheds to make their list more attainable by the Vision end date. Regardless of the way programs utilized the open window, the practice enjoyed overwhelmingly positive support as an example of flexibility.

Prioritization under the 2013 Vision

All Programs identified priorities under Vision and all Programs submitted initial priority lists on time in 2016. Based on information available in the February 2021 Scenario Analysis Tool, Programs prioritized over 13,000 assessment unit/parameter combinations for plan development. Programs most commonly indicated developing TMDLs for priority projects, but also identified potential alternative and protection plan approaches. While the most commonly declared priorities addressed either nutrients or bacterial indicators, Programs declared a wide variety of other chemicals, including solids/clarity, metals or PCBs, or biological indicators as the basis for program priorities.

Prioritization Potential Updates & Suggested Changes

The Prioritization Element continues to be the cornerstone for the Programs. It encourages Programs to identify and focus on priorities within their jurisdiction. Maintaining the flexibility to prioritize over the short or long term, or both, should be maintained in conjunction with the ability to adjust priorities over time. We are recommending a slight adjustment to the description of the Prioritization Element.

| Updated Prioritization Programmatic Element | |
|--|---|
| 2013 Prioritization Goal Description | Proposed New Prioritization Element Description |
| For the 2016 integrated reporting cycle and beyond, States review, systematically prioritize, and report priority watersheds or waters for restoration and protection in their biennial integrated reports to facilitate State strategic planning for achieving water quality goals | Programs review, systematically prioritize waters for plan development over the short- and long-term based on state-specific considerations, and report on progress for these priority watersheds or waters for restoration and protection within in their biennial integrated reports. |

In addition to emphasizing the need to maintain flexibility for both short- and long-term planning in the prioritization process, the following bullet points offer ideas to improve various aspects of the prioritization element.

- Establish Open Window opportunities linked with submittal of new Integrated Reports: The Open Window concept enjoys great popularity as a tool to update and refresh priorities. EPA offered Open Window periods from time to time. However, these opportunities were not always communicated well to all Programs or were not offered on a predictable schedule, leading to inconsistent results and confusion. Creating a regular, predictable interval for 303(d) programs to update their priorities would result in increased participation without adding strain to the system with potentially dozens of updates at the same time. Linking the start of an Open Window period to the submittal of a program's new Integrated Report gives it a regular, reliable time step to update priorities. A two-year frequency would work well for Programs which use the "candidate pool" approach to identifying priorities but such frequency would likely not be needed for Programs that prioritized over the full Vision period. In either case, maintaining the option for Open Window periods on a well-publicized and consistent timestep is recommended.
- **Continue Support of the Recovery Potential Screening Tool:** Continue to keep the RPS tool and priority tracking tool updated and available for Programs to use, particularly as a resource for the next round of priority setting and include data layers related to climate change and environmental justice. Survey Programs for ideas on how to improve or tailor the tool to improve usability and accuracy. Periodically offer training to Programs on the use of the RPS tool.
- Recognize Watershed Contributions to Priority Waters: Allow for priorities to be designated based on a watershed scale to recognize the contributions of upstream waters to downstream impairments without expecting WLA and LA development for each contributing segment. Use of a watershed scale would not imply that WLA and LA need to be developed for each waterbody or reach thereof within the watershed if not appropriate for the plan in development. Using a watershed scale, in lieu of identifying catchments immediately contributing to priority waters would also provide a more realistic expression of the area over which the plan is implemented and provides an estimate of the level of effort to develop the plan, based on the assumption that large plan areas could be associated with more point and nonpoint sources that need to be analyzed and considered during plan development.
- Recognize that Revisions to Existing TMDLS are Considerations for Priority Setting: From time to time, Programs need to revise established TMDLs. There has been some confusion regarding the ability to identify TMDL revisions under Prioritization. Clarification to confirm the ability to include TMDL revision in Prioritization would be helpful.
- Potential research topic: As part of the development of the next iteration of the Vision, ACWA could administer a survey to help illustrate programmatic progress on priorities nationwide. This could include completion percentage of original state priorities, the number of changes in priority lists during Open Window opportunities, and any interesting programmatic trends. Additionally, the survey could include questions regarding potential priorities post 2022 and the anticipated procedure to determine said priorities.

Alternatives Goal/ Adaptive Resource Management Element

Alternatives Goal within the 2013 Vision

Description of Alternative Goal in 2013 Vision: By 2018, States use alternative approaches, in addition to TMDLs, that incorporate adaptive management and are tailored to specific circumstances where such approaches are better suited to implement priority watershed or water actions that achieve the water quality goals of each state, including identifying and reducing nonpoint sources of pollution

The Alternative Goal of the 2013 Vision recognized that development of a TMDL might not always be the best approach in meeting water quality standards. In some circumstances, 303(d) Programs found success by employing a variety of strategies. It encouraged the use of the most effective tools to address water quality protection and restoration efforts, including allowing Programs to leverage work by other Clean Water Act units to provide additional resources to managing water quality priorities. It also provided a means to use adaptive management to more effectively achieve water quality goals no matter which approach is used.

In the absence of consent decree-driven decision-making, Programs could exercise prioritization with a wider swath of options at their disposal. Recognizing demonstrated water quality attainment with a different approach before the development of a TMDL provided a baseline of activities with which to work. In effect, the Alternatives Goal resulted in identifying the assessment units as low priority for TMDL development but high priority for plan development.

Previously, Categories 4B and 4C stood as the only potential tools in the toolbox for developing plans outside of the traditional TMDL approach. Category 4B provided a path to addressing a water quality issue that differed from a traditional TMDL, but that resembled in many ways the rigor, time commitment, and reasonable assurance of a standard TMDL. Programs noted, however, some differences between Regions on what projects fit under Category 4B, which affected use of that pathway. For purposes of Program conversations under Vision, 4B projects, given the category change and rigor of reasonable assurance that distinguishes them, did not constitute an Alternative approach, but rather a TMDL-like tool to handle water quality issues of a specific nature. The demonstration of reasonable assurance under Alternative plans may be less rigorous than plans developed under Category 4B.

Similar to plans developed under Category 4B, plans developed under Category 4C did not constitute a TMDL alternative either. Plans developed under 4C move a water from Category 5 to Category 4 with that same level of rigor and reasonable assurance that separates it from alternative approaches.

Alternatives Progress & Accomplishments

Elements of the Alternative Goal opened the door to new ideas to achieve cleaner water, consistent with state Water Quality Standards, faster or more efficiently built on lessons learned from historic successes previously unaccounted for in the constructs of the 303(d) Program to emerging concepts

tailored to specific water quality problems. At their foundation, Alternatives used the concept of adaptive management as its core building block. Recognizing that new concepts, data, information, and site-specific responses may vary significantly across the country, Alternatives must lean on adaptive approaches to tackle water quality problems. Importantly, if an alternative approach does not achieve water quality standards, Programs would still need to develop a TMDL for the impaired waterbody. Figure 5 illustrates the relationship between alternatives, TMDLs, and water quality standards attainment.



Figure 5 The relationship between ARMS, TMDLs, and Water Quality Standards attainment

Adaptive Resource Management Strategies or ARMS

Any organized restoration activity or plan development that takes place before the development of a TMDL that helps reduce loading of a pollutant of concern for an impaired waterbody with the ultimate goal of resolving a water quality impairment constitutes an alternative approach. We recommend updating the term "TMDL alternative" to Adaptive Resource Management Strategy or ARMS. This term recognizes the important role that adaptive management provides and the commitment to revising approaches as needed until water quality impairments are resolved. ARMS occur before investment in a TMDL project and offer many benefits. ARMS may completely solve a water quality issue and remove a waterbody from the Impaired Waters List or, if additional improvement is needed after implementation of the ARMS, provide clarity to a TMDL for more accurate loading calculations. Further, ARMS may provide an opportunity for enhanced on-theground buy-in with stakeholders.

ARMS can prove helpful in diverse settings. Simple scenarios with limited pollution sources offer prime opportunities to move directly to implementation, then re-evaluate water quality later to determine whether the watershed needs additional restoration work or development of a TMDL.

NPS-focused watersheds with 9-element watershed-based plans can benefit with 303(d) Program input on water quality goals with modeling. Complex scenarios may benefit by picking the low-hanging fruit to facilitate a clearer picture of the remaining water quality issues.

Even prior to the development of the Vision, States used a variety of approaches other than development of TMDLs to meet water quality goals, although these efforts were not likely identified under the 303(d) program. To help Programs understand the diversity of those approaches, ELI, with funding from EPA, created a <u>compendium of more than 180 such activities</u> across the country addressing myriad water quality issues like nutrients, ammonia, sediment, pathogens, and more. These examples helped states identify useful potential approaches in the development of future ARMS under the Vision process. The compendium captured a wide variety of methods to address impairment issues, categorized by the following:

- Agricultural BMPs
- Other BMPs
- Removal or Improvement of Dams or Culverts
- Improving Waste / Sewage Collection
- Wildlife / Pet Management
- Removing the Impairment Source
- Riparian Area Restoration
- Environmental Remediation
- Exercising Regulatory Authority
- New Laws
- Incentive-Based Approach
- Technical Assistance / Education
- Collaboration Activities

In addition, EPA provided guidance to Programs as part of the 2016 Integrated Report guidance. That guidance included a listing of various issues that EPA identified for Programs to consider when developing future ARMS. However, the guidance did not serve as list of components necessary for inclusion of an acceptable ARMS project. In fact, Programs do not need to or may not be able to address all of the considerations provided in that list, as doing so would make the development and documentation for the ARMS more rigorous than a TMDL. The guidance served as a response to requests from some Programs for additional materials to support development of ARMS through the Vision process. In the end, Programs and EPA still view ARMS as flexible approaches to support water quality attainment outside of traditional TMDL development. The documentation to support the ARMS should aim to allow for an understanding of the water quality issue and approach to resolution.

Both Programs and EPA continue to support the use of ARMS. Completed ARMS can earn "accepted" status after an EPA review. EPA differentiates between "accepted" in the case of ARMS and "approved" in the case of TMDLs as EPA can only formally approve TMDLs. The waterbodies associated with ARMS remain in Category 5 until water quality improves to a level to remove the impairment or a TMDL is developed. EPA provided presentations to some Programs on the progress of ARMS development and acceptance. A commitment from EPA to continue to share information

on these projects with all Programs would provide a valuable reference in developing further ARMS. Commonly accepted ARMS to date include, but are not limited to, Nine Element Plans designed to meet WQS and other "straight to implementation" plans.

