



INTRODUCTION

In late 2018, ACWA Watershed's Committee Co-Chairs Jeff Berckes and Traci Iott, along with ACWA staffer Julian Gonzalez, conducted interviews with state representatives covering a wide range of topics on the 303(d) / TMDL program. The results of those interviews were compiled and combined into the report below.

EXECUTIVE SUMMARY

1. What are the current focus areas/priorities for your 303d Program?

Overwhelmingly, states are focused on bacteria, nutrients, or both. While some states are using narrative criteria as a basis for action, other states are looking to develop numeric nutrient criteria first, which has delayed project work on nutrient TMDLs and forced focus on other areas.

Bacteria is seen as relatively "easy" work to accomplish based on established methods of calculation (Direct comparison with WQ criteria, Load Duration Curves), a history of fast approval with EPA, and the ability to earn many TMDLs with one project (basin approach). Several states have developed or are developing a statewide TMDL approach to addressing bacteria-related impairments, despite the fact that fate and transport of bacteria is relatively poorly understood and can prove to be an issue in implementation on the NPS side. One state mentioned that bacteria TMDLs are an easy sell because there are no additional costs to point sources as the expectation is for facilities to disinfect, thus avoiding any costs associated with new TMDL developments. However, that may not be the case for states that are addressing bacteria in stormwater.

A few states mentioned important economic development / monetary value of the resource as a way to justify prioritization. Other states focused on human health issues as a way into working in impaired watersheds. In some way, it comes back to the value of a resource that's functioning being worth more than the value of that resource in the current state. For example, algal blooms and beach closures hurt economic interests by driving away recreation. Conversely, there was not much discussion on how those impairments could impact drinking water and the impacts of treatment costs to local treatment plants. Additionally, very little conversation around the inherent value of clean water for the biota or environmental justice issues.

Additionally, a few states still have priorities driven by consent decrees predating the Vision. For some of those states those priorities are particular waterbodies that still need TMDLs, for others



that means finishing TMDLs that have taken time, and for some others that means revising TMDLs.


In general, it seems that states are generally working at a watershed scale. Addressing impacts to lake or impoundments is a common priority among the states.

2. Have you made changes to your program priorities under any of the open seasons? What changes and why?

Most of the states used the open season to make changes. Of the states that did, some wanted consistency with the most recent impaired waters list cycle. This included removing priorities that had been removed from the impaired waters list or adding new impairments that fit the prioritization scheme from that state's Vision document. One state had new leadership and wanted to put their own priorities in place, while other states had embarked on numeric nutrient criteria development and needed to identify alternative projects in the near term. Many states used the open season to adjust priorities to a more manageable commitment when it became evident that they would not be able to complete plan development for some of their previously declared priorities by 2022. However, it should be noted that some states resist the idea of imposing any sense of required pace on themselves as this defies the spirit of the Vision process. While some states have set goals they expect to complete by 2022, others set their priority universe independent of what can be accomplished by 2022. A basic satisfactory progress determination would be a welcome change to the measures discussion for those states.

Of the states that did not utilize the open season, some who focused on getting a new 303(d) list approved and therefore missed the window or simply let the deadline pass them by without acting. Others felt that they were on track with original priorities and did not need to make any alterations. A few states were not completely aware of the open season opportunity due to lack of clarity or communication from EPA. In general, states are very supportive of the open season concept and strongly support a continued ability to adjust program priorities and commitments on a periodic basis. Given that the cycle of the 303(d) list is predictable (every 2 years) and provides for an opportunity to reevaluate the prioritization waters given fundamental changes to the impaired waters list, it would seem appropriate that an approved 303(d) list would trigger the opportunity to change priorities in a state-specific open season.

Overall, one region felt the need to develop a somewhat easily attained priority list to ensure 100% completion, while others were less concerned with total completion percentage. While this may not have a great impact moving forward, it is important to note the difference in how states developed their priority lists. This includes providing a better understanding of the differences in meeting lesser goals and failing to meet higher ones. Some states are very concerned about not meeting their priority plan development goals and would like to understand the impact of falling short.




Finally, while 2022 is still several years in the future, some states are beginning now to plan for and initiate work to support plan development post-2022. States would appreciate the ability to discuss 303d planning and commitments post-2022 in the near-term.

