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2020 NATIONAL
CWA 303(d) TRAINING WORKSHOP

HINDSIGHT IN 2020

May 26 - 29, 2020

FINAL PROJECT REPORT
&
TRAINING WORKSHOP PROCEEDINGS

ACKNOWLEDGMENTS

Except where specifically noted, the views expressed in the materials prepared and assembled by ELI should not be attributed to U.S. EPA, or to other federal, state, tribal, or territorial agencies, nor should any official endorsement be inferred.

ELI maintains a companion website for this project: our CWA 303(d) Program Resource Center (http://www.eli.org/freshwater-ocean/state-tmdl-program-resource-center).

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I.   INTRODUCTION

From May 26 through 29, 2020, the Environmental Law Institute (ELI) convened the *2020 National CWA 303(d) Training Workshop: Hindsight in 2020*. This event, supported through a cooperative agreement with the U.S. Environmental Protection Agency (EPA), virtually brought together Clean Water Act (CWA) Section 303(d) listing and TMDL officials from all 50 states, the District of Columbia, American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, Puerto Rico, and the U.S. Virgin Islands as well as water quality professionals from the Bishop Paiute Tribe, the Cherokee Nation, the Chickasaw Nation, the Citizen Potawatomi Nation, the Columbia River Inter-Tribal Fish Commission, the Eastern Band of Cherokee Indians, the Fond du Lac Band of Lake Superior Chippewa, the Hoh Tribe, the Iowa Tribe of Oklahoma, the Keweenaw Bay Indian Community, the Kickapoo Nation, the Lac du Flambeau Band of Lake Superior Chippewa, the Lower Elwha Klallam Tribe, the Lummi Nation, the Northwest Indian Fisheries Commission, the Pueblo of Tesuque, the Red Lake Nation, the Shinnecock Indian Nation, the Skokomish Indian Tribe, the Seneca Nation of Indians, the Snoqualmie Tribe, the Saint Regis Mohawk Tribe, the Southern Ute Indian Tribe, the Suquamish Tribe, and the Ute Mountain Ute Tribe. The participants learned and discussed the history of, experiences with, and opportunities for the CWA 303(d) Program Vision. They shared tools, systems, and strategies for communicating water quality information as well as techniques for collaborating across jurisdictional boundaries and with other programs, agencies, and organizations. Through presentations and breakout groups, participants also gained greater personal familiarity with colleagues from other jurisdictions, representatives of EPA Headquarters and the EPA Regions, a representative of the Association of Clean Water Administrators (ACWA), and a representative of NEIWPCC.

As with similar CWA 303(d) events of national scope convened in the spring of most years since 2008, ELI staff intended for this training workshop to provide a forum for program officials to learn about current best practices in listing, TMDL development, and TMDL implementation; to interact with one another; and to share their programmatic ideas and concerns. To ensure a planning process that would culminate in a training workshop attuned to the needs of program implementers in the states, tribes, and territories, ELI staff assembled a Workshop Planning Group (WPG). For six months, the WPG worked through a highly participatory process to develop, shape, and refine the workshop objectives and agenda, the structure and focus of workshop sessions, and the course materials. The WPG was essential in effectively managing the late shift to a virtual format occasioned by the COVID-19 pandemic.

The four-day training workshop was successful by the metrics of sharing useful information, and generating new ideas. Distinct takeaway messages emerged and are identified in Part II of this report. The bulk of the report, Part III, contains detailed summaries of the plenary sessions and brief overviews of the breakout sessions. Appendices to the report include the training workshop agenda, a full compilation of participant evaluations and comments, and information about ELI's companion website.

II. THEMES AND OTHER TAKEAWAYS

From the perspective of ELI staff in attendance, the following are significant themes, points, and observations that emerged over the course of the training workshop. They are not presented in a specific order, nor are they intended to reflect complete agreement among participants.

There is general support for the CWA 303(d) Program Vision and its six goals.

- The Vision has helped the CWA 303(d) Program transition from a focus on the pace of TMDL development to a focus on implementation and achieving the goals of restoring and protecting water quality.

- States particularly appreciate the opportunity that the Vision provides to step back and think critically about their programs, prioritize where to direct their efforts, and select the most appropriate tools to use.