Those ARMS, either completed or identified as a commitment, may be listed under the subcategory of Category 5, suggested by EPA as "5 Alt." For purposes of shifting nomenclature, a re-naming of the subcategory could prove useful. However, if the cement has set for the naming convention of 5 Alt, we recommend "ALT" stands for "<u>A</u>RMS Listing <u>Tag</u>" to remain consistent with the new naming convention. Additionally, Programs have the ability to develop other subcategories within the established listing convention. For example, some Programs have already created subcategory 5R to designate their waters which are associated with ARMS. Programs may elect to develop categories for waterbodies where ARMS are to be developed, moving them to another subcategory when the ARMS have been established. Whether or not the listing categories of 5-alt, 5-R or some other potential nomenclature is used, it is the description of the sub-category that is important. Programs and EPA concur with the need to identify waters associated with ARMS within their listing framework. The name of that category is less important than the description that would indicate the association with ARMS.

In all cases, keeping impaired waterbodies subject to ARMS within a subcategory to Category 5 (impaired, requires a TMDL) signifies to the public that an adaptive resource management strategy covers (or will cover) that waterbody. This category can be used for any water identified for development of an alternative plan, whether or not the water is identified as a 303d program priority. Additional discussions between Programs and EPA may be needed to address the issue of when to designate a water within an ARMS-related subcategory: when the intent to develop an ARMS is identified or when the ARMS is established. Additionally, there may be a need to create similar subcategories within other main listing categories. For example, a subcategory under Category 2 may be needed if the ARMS results in water quality attainment. Similarly, a sub-category may be beneficial for Protection Plans developed using an ARMS approach.

Progress under the 2013 Vision

As of August 10, 2021, 19 States have submitted 63 ARMS which cover 655 assessment units. Given the early stage of development for ARMS, Programs have the opportunity to innovate and push forward with creative ideas whether or not such approaches have previously earned acceptance. New approaches developed to achieve water quality goals can earn "official" 5 Alt status, but it remains important for Programs to collaborate with EPA early and often.

Figure 6 identifies the types of impairments for which ARMS are being developed during this first Vision period.



Number of Assessment Units

Figure 6 Breakdown of Nationally Identified Priority ARM

As discussed earlier, plans developed under Category 4B do not count as ARMS. Programs continue to take advantage of 4B for plan development, although at a reduced frequency compared with ARMS. During this current Vision period, five States identified plans under 4B. At this time, we do not have information on any plans submitted under Category 4C.

Connection to Prioritization and Measures

Programs can identify waterbodies for ARMS development including those they wish to seek official acceptance from EPA in their Prioritization process. ARMS remain a viable aspect of a Program's prioritization set if they choose to include them and Programs should feel empowered to pursue them even if they cannot receive programmatic credit in all cases.

ARMS Potential Updates & Suggested Changes

As implementation of the Vision progressed, discussions of "Alternatives" took on a new meaning to the point where the very word itself no longer properly described the universe of projects. Additionally, surveys of 303(d) Program staff revealed confusion with the term and supported removing "alternatives" from the lexicon and replacing it with a more descriptive term. Therefore, moving forward we recommend that this part of the operational framework be renamed to "Adaptive Resource Management Strategies" or ARMS. This is consistent with the intent of the original goal which focused on use of adaptive management strategies to support attainment of water quality goals. Furthermore, we suggest changing the short description to reflect change in emphasis:

| Updated ARMS Programmatic Element | |
|--|--|
| 2013 Alternative Goal Description | Proposed New ARMS Element Description |
| By 2018, States use alternative approaches, in addition to TMDLs, that incorporate adaptive management and are tailored to specific circumstances where such approaches are better suited to implement priority watershed or water actions that achieve the water quality goals of each state, including identifying and reducing nonpoint sources of pollution | Programs can pursue Adaptive Resource Management Strategies (ARMS) that incorporate adaptive management tailored to specific circumstances where such approaches are expected to achieve water quality goals more efficiently or in a manner more beneficial to attainment of those goals than the |
| | |

Additionally, we recommend the following:

• Identify Accepted ARMS: EPA should make the repository of accepted ARMS projects widely available to reduce confusion between regions and increase transparency. Further, as the repository of accepted ARMS grows over time, categorizing the approaches by impairment, method, etc., will help Programs find the best approach available for their project. EPA should consider providing this information on 303d program web pages.

- Create a Restoration Approaches Database: Update ELI's database of "restoration approaches in advance of a TMDL." Programs should record all restoration approaches whether they were developed as a Vision priority or developed outside of that effort. This database proved useful at its release but now requires updates to reflect the most recent trends. In the development of this database, however, it must be noted that the ability of Programs to develop ARMS should not be limited to the examples provided in the database. Innovative approaches should still be welcomed. Additionally, a searchable map, possibly in ATAINS, would help communicate with Programs on ARMS activities.
- Identify Minimum Elements for Accepted ARMS: EPA and States should develop mutually agreed upon minimum recommendations for what constitutes accepted ARMS. We recommend that documentation for ARMS focus on the description of the water quality issue and the approach to resolution. Programs should collaborate with EPA when developing ARMs, especially when proposing novel approaches. In developing these recommendations, it is important to continue to acknowledge and maintain the flexibility intrinsic in this element, allowing programs to continue to innovate when developing ARMS.
- **Deliver Workshop on ARMS**: A carry-over from the 2013 Vision, a collaboration to deliver a workshop on best practices concerning ARMS. This could include sessions on minimum elements of accepted ARMS, how to use related tools, and case studies from Programs on successes and learning opportunities of implemented projects. This could be a program delivered by ACWA and/or supported through a cooperative agreement by EPA.
- Improve Consistency for Categories 4B and 4C: The approaches to determine acceptance of plans under Categories 4B and 4C should be reviewed across EPA regions to determine if improvements can be made for better consistency across the country.
- Improve Listing Categorization for ARMS: Programs and EPA should discuss the need for a mutually agreed upon set of subcategories within Category 5 for impaired waters subject to ARMS planning or establishment. Similarly, consideration should be made for creating related subcategories under Category 2 or other categories should ARMS result in water quality attainment or be used for water quality protection.

Protection

Protection Goal within the 2013 Vision

Description of Protection Goal in the 2013 Vision: For the 2016 reporting cycle and beyond, in addition to the traditional TMDL development priorities and schedules for waters in need of restoration, States identify protection planning priorities and approaches along with schedules to help prevent impairments in healthy waters, in a manner consistent with each State's systematic prioritization

The 2013 Vision cleared the way for Programs to consider using resources to prioritize and develop protection plans. The Clean Water Act allows for protection work with the statement "restore and *maintain* the chemical, physical, and biological integrity of the nation's waters." Additionally, the TMDL Program regulations (40 CFR 130.7) permit States the ability to develop TMDLs for all waters, not just for water quality limited segments at their discretion. However, throughout much of its history, 303(d) Program efforts focused primarily on restoration. A growing interest across the country sparked a reexamination of protection's role in 303(d) Programming.

The protection element of the Vision held that investing in protection work could reduce downstream restoration challenges and long-term costs, as it is always cheaper to prevent than to clean up. However, protection was identified as an optional construct for any Program to consider when building what would work best. Reasoning that not all Programs would be willing or able to incorporate this type of work into their procedures, consistent with the regulation, the Vision still aimed to provide necessary resources and a clear runway for development for those interested.

Building off the work of CWA 401 certification and antidegradation programming, the protection element sought to use the tools of the 303(d) Program to develop the math and the path for successful protection. By utilizing these tools, the 303(d) Program can serve as the bridge, connecting standards and water quality data to implementation of protection activities. Ideas on how to use protection ranged from identifying threatened waters to collaborating with the Healthy Watersheds Program to incorporating High Quality Waters and Outstanding National Resources with a Program's priorities for plan development.

Protection Progress & Accomplishments

What is Protection?

The protection element of the original Vision pushed Programs to think beyond typical restoration activities, but without a clear picture of what a final product could or should include. In effect, protection represented a new frontier of untapped potential for expansion of the 303(d) Program. Early discussions on protection frequently involved vastly different ideas as to what protection work even meant, with many Programs reluctant to include protection work at all out of fear of the unknown.

To start, protection work required a discussion of the basic definitions of the field. The Environmental Law Institute (ELI), under a cooperative agreement with EPA, led a diverse group of 303(d) Program representatives to develop a draft <u>FAQ</u> for protection, and a <u>story map</u> to illustrate some of the resulting information. The story map starts by laying out the four types of protection, illustrated in Figure 7, defining a basic taxonomy to help differentiate the types of protection work possible.

Four Types of Protection

Ways that CWA 303(d) Programs approach protection



Figure 7 The Four Types of Protection

The four types of protection approaches:

- 1. <u>Protecting Waters of Higher Quality</u>: Regardless of how a jurisdiction may define higher quality waters, the concept refers to creating a protection plan at a level of water quality above traditional impairment metrics. Candidate waters for this level of Protection may draw from other lists (e.g., antidegradation) to provide additional substance for planning.
- Programmatic Protection: Developing a TMDL for a waterbody not currently impaired or that lacks enough information to determine impairment status as part of standard program procedures. Most often associated by a rotating basin approach, Programs may develop TMDLs for these waters for the sake of completeness and/or efficiency when addressing the

entire watershed rather than returning to those waters later if subsequent information reveals an impairment.

- 3. <u>Protection from Impairment</u>: Developing a plan for waters trending toward impairment but not yet officially impaired. This approach allows for planning and implementation to take place before conditions worsen to the point of impairment.
- 4. <u>Legacy Protection</u>: After a successful restoration of a waterbody that achieves water quality standards, Legacy Protection accounts for the existing TMDL and follows that water body as it moves off Category 4 of the impaired waters list, to ensure it does not slip back into impairment.

According to a survey with 44 state responses, many Programs employ one or more of these protection approaches. Programs pursued these different approaches such as using the assessment and listing process, TMDLs and/or TMDL-like plans, and collaboration with other programs such as the CWA 319 Nonpoint Source Program. More than half of respondents indicated success in protecting waters while others needed further evaluation. ELI created a <u>collection of protection-related resources and examples</u> for further exploration.

There is a general lack of clarity, however, in the way that protection is incorporated into the listing process. Currently, the approach is to move waters that were impaired from Category 5 to Category 2 once water quality goals are attained. However, as part of that move, it is not necessarily clear that the waters remain subject to a TMDL unless cross referenced with Category 4a. It may be beneficial to consider development of separate subcategories within Category 2 to identify waters that are subject to TMDLs, protection plans or ARMS. In that way, it would be clear to Programs, other CWA staff, EPA and the public that a water quality-based plan exists and remains in force.

Connection to Prioritization

As part of the prioritization process, some Programs chose to identify waters for development of protection plans. The approaches used to identify protection projects varied as much as any other prioritization process but included familiar prioritization methods:

- Geographical area
- Water quality condition and trends
- Specific waterbody uses
- External input from stakeholders
- Tools like Recovery Potential Screening

Many Programs, whether actively working on protection plans or anticipating to do so in the future, remain interested in water quality protection and support maintaining it as an active component of any framework moving forward.