3. Are you working on TMDL alternatives or protection plans?

Alternatives were popular, particularly specific issues where states felt the TMDL was not the right tool. In general, states seemed more likely to use alternatives to address complicated issues where clear implementation strategies could be developed, or where other circumstances such as strong stakeholder support and / or increased collaboration with 319 program staff were present. For example, a state utilized an alternative when the point sources in the watershed feared the development of a TMDL and wanted to avoid regulation. This motivated the point sources to voluntarily come up with a collective plan to reduce pollutant load. While that example is somewhat anomalous, there are several cases where parties within a watershed established a collaborative process outside of a TMDL to establish a water quality restoration plan. This collaborative approach may be worth trying in complex watersheds where partners are willing to engage. Alternatives also seemed to be a good approach for states with limited resources as investing in TMDL development may stretch the program too thin whereas a straight to implementation approach can allow for action near term. Several states recognized their regions as supportive of using straight to implementation approaches. In general, states seem to approach alternatives cautiously due to some uncertainty about process from both the states and the Regions, but also with optimism about their utility as a situationally useful tool.

Protection measures were less likely to be taken, but was something that about a half of the states had some interest in. Some states felt that they had various programmatic tools in place which served the functions of protecting water quality and that plans were not necessarily needed in those cases. One state considered the work done in the rotating basin approach to be protection while others thought of implementation of state antidegradation policies, protecting high quality waters, designation of waters as Tier 2.5, use of Tiered Aquatic Life Uses, and maintaining TMDLs in place after restoration has been achieved as protection measures.

Other states are developing, or had developed, plans to protect water quality. These include developing either TMDLs or permits on a watershed basis whereby some of the waters would be slated for restoration and others would be provided protection. Other examples include partnering with drinking water and nonpoint source programs to provide source water protection; finalizing TMDL development within a watershed that was impaired but was found to meet water quality before TMDL was completed, providing a blueprint for maintaining loads protective of water quality; working in areas awarded a Healthy Watersheds grant to establish a plan that both meets the requirements of the 303d program for protection and the nonpoint source Healthy Watersheds program goals.



While EPA is working on developing definitions for different types of protection, it was clear that this facet of the 303(d) program is lagging behind and states would benefit from guidance from EPA. None of the states surveyed seem to know exactly how to complete the protection work or how to identify credit for it in the future. Some states mentioned they could not envision a scenario where they could divert resources for working on impaired waters over to protection work while others were attracted to the idea.

For both alternatives and protection plans, states are concerned with reporting burdens and would like to take an approach that documents the plan without creating burdensome reporting requirements.

4. Now that we are several years into the 303d Vision changes, how is the Vision approach working for you? Are there changes that are needed for the program in the future?

States overwhelmingly supported the Vision. States appreciated the flexibility to craft a program that reflected what was most important to the state and/or what was possible with state resources, political realities, and staffing capacities / skill sets. Many states mentioned how important it was to have the space to think critically about what the program could do in the future. It provided an opportunity to set a direction at a time when the work felt aimless and/or repetitive and meaningless. Even states whose prioritization was less driven by the Vision appreciate and understand the importance of the added flexibility provided by the Vision.

A few comments to help for the second iteration of the Vision are worth noting. Many states felt that the recent changes to the program measures were not made in a collaborative manner and were established with a rapid pace with a lack of state engagement.

Moving forward, states overwhelmingly would like to maintain the open season within the 303d program. However, there needs to be more clarity about when the open seasons will occur, the impact of not meeting declared goals, and the ability to plan beyond the time frame associated with the program measure.

It remains to be seen if EPA can provide a platform to share state stories in a way that state's will be satisfied. Connected with that, annual commitments to TMDL completion harkens back to pace requirements and seems like an appendage to a previous era. It might be time to rethink how Regions and states interact on this issue and whether it's time to officially remove any traces of the "8-13" year rule from existence.

5. Does your program use models? Which ones? For what types of projects?


Most states have at least some capacity to run simple models or spreadsheet programs like Load Duration Curves for bacteria TMDLs or QUAL2K for WLA development. Some states have worked with other simple models like STEPL, Lake Loading Response Model and BATHTUB for nutrients and lakes. A few states have invested in more complex models such as LSPC, HSPF, SWMM, SWAT and WASP. A few states have an in-house model designed by state staff. Finally, several states have minimal modeling capacity either due to retirement, reliance on contracting that work out or because the program had not yet needed models for TMDL development. A significant amount of states rely on contractors, and there is a wide variety regarding states comfortable with that status quo and those that are not.

States that contract work out requested training on models used by contractors in order to have the ability to make alterations in-house. The need for sound contracts that ensure the contractor will train state staff on understanding the model is a need that the ACWA Modeling group could fulfill. Additionally, most states were either involved with the ACWA Modeling group already or were interested in joining. States within EPA Regions, where the EPA region had modeling expertise, generally were ahead of the curve in terms of modeling

While the ACWA Modeling group held a lot of interest, some states expressed a desire to have EPA endorse models that they felt comfortable with before investing time and money into building capacity. If, for example, STEPL and BATHTUB are not the best tools for dealing with eutrophic lake conditions, identification of a better model and technical support on training for that model would be ideal.