Connection to CWA 319 Nonpoint Source Program and Antidegradation

The CWA 319 Nonpoint Source Program serves as an implementation arm of the CWA, specifically aimed at reducing nonpoint sources of pollution from reaching state waters. The 319 Program recently started to emphasize protection work activities. Many 303(d) Programs found a willing partner for protection planning, ranging from having an open dialogue about the concept to jointly setting priorities. In at least 19 states, the CWA 319 Nonpoint Source Program funded implementation activities for water quality protection.

The <u>Healthy Watersheds Program</u> encourages holistic protection of ecosystems, recognizing the value associated with investing in protecting the well-functioning parts of the watershed. With inclusion of habitat and biodiversity considerations, green infrastructure in the built environment, and river corridor protection, Healthy Watersheds provides widespread implementation opportunities for protection work.

State Water Quality Standards (WQS) require "Antidegradation" to provide enhanced water quality protections to meet designated uses, standards, and/or other criteria. Under the CWA, State WQS broadly apply to all waters. However, if waters possess increased levels of water quality above the baseline condition, they receive designation as High Quality Waters. The Antidegradation protections use a three-tier system, with some Programs adding a "Tier 2.5" to describe a level of protection between High Quality Waters (Tier 2) and Outstanding National Resource Waters (Tier 3), described in further detail below in Figure 9.



Figure 9 Antidegradation Tiers

Antidegradation provides an initial framework for many jurisdictions in providing levels of protection for waters of higher quality. The antidegradation tiers and their associated protections can serve 303(d) Programs in defining waters for protection plan development and/or using the provisions as basis for water quality planning and implementation activities.

Connection to Clean Water and Drinking Water State Revolving Funds

ELI developed two white papers determining the eligibility of water quality protection efforts using monies from the <u>Clean Water State Revolving Fund</u> and the <u>Drinking Water State Revolving Fund</u>. In short, Programs can use either fund to support specific protection activities. Collaboration with SRF programs to reach mutual goals would serve as an excellent example of integrating inter-program priorities, as highlighted in the integration element of this document.

Protection Potential Updates & Suggested Changes

The Protection Element continues to receive support within the Programs. The name clearly represents the topic and continues to reflect its purpose and implementation. Furthermore, we recommend maintaining the Protection Element as an optional element as not all Programs may elect to develop protection plans. However, given the evolution of protection activities, we recommend updating the description.

| 2013 Protection Goal Description Proposed New | v Protection Element Description |
|---|--|
| For the 2016 reporting cycle and beyond, in addition to the traditional TMDL development priorities and schedules for waters in need of restoration, States identify protection planning priorities and approaches along with schedules to help prevent impairments in healthy waters, in a manner consistent with each State's systematic prioritizationPrograms may priorities and a waters, in a manner consistent with each State's | identify protection planning approaches to maintain waters of revent impairments in healthy ain water quality in restored r provide TMDL protections for |

We also recommend removing deadlines associated with this element as the choice to develop protection plans is optional, the timeline for development of the plans is waterbody specific, and the designation of waters for protection will be made during prioritization.

Additionally, we recommend the following:

- Provide Additional Information Regarding Protection Plan Approval/Acceptance: While TMDL regulations state that Programs do not need to submit plans for non-water quality limited waters to EPA for approval, Programs continue to support the ability to include development of these plans within Program workload and commitments. It would benefit Programs to work with EPA to recognize developed plans as completed program commitments. Understanding EPA expectations regarding approval/acceptance of these plans in general, and specifically as it relates to program accountability, would benefit program planning and transparency to the public. States request more dialogue with EPA on this topic.
- Identify Key Elements of Protection Plan: Programs and EPA work together to develop an understanding of key elements of protection planning, while retaining flexibility, in order for EPA to support those plans. Similar to a TMDL development guide or the *Nine Minimum Elements of Successful Watershed Plans*, what are the recommended elements of a Protection TMDL? Programs interested in protection work may not pursue further activities unless and until these elements become clear.
- Conduct a Workshop Focused on Development of Protection Plans: EPA and 303(d)
 Programs collaborate on a workshop to present tools and aid in protecting healthy waters.
 Originally presented as a concept from the 2013 Vision, enough work in the field exists to
 now plan for and deliver a protection-specific workshop to proliferate concepts from existing
 protection work, troubleshoot problem areas, and generate new ideas to advance progress.
- **Provide Information on Accepted Protection Plans:** EPA information on accepted/approved protection plans including a copy of EPAs letter conveying that acceptance. Ideally, EPA would notify states moving forward when additional protection plans are accepted. Additionally, a searchable map, possibly in ATAINS, would help communicate with Programs on Protection activities.
- **Support Programs Identifying Protection in Prioritization**: EPA has been supportive of the development of Protection Plans. Going forward, Programs should continue to receive the

support to identify protection priorities along with traditional TMDLs for impaired waters and alternatives.

• Improve Listing Categories for Waters that are Attaining Water Quality Goals: Programs and EPA should evaluate the potential for creating subcategories within Category 2 to better identify when a water quality-based plan is associated with a specific segment. This should allow for identification of waters that are not associated with plans and those associated with TMDLs, ARMS or Protection Plans.

Assessment Goal / Evaluation Element

Assessment Goal within the 2013 Vision

Description of 2013 Assessment Goal: By 2020, States identify the extent of healthy and CWA Section 303(d) impaired waters in each State's priority watersheds or waters through site-specific assessment

The 2013 Vision encouraged a comprehensive understanding of the water quality status of each Program's priority areas. It recognized the role of targeted monitoring within priority areas to allow Programs to gain a better understanding of conditions in focused areas and inform assessment determinations.

Given limited resources for monitoring and assessment, the Vision aimed to provide resources and strategies to collect information cost-effectively, employing statistical tools to help augment limited information where appropriate. These statistical tools would provide Programs with the ability to cover more ground with limited resources to ascertain, to a high level of confidence, the state of the waters in their priority areas. The Vision also recognized the need to use other tools such as modeling, literature values, or reference conditions to provide information on environmental conditions, discharge quality, or other critical components. Additionally, Programs recognized the need to continue to seek new or improved approaches to supplement limited resources for traditional water quality monitoring.

Evaluation, Modeling, and Analytical Tools Progress & Accomplishments

ELI Compendium on Monitoring

The Environmental Law Institute, supported by EPA, led the development of an "Effectiveness Monitoring" compendium project. The concept centered on the idea of evaluating the implementation of TMDLs. Effectiveness Monitoring, as a concept, added another term to the lexicon of monitoring and assessment for many. Figure 10 illustrates working definitions of different types of monitoring that may take place at different stages along the CWA pipeline. To emphasize, the definitions aim to illustrate the monitoring universe from the TMDL Program's perspective for the purposes of discussion.



- 1. Validation Monitoring Used to validate water quality standards.
- 2. Baseline Monitoring aka Ambient, Inventory, or Assessment monitoring, used to characterize existing WQ conditions to establish a database
- 3. TMDL Monitoring Specific to fulfilling modeling needs for TMDL development
- 4. Compliance Monitoring Conducted to determine if permit requirements are met
- 5. Implementation Monitoring Presence / Absence of BMPs, no WQ data
- 6. Project Monitoring Water Quality data assessment of BMPs
- 7. Effectiveness Monitoring Assesses impact of collective work as an overall plan evaluation

Figure 10 Working definitions of various monitoring types along the Clean Water Act pipeline

Water quality monitoring can refer to a wide variety of collection efforts to achieve various goals. Programs along the continuum of CWA can make decisions in isolation, creating overlapping collection efforts or missed opportunities for collaboration. At a minimum, coordination of monitoring efforts can produce efficiencies and cost savings.

The compendium work remains in review at EPA, but four major takeaways from the project could provide value for Programs:

- Tailoring monitoring design to individual projects increases the value of the data
- Identify data needs as early as possible to increase chances of collecting more and better information for evaluation
- Set realistic temporal expectations for water quality improvement based on site specific factors before deploying monitoring to increase likelihood of capturing improvements
- Patience and creativity in the face of limited resources remains vital

These results differ in scope from the approach identified in the 2013 Vision document but should be the focus moving forward.

ACWA Recommendations for Updating the 2013 Long-Term Vision for the CWA 303(d) Program



Modeling

The 2013 Vision references modeling but does not sufficiently emphasize the importance of water quality modeling and other analyses in CWA Programs. As Programs grow in sophistication, the opportunities to incorporate water quality modeling gain greater importance. Moving forward, the Program needs to formalize the role of modeling in water quality programming, support the maintenance and iterative improvements of existing models, and invest in the development of new models. Additionally, investment in training and development of water quality modelers at EPA and in 303(d) Programs can help advance the field.

To that end, ACWA created a formal platform to encourage the development of a network of water quality modelers. At the same time, EPA developed connections between water quality modelers within EPA regions. ACWA, in partnership with EPA, administered conferences to build and support that network. A national kickoff meeting in Denver (2018) helped set the course for a national conference in Dallas (2019) that quickly exceeded capacity expectations, filling more than 150 seats. A scheduled conference for 2020 in Chicago, delayed due to COVID-19, generated levels of enthusiasm building from the Dallas workshop as evidenced by 388 virtual attendees at the replacement event – the Introduction to Surface Water Quality Modeling webinar series hosted by ACWA and EPA. The growing interest and participation demonstrate the need to continue with this investment in models and modeler training moving forward.

Analytical Tools

Water quality modeling serves to extend limited monitoring data to allow for an evaluation of environmental conditions within priority waters and contributing watersheds. It has the additional advance of providing an analytical platform to allow for the evaluation of various scenarios to assist with the development of water quality plans. In additional modeling, Programs use other tools for similar purposes, the gathering and analysis of information to support plan development. During the course of the initial Vision period, the importance and use of geospatial analyses has greatly expanded. These are two examples of tools that Programs use to meet the intent of the Assessment Goal, which is to provide sufficient information to support listing, plan development, and follow up. Programs should be encouraged to continue to seek out and use information and analytical sources

and platforms beyond traditional water quality monitoring to provide the basis for Program implementation.

To illustrate analytical tools further, North Carolina DEQ developed the following tools to help update Watershed Action Plan (WAP) information over the implementation lifetime of the plan. All of the tools contribute in some form to meeting the components or elements of 4B demonstrations and 5-alt Adaptive Resources Management Strategies.

- Barrier Evaluation Tool or BET
 - BET is designed to be used with community scientists or other watershed groups to evaluate the uses, benefits, and constraints of small dams or impoundments. The tool asks questions regarding dam safety and maintenance as well as evaluation of multiple potential uses. The tool provides scores for different scenarios that include removal of the barrier or even repairing or modifying the barrier or dam to improve score.
- Project Economic Evaluation Tool or PEET.
 - PEET is used to provide more prioritization information on projects such as return on investment and value added in dollars per foot per year for perennial, intermittent, and ephemeral stream channels. This evaluation is based on current and expected future conditions of various proximate watershed characteristics like hydrology, hydraulics, riparian condition and biology.
- Stormwater Nitrogen and Phosphorus or SNAP.
 - SNAP v4.1 is a project-scale tool for modeling nitrogen and phosphorus in stormwater runoff from development sites and nutrient reductions provided by stormwater treatment. <u>https://deg.nc.gov/about/divisions/water-resources/planning/nonpointsource-management/nutrient-offset-information#stormwater-nutrient-accountingtools</u>
- Project Level Evaluation Monitoring or PLEM-T.
 - This tool is used before and after assessments at project sites to demonstrate that the WIPS (Watershed Improvement ProjectS) were effective at the site where they were implemented. Information is then periodically loaded into the state's integrated report to show changes in water resource conditions overtime in areas where active watershed restoration is occurring. This tool specifically can be used as an incremental measure of improvement in planning areas and does not require actual water quality monitoring. The assessments made with the PLEM-T are similar to that measures in the PEET except they align with an Integrated Reporting paradigm of categorizing assessments.

Assessment under the 2013 Vision

Programs continued to use a variety of information sources in order to inform plan development. Additionally, the Assessment Goal served as an area of Program focus and innovation that built on the foundation of the original Assessment Goal. Programs demonstrated interest and capacity for program staff to develop models, conduct geospatial analysis, and pursue improved data communication techniques.

Assessment Goal Potential Updates & Suggested Changes

The name of the Assessment Goal caused much confusion as it incorrectly implies a link to traditional water quality assessment conducted under Section 305B of the Clean Water Act. However, discussions during the development of this goal, the words of the 2013 Vision document, and the actions taken to implement the goal, make it clear that this goal represents more than an assessment of water quality to support listing decisions. Program staff typically make listing decisions at a broad scale on targeted evaluation of specific assessment units. However, the Assessment Goal goes beyond this to encompass the evaluation of the watershed to provide sufficient information to develop plans for water quality restoration or protection. Additionally, it includes the development of information to evaluate on-going water quality for the purpose of either showing improvements in response to implementation of restoration plans or maintenance of good water quality in response to protection plan.

Recommended Restructuring

While the original scope of the Assessment Goal in the 2013 Vision identified the role of targeted monitoring to make informed and timely assessment decisions, it did mention statistical tools and modeling as means of achieving that end. This document recommends that this portion of the operational framework take a broader view of assessment and information, recognizing the various monitoring types included in Figure 10, and place greater emphasis on water quality modeling, geospatial analyses, and other analytical tools for use in the 303(d) Program for assessment, TMDL development, and effectiveness monitoring.

As such, the title "assessment" for this element of the Vision is short sighted. We recommend renaming this element to the Evaluation Element, as it includes a continuum of information gathering through various techniques over the course of evaluating initial water quality conditions, evaluating watershed and source conditions to support the development of a water quality plan and the evaluation of the efficacy of that plan.

| Updated Evaluation Programmatic Element | |
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| 2013 Assessment Goal Description | Proposed New Evaluation Element Description |
| For the 2016 reporting cycle and beyond, in | Programs evaluate impaired and healthy |
| addition to the traditional TMDL development | waters in priority areas using a variety of |
| priorities and schedules for waters in need of | information sources to provide sufficient basis |
| restoration, States identify protection planning | for plan development. Information from |
| priorities and approaches along with schedules | traditional water quality monitoring may be |
| to help prevent impairments in healthy waters, | supplemented with or replaced by data and |

| in a manner consistent with each State's | analyses from other approaches including, |
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| systematic prioritization | water quality modeling, geospatial or other |
| | analyses |

Additionally, we recommend the following:

- Continue to Support the Development of the Modeling Community: Continue providing support to build modeling network by supporting in-person, virtual trainings hands-on training and Workshops for modelers. The in-person element builds personal relationships to reinforce the network and provides valuable hands-on experience and idea sharing for modelers at all levels of proficiency.
- **Continued EPA Support for Model Maintenance and New Model Development**: For established models, EPA should find a way to maintain them through technology updates and improve modules to incorporate new and better information. Additionally, we encourage investment in new and emerging models to help Programs address difficult water quality issues.
- **Develop 303(d) Focused Data Visualization Tools**: EPA and states should work to create data visualization tools for the 303(d) Program. Additionally, training on data visualization using the Microsoft Power platform would provide universal access for Programs to learn and customize products.

Engagement & Integration Goals / Engagement & Partnership Element

Summary of 2013 Vision Version

Summary of Engagement Goal in 2013 Vision: By 2014, EPA and the States actively engage the public and other stakeholders to improve and protect water quality, as demonstrated by documented, inclusive, transparent, and consistent communication; requesting and sharing feedback on proposed approaches; and enhanced understanding of program objectives

Summary of Integration Goal in 2013 Vision: By 2016, EPA and the States identify and coordinate implementation of key point source and nonpoint source control actions that foster effective integration across CWA programs, other statutory programs (e.g., CERCLA, RCRA, SDWA, CAA), and the water quality efforts of other Federal departments and agencies (e.g., Agriculture, Interior, Commerce) to achieve the water quality goals of each state

The Engagement Goal took aim at a problem faced by most science-based programming – how to communicate complex concepts to stakeholders in a way that educates and encourages collective action toward achieving a common purpose. Adding to the standard barrier of scientific and bureaucratic jargon, successful communication must compete with an ever-increasing array of diversions using tools not traditionally employed by governmental entities. Public outreach and communication efforts can range from a one-time quick impression to a long-term campaign to build capacity and engagement in water quality improvement.

A universal national message for the 303(d) Program writ large held a level of appeal, but it would need to contain a level of customization for Program-specific variations. While the concept of "branding" can hold a negative connotation with many as a marketing approach to "sell" a product, principles in marketing can help develop effective communication strategies and provide a blueprint for using the modern tools necessary to reach wider audiences.

The Integration Goal focused efforts on how to better align the goals of the 303(d) Program with other natural and untraditional allies. That included other CWA programs but ranged in scope up to federal and down to local levels. A special emphasis placed on non-point source pollution programs, specifically Section 319, hoped to tackle the most pervasive and widespread issue in water quality. Further, in the face of limited resources, a focus on integration could benefit water quality by aligning priorities to create synergies where possible.

Engagement and Integration Progress & Accomplishments

Development of communication tools, guides, and platforms helps the Program and those that work to administer it to communicate better with everyone from the public at large to partner agencies and organizations to colleagues within the 303(d) Program. Engagement weaves through all the goals, helping message everything from the prioritization process to what a bacteria impairment means to a beachgoer's plans for the weekend.

A series of stakeholder meetings, some conducted via a cooperative agreement between EPA and ELI, informed audiences on the developments of the 303(d) Program and informed the Program on how to best communicate 303(d) Program activities and proceed with Vision projects to follow. State and EPA representatives worked together to present Vision principles and gather information at professional conferences including:

- Water Environment Federation's Technical Exhibition and Conference (Sept. 2014, New Orleans, LA)
- Soil & Water Conservation Society Annual Conference (July 2015, Greensboro, NC)
- American Water Resources Association Annual Conference (November 2015, Denver, CO)
- River Rally Annual Conference (July 2016, Mobile, AL)
- Stakeholders attended 303(d) Workshop to discuss communication topics related to the Program (June 2017, Shepherdstown, WV)

Based on feedback from the meetings and analysis of surveys conducted by ACWA, a three-pronged approach emerged as the operational plan moving forward. EPA would work to modernize a public-facing database to engage with the public (How's My Waterway), develop a communications toolbox to equip Programs with the tools needed for successful communication efforts, and support the development of a compendium of approaches led by ELI to gather best practices.

The National 303(d) Program Workshop featured Water Words that Work, which provided practical advice on strategies (language, visuals) to reach target audience. Additionally, the Workshop offered trainings on how to hold public meetings (in-person and virtual), how to use various communications tools and platforms including story maps, infographics, and the use of social media. Finally, the Workshop also featured discussions centered on document types to improve communications from technical reports to more general public-accessible fact sheets.

How's My Waterway

EPA rehabilitated <u>How's My Waterway</u> (HMW), a historic application, to serve as the main public facing communication platform for the 303(d) Program. The update uses the ATTAINS database and other water quality databases to pull information and show it to the end user. A series of stakeholder sessions to workshop and incorporate improvements started in 2018 with a meeting in Denver, CO. The second meeting shifted to an online format in 2020 as a response to the COVID-19 pandemic.

HMW provides the user with information about the condition of a waterbody of interest. The application uses three lenses of focus to help answer questions. The first level provides information at a community level, including but not limited to swimming conditions, restoration efforts, and permitted discharger information. The second level presents state-scale information, including details of relevant water quality programming and state-wide surveys where available. Finally, the third level aggregates information to a national perspective and provides insight to the big-picture issues challenging the country.

Communications Toolbox and TMDL Academy

Focusing internally, EPA's efforts to create a communications toolbox provide a potential path forward in addressing many of the communication issues Programs face. As of this document's drafting, products from the toolbox remain incomplete and/or unavailable. In the future, it is expected that the contents of the toolbox may include infographics, videos, templates, and other materials available for Programs to use and adapt for their communication efforts. EPA will prioritize these ideas based on feedback from surveys, workshop attendees, and future collaborations with Program staff.

EPA is also developing a "TMDL Academy" series that would provide a training program for new employees to the TMDL Program including but not limited to navigating the technical and bureaucratic terminology. Infusion of best communications practices into the TMDL Academy would serve the Program well to learn good ways of talking about the program from the start. Additional modules focusing on creating partnerships, environmental justice issues, how to incorporate climate change considerations into TMDLs, etc. could extend the usefulness of such an approach.

Compendium of Approaches

EPA supported the development of a compendium of examples of successful engagement efforts from Programs around the country, led by ELI. A team of state, tribe, and federal employees helped collect and sort these examples and applied those lessons in the web design and presentation of the <u>results</u>. The group also crafted from submitted examples a collection of terms and phrases used by Program staff to more clearly convey complex water quality terminology.

EPA Letter for Integrating Water Quality concerns into Clean Up Programs

EPA also sought to improve integration of Clean Water Act based programs into other environmental programs such as RCRA and CERCLA and released a memo to promote collaboration between the programs.

Implementation of Engagement and Integration under the 2013 Vision

Surveys conducted by ACWA revealed Programs, by and large, did not necessarily expand the universe of partnerships due to the Vision but built on already sought out the partnerships previous developed on a project-specific basis. It is worth noting that some states cast a wide net and included other programs and stakeholders when setting priorities. Notably, coordination with the Section 319 NPS Program at a national level resulted in better alignment of shared goals, including a renewed interest in using TMDLs to help develop 9-element watershed management plans and a new willingness to fund protection projects. Additionally, many States expanded their collaboration within and outside their Programs to develop priority lists.