6. Many states worked to strengthen partnerships through the Vision process. How have the partnerships within and outside your agency been going?

Generally, states were hesitant to place any weight on the Vision as a contributing factor, let alone a driving factor, in building partnerships with necessary entities to complete TMDL work. Many states feel that building and working within partnerships, within and outside of their agency was one of the primary strengths of the state 303d program. However, some states felt that the Vision encouraged their programs to have conversations with internal programs to help guide prioritization, which has improved relationships. For example, in a few states, the nonpoint source management responsibility lies either with another program or another agency entirely, often not in the same building, and the Vision has incentivized collaboration between those TMDL programs and nonpoint programs. Similarly, the support of alternatives has brought opportunities to work with non-traditional partners to get work done. One state had been working with MS4 communities in support of their alternatives work while others forged partnerships with their DOT or drinking water programs.



All states recognize the importance of partnerships to the success of our work, with one program going so far as to use it in a tagline “Healthy Watersheds, Strong Partnerships.” The untold story is that building these relationships are hard and take a long time. They often shift with political winds or with staff turnover because many times it is based on personal relationships. One state has made huge strides in citizen science. Combining the power of social media and geo-locating applications on smart phones, this state has had great success in engaging a wide group of people. Another state credits a strong basin planning approach, outside of the 303d program, for identifying and building partnerships that are then used within the 303d program. These examples may be models for other states to emulate if harnessed effectively.

Overall, it seems that the Vision won’t get the “credit” for forging partnerships, but focusing on specific types of projects will naturally give rise to new opportunities to work with other programs / organizations. Ideally, EPA HQ will be working with their counterparts in other organizations to “grease the wheels” so to speak so that there is a built-in structure of support if and when a state-level conversation is needed.

7. What strategies has your program used to improve communication? (web page development, fact sheets, social media, story maps, etc...)

About half the states had something to share while the other half didn’t feel like they’ve created anything interesting as of late. In general, states were very interested in story maps. Many states have either developed story maps already, are in development, or interested in learning more about story maps. There’s a recognition of more traditional forms of communication are not particularly effective and applications that can capture the attention of an ever-increasingly distracted audience is preferred.

In general, states were interested in seeing more examples of story maps, GIS-based applications, and similar tools and hands-on training to learn how to do it themselves. States feel that they must have big-picture conversations about how we message the TMDL / 303(d) program soon. It may be time to focus resources to that end while also keeping in mind that one size may not fit all. Allowing the states the ability to customize the language / outreach to their constituents will be important.

States are using social media such as Facebook, Twitter, YouTube and Instagram. However, the state agency typically establishes one account for the entire department. Each program then develops “posts” which are shared up through their agency for posting on the various platforms. One state has worked to develop a communication plan in support of their 303d program.

8. Nutrients and Bacteria have been identified as issues that many states are dealing with. Have you developed any strategies to address these issues?

As discussed under question #1, most states are dealing with one or both of these issues. States recognize that stream bacteria projects are an easier lift and many states have run out of bacteria projects because of this. One of the drawbacks to bacteria projects is the huge load reduction numbers that may be needed. Additionally, communication about bacteria issues can be difficult. Some states have considered source tracking, but the expense may be too great to complete a thorough job in most areas while others have identified potential sources using land use and permit information for the watershed. While the fate and transport of bacteria is challenging, bacteria TMDLs are a popular priority due to the quantity of impairments and the established tools for TMDL creation. Several states are opting to use a statewide approach to establishing bacteria TMDLs.

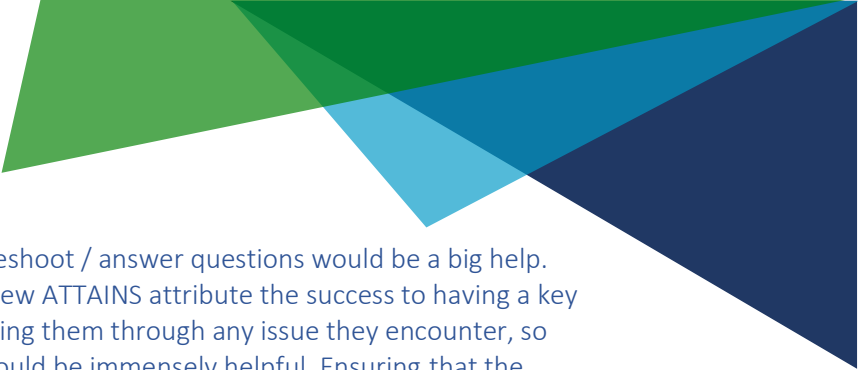
For nutrients, the biggest obstacle is the lack of regulation on the NPS side of the equation. Other than that, some states struggle with translating environmental conditions without numeric nutrient criteria while some are finding the development of those criteria to be a long, drawn out process. Some states are moving forward on nutrients based on narrative criteria, however, for others would benefit from additional discussion of acceptable approaches to establishing TMDLs without having numerical criteria in place.