Engagement & Partnerships Potential Updates & Suggested Changes

Merging into "Engagement & Partnerships"

Moving forward, we recommend the Engagement and Integration goals merge into one. In the implementation of the Vision, the underlying goals of Engagement and Integration significantly overlapped. Rather than think of these two efforts separately, we prefer to combine the goals – how do we as the 303(d) Program communicate and work together to improve water quality through participation at agency, partner, and stakeholder levels? Additionally, we believe the word "partnerships" more accurately represents the collaborative approach aimed at for this concept rather than integration. A partnership signals shared goals while respecting the individuality of the partner group.



Figure 12 The 303(d) Universe to Engage with to Create Partnerships

| Updated Engagement and Partnership Element | |
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| 2013 Goal Descriptions | Proposed Engagement and Partnership Element Description |
| Engagement Goal in 2013 Vision: By 2014, EPA and the States actively engage the public and other stakeholders to improve and protect water quality, as demonstrated by documented, inclusive, transparent, and consistent communication; requesting and sharing feedback on proposed approaches; and enhanced understanding of program objectives | 303(d) Programs actively engage to partner with State and Federal Programs, outside agency interests, the public and other stakeholders to help improve and protect water quality with inclusive, transparent, and consistent communication and engagement fostering effective integration across CWA programs and the water quality efforts of other |
| Integration Goal in 2013 Vision: By 2016, EPA and the States identify and coordinate implementation of key point source and nonpoint source control actions | Programs and federal departments and agencies. |

| that foster effective integration across CWA | |
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| programs, other statutory programs (e.g., CERCLA, | |
| RCRA, SDWA, CAA), and the water quality efforts of | |
| other Federal departments and agencies (e.g., | |
| Agriculture, Interior, Commerce) to achieve the | |
| water quality goals of each state | |
| | |

Additionally, we offer the following recommendations:

- **Combine Engagement & Integration Goals**: Combine the original Engagement and Integration goals under the new umbrella of "Engagement & Partnerships" to better serve outreach at all levels.
- Keep the Existing Workgroup (or Committee) on Engagement: An active workgroup devoted to engagement, similar to the compendium work, should remain in place to tackle engagement challenges. As communication challenges will continue to face Programs with an ever-shifting universe of tools to learn and platforms to navigate, leadership by a workgroup or council can provide the Program with awareness and strategies for adaptation. Convening this workgroup could fall to EPA or ACWA under a cooperative agreement.
- **Support Improved Messaging on 303d Program**: Some of the foundational pieces pursued by the compendium workgroup, like the terminology document, may help set up a true look at how to best brand the Program. Serious consideration of a messaging effort, including the help of a professional services firm, seems timely for the next iteration of continuous improvement.
- **Continue Support of How's My Waterway**: Continue investment in HMW including fixing the underlying issues in the ATTAINS database. Adding features to allow for additional state customization and improve user-friendliness to help keep the application fresh and useful will ensure continued usage.
- Continue Partnerships with other Environmental Programs: States and EPA should continue to collaborate with other CWA Programs as well as non-traditional partners at the federal level. Gains made at the federal level often filter down to state and local decision makers and allow permission for further collaborations. For example, coordinating planning cycles with 303(d) and NPS could lead to better alignment of priorities, resources, and environmental outcomes. Additionally, continue to collaborate with other environmental programs such as RCRA and CERCLA to make sure that actions under those programs are consistent with state Water Quality Standards and consistent with plans developed under the 303d Program.
- **Provide Data Visualization Support**: Developing and using better graphs, charts, infographics, etc. throughout the Program can help aid communication and partnership efforts. Adding specific tracks to conferences, trainings to Program staff, and collaborating with outside experts can help modernize Program communication efforts. EPA should help to develop data analysis tools for 303(d) specific applications that state and federal Program staff could use and/or leverage Microsoft Power Platform and R software to increase accessibility to Programs. As an example of this type of effort, we identify <u>data analysis tools</u> previously provided by EPA on the CADDIS platform to support stressor identification work.

• **Provide Additional Training**: Consider building training, through either online modules or inperson training, to focus on building community partnerships to work to local communities. Provide focused training on reaching intermediate partners that will ultimately deliver environmental messaging could prove the most impactful. These trainings could extend to consideration of Environmental Justice issues.

Program Measures

Congress and the public hold state and federal environmental programs accountable on actions taken to implement federal requirements. Prior to Vision, program measures for implementation of Section 303d of the Clean Water Act focused on pace of TMDL development. In most cases, Programs set pace targets every two years within each EPA region by taking the number of waters identified as impaired on Category 5 of the Impaired Waters List and dividing by thirteen. The number thirteen originated from an EPA memo stating Programs should set TMDLs within 8-13 years of first impairment, known colloquially as the "8-13 year rule." That memo based the recommendation on the range of timelines handed down by consent decree orders in lawsuits. With the change in the 303(d) Program implementation to the new Vision approach, EPA set aside historic "pace" calculations to allow states to set their own priorities, extending timeframes beyond the traditional 2 years as needed. As a result, the accountability measure for the program needed rethinking.

Originally, EPA developed two measures for tracking 303(d)-related plans. WQ-27 defined the priority universe and tracked completion of priority TMDLs, ARMS, or Protection Plans. The accompanying measure, WQ-28, held the promise of tracking all other water quality related activities to help Programs "tell their story." While WQ-28 never fully reached that lofty goal, it did provide a tracking service for development of plans outside of the priority universe and awarded credit for interim progress on priority watersheds. EPA, in an attempt to reduce reporting burdens, eliminated WQ-28 and created a combined measure called WQ-27.5. The new conglomerate still tracked plan development in the priority universe while awarding "partial credit" for in-progress plans and accepted ARMS. However, Programs lost the ability to track program activities outside of priority areas.

EPA and programs invested significant effort into discussing and developing measures for priorities and the approaches to implement the measures. Simply stated, the new prioritization measure calculates the percent of completed plans in priority areas based on the area associated with each plan and the total area for all plans. To implement the measure, EPA calculated catchments, identified as the area immediately adjacent to the assessment unit, to define the area associated with an individual plan. This calculation attempted to standardize information across the country. While the idea of standardizing watershed information holds great value, this procedure created a disconnect between the calculation of the measure and the manner in which Programs develop plans. Typically, plans developed under the 303(d) Program identify the watershed area that could cause or contribute to waterbody restoration or protection. While similar to the catchment approach, the defined watershed area is often very different with these two approaches. The current approach results in areas within the measures calculations that proved difficult for Programs to help troubleshoot the discrepancies between Program and EPA information and that did not match well with the land area identified within many plans.

Additionally, the initial request to identify priority waters allowed Programs to identify priorities by segment, polygon, or watershed. As the development of measurements progressed, EPA changed the watershed area submitted by Programs into a series of assessment units, then used these assessment units to calculate the Program measure for the state. This change resulted in

inaccuracies for some Programs as the watershed area originally identified included the waterbodies as well as the contributing source areas. Including these contributing areas proved problematic as Programs expected to address the point and nonpoint source contributions from these areas but did not necessarily expect to develop specific WLA and LA for waterbody segments in those contributing areas. Additionally, this process also resulted in additional pollutants being added to the Programs priority list beyond what was intended. This change in measure development was not well publicized and led to a disconnect between Program-identified priorities and the areas included in measure calculation.

These basic computational issues remain unresolved in some areas. As part of the review and update to the Program Vision, we recommend a re-evaluation of the procedures used to calculate Program measures to better align the area used for measure development with the watershed approaches used by the Programs for plan development. This includes a recognition that plans may address sources in a larger watershed without establishing water quality targets for those intervening waterbodies. This would allow for consideration of upstream waters contributing to downstream impairments.

In addition to issues relating to calculating the program measure, implementation of the measure revealed a disconnect between the total areas identified for potential plan development and what Programs can achieve by the end of 2022. During the development of Vision, Programs and EPA discussed the goal of completing as many plans for priority areas as capacity allows by 2022 but realized that many factors contribute to the ability of Programs to complete projects identified. Those factors include unforeseen shifts in resources, increased rigor to achieve EPA approval, and pressure to meet previously unidentified priorities. Programs understood this basic construct when identifying projects in 2013. However, over time EPA shifted focus to require 100% completion of plans in priority areas by 2022 and interim completion targets associated with each two-year Integrated Reporting period. The development of interim targets by EPA without Program consultation represents a return to a pace-based approach to plan development, which is inconsistent with the Prioritization Goal and with the implementation regulations for the 303d Program. The institution of Open Window periods allowed some Programs to make adjustments to their priority commitments as needed, such as correcting errors, adjusting to new Program focus areas, or for Programs using a candidate pool approach to priority setting, declaring the next set of priorities. It also provided the unintended opportunity to address this change, although many Programs did not receive notifications for the event and provided only limited opportunities for adjustments after August 2018.

Under the Prioritization Goal, Programs set priorities to cover the Vision period. This is true regardless of the approach used by the Program to identify priorities, up-front identification of priorities for the full Vision period or development of a candidate pool with successive identification of waters for plan development once previously declared priorities are completed. In both cases, the Prioritization Goal provided Programs the flexibility to develop plans, balancing resources and commitments, over the full Vision period. Programs discussed priority commitments with EPA Regional staff to provide understanding and seek feedback on the scope of the commitments the Programs the flexibility to manage their activities, commitments and timeframes, as appropriate, communicating with EPA Regional staff to discuss progress and setbacks. Priorities were declared to

address water quality impairments and protection. The timeframe for completion of those projects should be based on the time and resources necessary to develop the plans to address water quality concerns. Imposing arbitrary interim completion targets after an agreement to provide long-term flexibility to Programs for completion of their priority plans is in direct conflict with the core principles that underlie the 303d Program Vision.

This is also inconsistent with the plain language requirements of the 303d implementing regulations, which requires programs to identify waters for which plans will be in development during the next two years. It does not require completion of those identified plans within the same time frame or any specified timeframe.

This change to 100% completion of priority plans also highlighted a conflict with the aspirational aspects of the Prioritization Goal. As previously discussed, Programs identified priorities with the intent to completing them within the Vision period but recognized, in some cases, that 100% completion is aspirational and not necessarily attainable. Some Programs declared priorities in a manner that pushed Program resources and schedules, providing stretch goals for plan development. Other Programs established priority commitments to provide certainty of plan development. As the initial Vision was being crafted, Programs and EPA discussed the concept of instituting a required 100% completion target for 303d plans. This was rejected with the understanding that Programs would work towards full completion but that in some cases that might not be possible.

The combination of establishing a requirement to complete 100% of plans in priority areas after Programs already established priorities, inefficiencies in the implementation of Open Window adjustment periods, and a disconnect with the process used by Programs for prioritization led to a disconnect between Program and federal expectations for measures development and implementation. Setting aside the later imposition of interim completion targets, the current measure which is based on setting an upfront designation of areas to be covered by planning commitments did not work for all Programs. For Programs that set Vision priorities once at the beginning of the Vision period, this approach to the measure worked well. For Programs that utilized a candidate pool with periodic identification of priority waters, this approach did not work.

One final consideration regarding Program Measures pertains to waters identified for Protection Plans. Currently, to set measures, whether for water quality restoration or protection, Programs need to identify assessment unit and pollutant combinations. For waters identified for Protection Plan development, identification of specific pollutants may not be appropriate. The Protection plan may be developed with a specific stressor in mind but could also be developed to address a suite of potential stressors. A general indicator for combined watershed stressor should be provided to accommodate this condition. This would also be more consistent with Programs that identify High Quality Waters on a Waterbody by Waterbody basis as opposed to a Pollutant by Pollutant basis through implementation of Antidegradation provisions.

Moving forward, Programs request greater clarity for the relationships between prioritization, the ability to make adjustments through Open Window opportunities, and measures. Programs and EPA need to prioritize establishing these relationships and expectations prior to setting priorities and making commitments during the next Vision period. Regardless of how a program chooses to

identify their priorities, a measure that could accommodate both short- and long-term approaches to establishing goals is needed.

We recommend the following:

- Evaluate and Revise the Relationship between Prioritization and Program Measures: Clear expectations must be set prior to identification of Program Priorities relative to accountability under Program Measures. Prioritization and accountability should include flexibility to allow Programs to develop plans over short or longer time periods. For Programs that use a candidate pool and successive identification of commitments, identification of candidates for development of TMDLs in a Program's prioritization process must not get confused with a commitment to complete development of all of those projects by the end of the next Vision period.
- **Clarify Program Measure Expectations Up Front**: Discussions between EPA and Programs should occur to identify measures goals early, before making priority commitments. Program measure targets should not change after establishment. Understanding expectations for Program performance will allow for more accurate priority setting and implementation.
- **Refine Calculation of Program Measures**: Catchment areas do not relate well to the watershed areas established by Programs for plan development, does not allow for consideration of upstream waters to downstream impairments and does not adequately reflect the level of effort for plan development. EPA and Programs should consider revising the approach used to identify priority areas and make that more consistent with plan development.
- Correct Measures Calculations to Remove Requirements for Plan Development for Delisted Waters: The current system fails to recognize that priority waters delisted prior to plan development no longer need a TMDL. Commonly, a new Impaired Waters List identifies previously impaired waters that no longer meet impairment thresholds, removing them from the 303(d) List. The measures system needs to recognize this possibility to remove that water from the candidate pool. Additionally, Programs should not be subsequently required to develop a protection plan for these waters or substitute in an additional water with the same catchment coverage area. The commitment was a plan to restore water quality. If water quality has been restored, then the larger objective has been met. No additional planning requirements should be imposed.
- **Provide Updated Scenario Tool to Track Progress:** EPA developed a Scenario Tool to track each Program's progress toward completing priority plan. This tool is helpful to clarify prioritized plans and help EPA and the Programs track progress. This tool needs updating periodically, and each update should trigger dissemination to the Programs.
- Provide a General Indicator of Watershed Stress for use in Protection Planning Measures: In order to recognize that designation of individual stressors for protection planning might not be appropriate in all cases, and for consistency with how Programs identify High Quality Waters, provide the opportunity to use a general indicator or watershed stress when entering protection priorities into program measures.

ATTAINS

Concurrent with the development of the Vision, EPA independently initiated a redesign of information systems associated with managing water quality data. As part of this larger re-design effort, EPA developed an updated ATTAINS database to replace the older Assessment Database (ADB) and state-specific databases to manage water quality information to support Integrated Water Quality Report development. This large undertaking intended to improve the process by which Programs provide information including 303(d) assessment outcomes, waterbody classification, and plan development.

The 2018 Integrated Report (IR) Memo issued by EPA focuses on the results of a Lean process improvement event and the updated electronic system for recording IR data, the <u>A</u>ssessment and <u>T</u>MDL <u>T</u>racking <u>A</u>nd <u>I</u>mplementatio<u>N S</u>ystem (ATTAINS). Starting with the 2018 cycle, Programs submitted their IR using the ATTAINS system. Electronic submittals help facilitate faster approval times and builds a convenient database for tools to pull information from to present data graphically, increasing transparency to stakeholders.

The new ATTAINS database represents an improvement on the old system. It provides a modern interface and user-focused tool to allow Programs to enter and retrieve critical information for the management of 303d Programs. However, as with any new tool or platform, there are problems which EPA and Programs need to resolve in order to ensure accurate information to allow the database to function properly. Accuracy is critical as the information in ATTAINS forms the basis for longer-term program requirements and is publicly accessible through *How's My Waterway*.

EPA developed tools within ATTAINS to assist with data retrieval to support the production of the biennial Integrated Water Quality Reports. EPA indicated an interest in using ATTAINS to automate the production of the Integrated Water Quality Reports. While ATTAINS could help with report development, Programs still find value in the narrative portions of the report.

EPA and Programs need to work together to maintain the accuracy of information in ATTAINS and identify aspects of the database not functioning properly. For example, Programs identified issues with data migration from the ADB into ATTAINS, which resulted in incorrect information. Additionally, in some cases, the link between an established TMDL and the waterbody is lost when the water moves from Category 4a to another category when it achieves water quality restoration. TMDLs remain in effect once established no matter in which category the waterbody resides. Importantly, EPA and Programs worked together to resolve these issues once identified. It requires substantial effort on the part of Program staff to complete detailed reviews of all Program-specific information to identify these and other issues. However, given the public interface with *How's My Waterway*, it remains imperative for Programs and EPA to dedicate effort to continue quality review efforts and work together to achieve accurate information.

We recommend the following:

• Continue Collaboration with Program Partners to Identify and Correct Errors in ATTAINS: The ATTAINS database, while full of promise, still contains errors. Programs and EPA should work together to identify and correct those errors. Fixing those issues helps support tools that pull information from ATTAINS, like *How's My Waterway*, and reduces the burden of Programs to explain to the public erroneous information.

- Continue Collaboration with Program Partners to Add Additional Functionality to ATTAINS: The ATTAINS database represents an improvement over previous data management tools. The integration with other federal databases proved helpful to provide context and draw conclusions between information from different environmental programs. EPA should continue to work with Programs to identify additional functionality to include in ATTAINS to improve use of the database.
- Develop a Tool to Tell the Broader State Story: Consider an expansion of the Scenario Builder Tool, developed to track priority commitments under Vision, to create a tool that includes all waters within a state. Provide a column to designate entries as "priority" or "nonpriority" and allow Programs to enter program activities that fall into both categories. Programs still need a place to help tell their complete story. The original intention of WQ 28 aimed to serve as a repository of any and all clean water work within the Program's sphere of influence. Expanding the Scenario Builder Tool as an optional tool for Program use may help with identifying the larger scope of activities managed under the Programs.

Conclusion

The 303d Program Vision is an important and on-going collaboration between Programs and EPA to improve program functionality in support of achieving water quality goals. The flexibility and additional tools and approaches provided by the Vision have provided an updated framework for successful implementation of Section 303d of the Clean Water Act. Programs recommend the continuation of the Vision approach and have provided suggestions within this document in the hopes of implementing further refinements and addressing program challenges to better support Program management and attainment of water quality goals.

Appendix A – 2013 Vision

The original "A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program" released in 2013 is included in its entirety.

A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program

The Clean Water Act Section 303(d) Program provides for effective integration of implementation efforts to restore and protect the nation's aquatic resources, where the nation's waters are assessed, restoration and protection objectives are systematically prioritized, and Total Maximum Daily Loads and alternative approaches are adaptively implemented to achieve water quality goals with the collaboration of States, Federal agencies, tribes, stakeholders, and the public

<u>"Prioritization</u>" For the 2016 integrated reporting cycle and beyond, States review, systematically prioritize, and report priority watersheds or waters for restoration and protection in their biennial integrated reports to facilitate State strategic planning for achieving water quality goals

<u>"Assessment"</u> By 2020, States identify the extent of healthy and CWA Section 303(d) impaired waters in each State's priority watersheds or waters through site-specific assessments

<u>"Protection"</u> For the 2016 reporting cycle and beyond, in addition to the traditional TMDL development priorities and schedules for waters in need of restoration, States identify protection planning priorities and approaches along with schedules to help prevent impairments in healthy waters, in a manner consistent with each State's systematic prioritization

<u>"Alternatives</u>" By 2018, States use alternative approaches, in addition to TMDLs, that incorporate adaptive management and are tailored to specific circumstances where such approaches are better suited to implement priority watershed or water actions that achieve the water quality goals of each state, including identifying and reducing nonpoint sources of pollution

<u>"Engagement"</u> By 2014, EPA and the States actively engage the public and other stakeholders to improve and protect water quality, as demonstrated by documented, inclusive, transparent, and consistent communication; requesting and sharing feedback on proposed approaches; and enhanced understanding of program objectives

<u>"Integration"</u> By 2016, EPA and the States identify and coordinate implementation of key point source and nonpoint source control actions that foster effective integration across CWA programs, other statutory programs (e.g., CERCLA, RCRA, SDWA, CAA), and the water quality efforts of other Federal departments and agencies (e.g., Agriculture, Interior, Commerce) to achieve the water quality goals of each state

Timeline for Goal Statements 2014 – Engagement

ACWA Recommendations for Updating the 2013 Long-Term Vision for the CWA 303(d) Program

- 2016 Prioritization, Protection, Integration
- 2018 Alternatives
- 2020 Assessment (Site-specific)
- 2022 Evaluate accomplishments of the Vision and Goals

<u>Purpose</u>

The purpose of this document is to describe a new, long-term Vision and associated Goals for the Clean Water Act Section 303(d) Program, as well as present implementation plans for achieving the Vision and Goals. Recognizing the significant input from individual states and the Association of Clean Water Administrators (ACWA), EPA is pleased to present this Vision and these Goals to help guide the realization of our clean water goals in a manner that best reflects lessons learned from the past two decades of CWA 303(d) Program implementation and that anticipates new challenges that are likely to present themselves in the coming years.

How Have We Gone About the Task?

EPA and State program managers launched the effort to develop a new long-term Vision and Goals for the program in August 2011. Following a number of discussions and meetings with program managers and staff, the States generated a comprehensive "wish list" of potential program improvements that was then distilled into key issue threads. Over the span of several months, State and EPA participants discussed these issue threads and formulated both a working draft Vision and six Goal statements that would significantly contribute to achieving that Vision.

Throughout the development of the Vision and Goals, EPA and the States were guided by the preeminent importance of successful implementation of our CWA assessment, restoration, and protection activities, in the context of ensuring the use of good scientific and technical information and methods, having appropriate and relevant water quality standards, engaging individuals and organizations that have a role in reducing nonpoint as well as point sources of pollution, facilitating the use of listing and TMDL information by stakeholders, and assessing results to guide adaptive management strategies. EPA and the States recognize that the CWA Section 303(d) Program is only one part of the CWA and one part of how we can drive water quality attainment, but it is a key part – translating the water quality standards and goals of States into analyses and pollution reduction targets that describe a path to clean water. In the summer of 2012, the States and EPA provided the draft Vision and Goals to external stakeholders for their review. As a result of that stakeholder review, additional modifications were made to this document, including clarifications of the Goal statements.