One highlight / new approach of nutrient related issues was the work out of several states which are working with a new biological integrity index for the algal communities. Use of algal community response is one way in which some states are moving forward on nutrients without established numerical criteria.

9. Are you working with the new ATTAINS? What feedback do you have on your experience so far?

States overall are supportive of the upgrade of the ATTAINS platform and see value in the new design. About half of the states have not had a good experience with migrating to the new platform. For those states, there have been a lot of mistakes and long delays between communications with the contractor. To be sure, regional staff has been a big positive in some circumstances, but overall the issues with data migration and the time it takes to resolve these issues have been difficult hurdles in the states that have had difficulties. There's a sense of frustration with some states that have boiled up to the point of wanting to walk away from it and simply not using it.

At a minimum, it would be useful for EPA to have guidance for new staff (and those who need refreshers) to be able to have a place to start. Having a dedicated line to an ATTAINS person at



EPA (possibly in each Region) who can troubleshoot / answer questions would be a big help. Many states that have had success with the new ATTAINS attribute the success to having a key person at their Region who is essentially walking them through any issue they encounter, so providing that sort of resource to all states would be immensely helpful. Ensuring that the mistakes identified by the states are taken care of before this information is used in any other way, such as in How's My Waterway, is vitally important. Transcribing mistakes from ATTAINS to other areas is a compounding mistake that is completely avoidable.

Specifically, one state complained of the process taking at least a year to get implemented while another doesn't even know where to start. Some states haven't even been involved yet, due to other focus areas, so this frustration may spill over to more states as they start their involvement. Additionally, there are some key features that states have identified for ATTAINS, such as the ability to retrieve data from the platform or create state-specific reports that have not yet been developed and for which it is unclear that they will be developed in the future.

10. What does your program do well? What challenges do you face?


Overwhelmingly, state program managers described their team as having the ability to solve difficult problems with limited resources. While some states may have boasted about advances in communication or efficiency in modeling, all were a result of trying to create successful TMDL projects under less than ideal circumstances.

The challenges were a little more diverse in that states have specific issues that have been difficult to deal with. In addition to the classics (lack of money, lack of staff), the common responses included difficult political environments, inability to communicate effectively with stakeholders, and the sense of the enormity of the job.

Overall, working in the TMDL program requires technical skills and creative problem-solving abilities combined with adaptability and perseverance to navigate shifting tides.

11. What does your program need to meet your 2022 commitments?

Overwhelmingly, the continued support of funding support from EPA and having a regular national meeting was identified again and again. It is impossible to overestimate the impact that the annual workshop has had on building a resilient network of professionals that can help each other. Building a similar network of modeling professionals could reap the same rewards. One state mentioned the idea of assigning a modeling mentor to each state so that decisions could be reviewed quickly instead of at the end of the project. Similarly, states are very appreciative of



project funding provided by EPA. In most cases, the projects that such funding supported would not have happened were it not for that funding.

Given the dynamic circumstances that many of us face, EPA needs to provide the ability to tell the state story, providing context to what can be done against the original goals of the state Vision. It may be useful to provide some level of support in tracking progress of implementation of TMDLs (NPDES and NPS). Some states felt as though there was a lot of pressure to get involved on the changing core measures, while it barely registered with others – that sort of inconsistency probably should raise red flags.

Building the TMDL Academy had some support – with the caveat that it can't be 100% prescriptive and needs to take best professional judgment into consideration. Most states look forward to collaborating with EPA as EPA moves forward in that endeavor, especially those on the lower end of the capacity spectrum due to low staffing / turnover / etc. Some states mentioned that more work needs to be done in coordination / collaboration with agricultural interests and the Bureau of Land Management.

Overall, the network across the country is important to maintain and continue to build. That can be done through the work of groups such as ACWA, ELI and NEIWPCC and with support from EPA. There is a lot of work left to do, but plenty of people working hard on these issues and willing to share with or learn from other states.