In a parallel effort, in the fall of 2012, the States and EPA also initiated a workgroup to discuss creation of measures that would help track the CWA 303(d) Program's success in light of the new Vision and Goals. The workgroup was tasked with developing a new measure or a set of metrics that would balance (1) State diversity in implementing the Vision and its Goals, (2) the need for national aggregation of information to communicate overall program progress, and (3) guiding principles for measures compiled by the States and EPA over the previous year (for example, measures that reflect incremental progress, are outcome-oriented, and consider reporting burden).

The revised Vision and Goal statements were presented (along with several suggested approaches for program measures, and preliminary implementation plans for Prioritization and Assessment Goal statements), and well–received, at the February 2013 ACWA mid-year meeting.

To provide more detail on the path for achieving the long-term Vision and Goals of the CWA 303(d) Program, the States and EPA developed implementation plans for each Goal statement that contain action milestones and timelines to help States build their individual strategies to achieve the CWA 303(d) Program Vision. These Vision Goal Statements and their implementation plans and milestones, reflect discussions among almost every State, three Tribes, the District of Columbia, Puerto Rico, an interstate organization and EPA at an April 2013 State/EPA Workshop. While no Tribe currently administers the CWA 303(d) Program, Tribal, State and EPA representatives recognize the importance of Tribal perspectives and concerns in implementing the CWA 303(d) Vision.

The revised Vision and Goals , along with the near-final draft implementation plan, were presented at the ACWA meeting in August 2013. Additionally, external stakeholder input was sought on that draft. The product of these extensive efforts is today's version of the Vision and what the States and EPA are now implementing.

Important Considerations

The Vision and Goals presented here are designed to help coordinate and focus EPA and State efforts to advance the effectiveness of the Clean Water Act Section 303(d) Program direction in the coming decade. Prior to this effort, CWA 303(d) Program direction largely had been described through broader CWA program management goals and specific performance measures, such as the EPA's annual National Water Program Guidance and the States' water quality commitments. It is expected that such program goals and performance measures will evolve to reflect this new long-term Vision and Goals, with such changes being proposed and reflected as a part of those processes.

This new, long-term Vision and associated Goals are not regulation, policy, or new mandates. They do, however, provide focus for EPA and State efforts to better manage the CWA 303(d) Program activities to achieve water quality goals for the Nation's aquatic resources such as streams, rivers, lakes, estuaries and wetlands. States and EPA retain their flexibility in how they implement their CWA 303(d) Program responsibilities (including, specifically, identification of impaired waters and development of TMDLs) consistent with existing statutory and regulatory authorities and their individual priorities.

The Goal statements are presented in an order beginning with the cornerstone Goals of Prioritization and Assessment – with the Prioritization Goal as the foundation to guide planning and implementation of the other Goals, and the Assessment Goal to develop a full understanding of the condition of priority areas identified. The next two Goals of Protection and Alternatives pertain to actions that a State may consider to advance its water quality objectives, in addition to TMDL development. Finally, under the Integration and Engagement Goals, coordination of the CWA 303(d) and other CWA program objectives and involvement of stakeholders around mutually identified priorities are key themes to deal with the technical challenges of water quality restoration and protection, limited funding and other resources, and the specific objectives of individual States and their public. The Engagement Goal is a key means to implement the Vision and as a result, is expected to be initiated immediately. States and EPA encourage their CWA 303(d) Program managers to adopt the Vision concept. We anticipate this Vision will be implemented at two levels. At one level, State and Federal program managers work together and measure their collective progress. At another level, States individually employ their specific strategies to achieve the overall Program Vision and their own specific goals; in concert with the public, States may develop a Vision strategy that outlines a comprehensive, integrated, and iterative approach to addressing the challenge of achieving and communicating water quality improvements. We believe such State-level Vision strategies can be generated through evaluating the Goals of the long-term Vision at the individual State level. The intent is to generate, through thoughtful discussion and debate, ideas and information on workable approaches for developing and implementing State efforts to achieve the Goals of the Vision and, ultimately, each State's water quality standards. Thus, there will likely be variability in State strategies to achieve the Vision.

Relationship to EPA Strategic Plan Measures for the CWA 303(d) Program

There are also implications for reshaping relevant EPA Strategic Plan measures that reflect the new Vision and Goals. Previous performance measures for the Program have served to draw attention and effort to areas important during those times, such as tracking the number of TMDLs approved. Although it is expected that TMDLs will continue to be the primary feature of the Program, the Program will become better positioned as States and EPA work with stakeholders to carry out this Vision and Goals, to meaningfully capture implementation success through a new measure. States will have flexibility in developing strategies to achieve their Vision Goals, producing information that national tracking will report through a new national measure, and additional metrics, to communicate overall progress and provide accountability.

A workgroup of States and EPA is developing a metric to replace, by FY 2015, the simple tally of TMDLs completed with one that measures the extent of State priority waters addressed by TMDLs or alternative approaches in impaired waters or by protection approaches in waters of existing good quality. The metric will have a defined universe, baseline, and annual targets. Recognizing that TMDLs and alternative approaches may take several years to be developed, and that States engage in actions outside of priority areas, a complementary measure also is envisioned to track incremental progress toward development of TMDLs or alternative approaches in priority areas, as well as such activities outside of priority areas. This complementary metric approach will provide the opportunity for States not only to report on their focused progress within their priority waters, but also to communicate overall progress.

Prioritization Goal

For the 2016 integrated reporting cycle and beyond, States review, systematically prioritize, and report priority watersheds or waters for restoration and protection in their biennial integrated reports to facilitate State strategic planning for achieving water quality goals

The intent of the Prioritization Goal is for States to express CWA 303(d) Program priorities in the context of the State's broader, overall water quality goals. The CWA 303(d) Program provides an integrating function because it translates state water quality standards into pollution reduction targets for the point source permitting and nonpoint sources management programs as well as other programs outside the CWA. Linking the CWA 303(d) Program priorities with those of other programs can aid in strategically focusing limited State resources to address priority waters through water quality assessments, TMDL or alternative approaches, water quality protection strategies, implementation actions and follow-up monitoring. Establishing CWA 303(d) Program priorities will lead to more efficient and effective program management, yielding faster progress toward water quality improvement and protection.

While existing CWA 303(d) statutory and regulatory obligations remain in force (including requirements to identify impaired and threatened waters and develop TMDLs for such waters according to a priority ranking and schedule), we believe these requirements can be implemented through the lens of a State's prioritization framework. Prioritization provides a framework for focusing the location and timing of TMDL development efforts and/or alternative actions that are best suited to the water quality goals of each state. In addition to identifying high priority waters, it is also important to identify those waters that will be a lower priority for TMDL development.

The State's CWA 303(d) priority framework should be transparent to the public and clearly address how the States will implement the CWA 303(d) Program Vision and work toward the associated Goals over the next decade. The priorities provide the foundation to guide the planning and implementation of the other CWA 303(d) Vision Goals, and States and EPA will work collaboratively in defining them. Important venues for such State/EPA collaboration include the Performance Partnership Agreement/Performance Partnership Grant (PPA/PPG) discussions and development of CWA State Water Quality Management Plans and CWA Integrated Reports (IRs). The IR process, with its existing provisions for public notice and comment as well as prioritization for TMDL development, is a logical repository for such State prioritization efforts, even if such efforts are developed in other venues such as PPA/PPGs.

States and EPA envision using existing and emerging tools to help develop the priority frameworks. For example, state-wide probability-based water quality surveys can assist States in identifying, based on the State WQS, particular pollutants/stressors and/or geographic areas of the State that may warrant particular attention. Tools like Recovery Potential Screening are emerging as beneficial to States to consider where to invest their efforts for the greater likelihood of success, based on the traits of their geographic area's environment and communities. Some States may have an existing prioritization process that addresses many of these issues (e.g., use of the rotating basin approach) and thus, States may include their existing efforts as appropriate.

- 1) ACWA surveys States on their current approaches and rationales to prioritizing water quality restoration and protection (e.g., PPA/PPG discussions, biennial impaired waters list, State Water Plans) to establish a baseline of prioritization philosophy. (2013)
- 2) States provide to EPA, through ACWA, good examples of systematic prioritization processes/products of States, including emerging TMDL Vision Strategies. (2013)
- 3) EPA and States collaborate on a workshop to present tools to aid priority-setting, such as the Recovery Potential Tool, Healthy Watersheds Initiative, and wetland restoration priority setting tools, as well as to address data availability issues and develop a template to account for State reporting on priorities for TMDL or alternative approaches. (2014)
- 4) EPA provides training on tools to assist States in the use of State-scale statistically representative survey results for prioritization. (2014)
- 5) EPA includes in IR guidance for 2016 examples of how IR reporting process can house/reference State prioritization reports, including the appropriate definition and metric for such reporting. (2015)
- 6) States house/reference State prioritization reports in 2016 IRs, including: priority lists of waters slated for near term (~2 year) TMDL development or alternative approaches; priority waters scheduled for likely TMDL development or alternative approaches over 2016 2022; priority waters awaiting management to protect their current condition from degradation; and/or the strategic rationale of the State in setting these priorities, which may include customized Vision Strategies. (2016)

Assessment Goal

By 2020, States identify the extent of healthy and CWA Section 303(d) impaired waters in each State's priority watersheds or waters through site-specific assessment

The purpose of this Goal is to encourage a comprehensive understanding of the water quality status of at least each State's priority areas. These assessments are a key step in ensuring that appropriate management actions can be taken to protect and restore these waters. Detailed assessments of the nation's waters have been a challenge given the number and extent of waters, the variety of pollutants that could affect them, and the limited resources available to undertake the task. States and EPA recognize that given these challenges it is important to be strategic about how limited monitoring and assessment resources are deployed.

Most states employ a combination of cost-effective monitoring and assessment approaches to address CWA data needs. The most widely used approaches include: targeted data collection to characterize site-specific water quality conditions; statistically representative survey designs to describe water quality conditions across a basin or State; and, modeling, literature values, and reference watersheds to predict water quality conditions or impacts from individual dischargers or sources of pollutants. Advances in technology and data transmission offer potential for improvements in the amount of data available and the efficiency of data interpretation. States and EPA will continue to apply existing tools and explore new ones as appropriate to assess and track changes in the extent of impaired and healthy waters in priority areas, at the State-scale and nationally in order to assess progress toward CWA goals.

A comprehensive understanding of the water quality status of at least the State priority areas is essential to effectively address the water quality challenges in the priority areas and to effectively measure the progress on the CWA 303(d) Program performance. As a general matter, targeted monitoring is expected to be the primary approach for accomplishing the comprehensive assessment of States' priority areas. However, some States may also use the results of state-wide or sub-state representative surveys when the results of such approaches may be compelling enough (i.e., have a high degree of confidence) to support site-specific water quality attainment decisions.

- 1) States and EPA develop and distribute tools to support consistency in cycle-to-cycle tracking of water quality status. (2016)
- States and EPA develop and publish approaches to ensure linkage between priority waters and assessment units, and how to roll up different State approaches into a National total. (2018)
- 3) States develop plans to complete "baseline" monitoring to gather needed data to assess pre-implementation conditions in priority areas. (2018)
- 4) States develop plans to complete "effectiveness" monitoring to gather needed data to assess post-implementation conditions in priority areas. (2018)

Protection Goal

For the 2016 reporting cycle and beyond, in addition to the traditional TMDL development priorities and schedules for waters in need of restoration, States identify protection planning priorities and approaches along with schedules to help prevent impairments in healthy waters, in a manner consistent with each State's systematic prioritization

The intent of the Protection Goal is to encourage a more systematic consideration of management actions to prevent impairments in healthy waters (i.e., unimpaired waters) in order to maintain water quality or protect existing uses or high quality waters. Although protection of healthy waters is envisioned specifically as an objective of the CWA – "restore and <u>maintain</u> the chemical, physical, and biological integrity of the nation's waters" – substantial resources to date have been focused on restoring impaired waters; protection efforts have lagged. Protection and restoration are interdependent goals regarding the "integrity of the nation's waters." Protection of healthy headwaters and wetlands, for instance, helps reduce downstream restoration challenges and costs, while restoration reduces risks to adjacent protected, healthy waters. Successful restoration of impaired waters can lay the foundation for committed and continued protection of those same waters.

Although not all States may ultimately choose to use protection approaches, opportunities for protection within the context of state-wide water quality goals can be an important component to achieving water quality objectives. For example, setting CWA 303(d) Program priorities could involve consideration of the restoration potential of impaired waters adjacent or upstream to healthy watersheds. Such coordinated efforts could lead to realizing more effective results than isolated, individual protection or restoration actions. Also, under the protection Goal, healthy waters at risk of becoming impaired, could be identified as part of the CWA 303(d) Program prioritization process.

Some States have used their CWA 401 certification or antidegradation programs to protect healthy waters and habitats. Some Tribes have also promoted the concept of protection in their water programs. Protection provisions are included in the CWA 303(d) regulations, including the opportunity to establish TMDLs for information purposes ("informational TMDLs") or the need to list threatened waters. EPA is also promoting a voluntary Healthy Watershed Initiative whereby it will work with State and other partners to identify healthy watersheds and to develop and implement healthy watershed protection plans to maintain the integrity of those waters. Likewise, States could consider leveraging their existing work to identify high quality waters and Outstanding National Resource waters for antidegradation purposes.

- ACWA surveys States on their current approaches and rationales to prioritizing protection of healthy waters (e.g., PPA/PPG discussions, State Water Plans, high quality water designations, protection-based TMDLs, etc.) to establish a baseline of priority philosophy. (2013)
- 2) States provide to EPA, through ACWA, good examples of systematic prioritization processes/products of States, including emerging TMDL Vision Strategies that include aspects of protection. (2013)

3) EPA and States collaborate on a workshop to present tools to aid in protecting healthy waters, as well as to develop a template to account for State reporting on protection priorities and schedules. (2014)

<u>Alternatives Goal</u>

By 2018, States use alternative approaches, in addition to TMDLs, that incorporate adaptive management and are tailored to specific circumstances where such approaches are better suited to implement priority watershed or water actions that achieve the water quality goals of each state, including identifying and reducing nonpoint sources of pollution

The purpose of this Goal is to encourage the use of the most effective tool(s) to address water quality protection and restoration efforts. For the past two decades, many TMDLs have been developed in response to litigation. As a result, States and EPA have not always had the opportunity to objectively evaluate whether a TMDL would be the most effective tool to promote and expedite attainment of State water quality standards. With most of their consent decree and settlement agreement TMDLs completed, States and EPA are using their program experience to make more informed decisions about selecting and using the tools that have the best opportunity to restore and protect water quality.

While TMDLs will remain the most dominant program analytic and informational tool for addressing impaired waters, a major focus of this Goal is to identify, evaluate, and promote (as appropriate) other tools (or "alternatives") that may be more immediately beneficial or practicable to achieving applicable water quality standards under certain circumstances. For example, additional opportunities with long-standing program tools (e.g., Category 4b) will likely be considered along with emerging tools, wherein impaired waters remain on the State's CWA 303(d) list until water quality standards are attained, but are assigned lower priority for TMDL development as alternatives designed to achieve water quality standards are pursued in the near term. If water quality standards are not fully attained through these alternative approaches, development of the TMDL would be necessary.

Recognizing the importance of effective implementation to achieve water quality standards, another major focus of this Goal is to further explore and identify how principles of adaptive management can most effectively be applied to improve water quality whichever restoration tool is chosen. Adaptive management will help the program incorporate new data and information, identify opportunities and actions to pursue under the Integration Goal of the Vision, and iteratively adjust and integrate subsequent implementation actions to meet water quality standards.

- States compile an inventory of current and potential types of State approaches and rationales for pursuing near-term, alternative approaches to the traditional TMDL process (e.g., subcategories of Category 5 for on-going restoration efforts, Category 4b; Category 4c) to address impaired waters. (2014)
- 2) EPA and States collaborate to identify factors or tools to aid States in deciding to pursue a TMDL or a non-TMDL alternative approach. Such factors or tools will address multiple considerations, including opportunities for a weight-of-evidence approach for selecting a TMDL or non-TMDL alternative approach, as well as identify circumstances where a TMDL or non-TMDL alternative are likely to be more successful. (2014)
- 3) EPA and States compile a catalogue of good examples for each type of TMDL alternative approach based on the inventory results and guiding principles. (2014)

- 4) EPA and States collaborate on a workshop and create a blueprint communicating how adaptive management can be applied during the implementation of TMDL and non-TMDL approaches to achieve water quality standards. (2016)
- 5) EPA and States develop a reporting method for tracking non-TMDL approaches employed and their environmental results. (2017)

Engagement Goal

By 2014, EPA and the States actively engage the public and other stakeholders to improve and protect water quality, as demonstrated by documented, inclusive, transparent, and consistent communication; requesting and sharing feedback on proposed approaches; and enhanced understanding of program objectives

The purpose of the Engagement Goal is to ensure the CWA 303(d) Program encourages working with stakeholders to educate and facilitate actions that work toward achieving water quality goals. Facilitating meaningful engagement with the public and stakeholders on watershed goals, the prioritization processes, watershed restoration plans, and necessary watershed actions related to CWA 303(d) is vital. Levels of engagement range from public outreach and communication efforts to more strategic civic and technical engagement for long-term capacity building in the watershed. EPA and States will further explore the various types of engagement and delineate some of the barriers to, and opportunities for, each level of engagement. In addition, an effort to develop a national message for the program (i.e., "branding") may be beneficial for consistently communicating the Vision and associated Goals to general audiences. Branding of the Program provides a communications umbrella under which States can utilize a common set of talking points for engaging broad audiences, yet have the ability to tailor them when communicating with more specific audiences. It is generally recognized by EPA and States that strategic engagement efforts could be aided by improved communication to develop a CWA 303(d) Program brand that would enable the public to more readily identify and support water quality restoration and protection goals and actions. An engagement strategy for this Goal will consider effective methods currently employed by States, and identify ways engagement efforts and strategies support other Vision Goals such as Prioritization, Alternatives, and Integration.

- 1) States develop (or enhance an existing) framework or strategy to engage the public and other stakeholders. A public engagement strategy will identify key opportunities and actions to: communicate the Vision Goals to the public and other stakeholders and encourage their participation in achieving them; provide information about the purpose and critical importance of the program; and, encourage their participation in the process of listing and developing TMDLs or alternatives. (2014)
- 2) States develop a framework to ensure they have data to measure each Goal, with the aim of communicating the most relevant outputs and/or outcomes to key stakeholders in their state, and informing the public about their progress and accomplishments. (2015)
- 3) EPA develops a strategy for communicating results of Federal and State progress in implementing the Program-wide Vision. (2015)

4) States share success stories and/or lessons learned regarding engagement and report to EPA and ACWA. (2017)

Integration Goal

By 2016, EPA and the States identify and coordinate implementation of key point source and nonpoint source control actions that foster effective integration across CWA programs, other statutory programs (e.g., CERCLA, RCRA, SDWA, CAA), and the water quality efforts of other Federal departments and agencies (e.g., Agriculture, Interior, Commerce) to achieve the water quality goals of each state

The intent of this Goal is to integrate the CWA Section 303(d) Program with other relevant programs that play a role in influencing water quality, in order to collectively and more effectively achieve the water quality goals of States, Tribes, and Territories. Because TMDLs are not self- implementing, effective integration of key programs – especially key CWA programs (listing and TMDLs, water quality standards, monitoring and assessment, CWA 319, CWA 404, and NPDES) that encompass assessment and point source and nonpoint source control actions – is important to realize the pollutant reduction goals identified in TMDLs or alternative approaches. It also is important that integration occur among the different offices in charge of CWA programs within a department or agency as well as between and among local, State, Federal and tribal jurisdictions. Interaction between agencies and non-governmental interests also may promote effective implementation. Integration is particularly important for addressing impairments caused by non point sources of pollution, especially in watersheds crossing multiple jurisdictions and those involving different CWA programs. A consequence of not integrating effectively is less successful implementation, especially for TMDLs or alternative approaches that include sources of nonpoint pollution that typically lie outside the regulatory reach of the CWA.

This Integration Goal aims to overcome barriers in coordination by aligning diverse program goals for mutual benefit. To achieve this, cross-program education will be important, in addition to active leadership and engagement among groups managing these key programs. Sharing of institutional knowledge and the history of established networks will enable the next generation of State and EPA employees and managers to sustain integrated successes.

- 1) The following milestones are expected to occur within the States and EPA in parallel efforts.
 - a) States and EPA (HQ and Regions) individually bring their CWA programs together to identify areas for improved coordination and partnership and develop a plan for fostering better communication and coordination moving forward. (2014)
 - b) States and EPA individually bring other applicable statutory program representatives and partner agencies together to identify areas for improved coordination and partnership and develop a plan for fostering better communication moving forward. (2014)
- States and EPA communicate the results of these discussions, at the regional level with the pertinent States and EPA Region, or at national level with all States and all EPA Regions and HQ. (2015)
- ACWA surveys States for good example case-studies of such key collaboration efforts among CWA programs, other EPA statutory programs, or external partner agencies or authorities (as available). (2015)

- 4) EPA and States collaborate on a workshop to discuss and identify the most important actions, partnerships, and authorities for the States and EPA to pursue in the near-, mid-, and long-term, with each program partner. (2016)
- 5) States and EPA initiate implementation of near-, mid-, and long-term actions. (2016)