- EPA-state partnership has been central to the value and staying power of the Vision.

States, territories, and tribes should collaborate and share lessons learned.

- Experiences have varied: nearly all the Vision Goals were identified as being an area of strength for some and an area for improvement by others.

- States, territories, and tribes should share experiences and learn from the successes and struggles of others, especially regarding "alternatives" and protection.

The end of the current term of the Vision provides an opportunity

- The EPA and states took a risk with the Vision, rethinking how the program works, and only by revisiting these decisions, employing a variety of tools, and experimenting will the program be able to keep the ball rolling.

- A new Vision should be built on the strengths of the first one while making some improvements and considering additional aspects of the program's work.

- Environmental justice needs to be a continued focus of the program.

- There are many opportunities for productive partnerships between EPA, states, territories, and tribes, with or without TAS. At a minimum, these entities should work together to determine where to devote program energy and effort.

- If state and territorial CWA 303(d) programs and tribal water quality programs are going to make notable progress in water quality, they should try new things.

- An important goal for the current and next Vision is to use available information to tell the story of how the CWA 303(d) Program connects to water quality restoration.

Measuring progress is vital, but metrics should not be a distraction from achieving the goals of the CWA

- Regardless of the form of the next Vision, tracking and measuring progress will be important, and dialogue among states, tribes, territories, and EPA will be critical to developing effective measures.

- Innovative digital tools can be used to track progress and convey it to the public in easy-to-understand formats.

- To the extent possible, the measures should capture all progress, including work done beyond priority areas.

- Whatever the metrics are, the stories are what resonate with the public.

Even with clear goals, evaluating progress can be complicated and requires patience

- The challenge faced by environmental programs is that their goals are generally clear but can be distant, while funding often is short-term.

- An approach to addressing this problem is to: (1) set measurable goals; (2) determine the limiting factors preventing attainment of those goals; (3) develop necessary and sufficient strategies to overcoming those limiting factors; (4) measure interim outcomes of those strategies; (5) measure the extent to which limiting factors are reduced or overcome; and (6) whenever possible, quantify/document achievement of goals.

- Programs often have multiple factors that limit their ability to achieve their objectives. If a limiting factor is not addressed, it can undermine the other good work being done. If that factor is not an area in which the program has experience or is comfortable, one solution is to find partners who can help.

- The conventional measures for evaluating restoration may not work for protection, since restoration progress can be evaluated in terms of improvement of conditions towards a target but, for protection, the starting point and ending point are usually the same. Thus, program staff are managing to prevent or offset future pollution, which requires estimation of what future changes will be and how much pollution will need to be offset.

III. WORKSHOP PROCEEDINGS: SESSION-BY-SESSION DISCUSSION

The following is an overview and detailed discussion of the training workshop, presented session by session. The full training workshop agenda appears in Appendix 1 of this report.

Welcome

Adam Schempp of ELI opened the twelfth *National CWA 303(d) Training Workshop* by acknowledging the unique circumstances surrounding the event. He noted that the opportunities for interaction and informal learning usually provided by the workshop would be different and more limited, but he asked that participants still approach the virtual sessions with the same energy and engagement that they have at the in-person events of past years. Mr. Schempp then welcomed the nearly 400 participants attending, including staff from all 50 states, the District of Columbia, all 5 territories, 22 tribes, 2 intertribal fish commissions, all 10 EPA Regions, EPA Headquarters, ACWA, and NEIWPCC.

Mr. Schempp then thanked EPA for supporting the event and the WPG for their help in putting it together, noting that the members of the WPG were especially helpful in managing the late switch to a virtual workshop. He gave additional thanks to Emma Gildesgame of NEIWPCC and Jasper Hobbs of ACWA for their help in training presenters on the videoconferencing platforms and their help facilitating breakout sessions. He then introduced Jim Havard for his opening remarks.

Jim Havard, Chief of the Watershed Branch of the Office of Wetlands, Oceans, and Watersheds at EPA Headquarters, began by expressing his excitement, each year, for the CWA 303(d) training workshop. He highlighted some of the successes of the meetings, including identifying and addressing challenges, sharing best practices, forging a path for meeting the mission of the program, and developing strong relationships. He noted that building relationships can help programs better achieve their goals.

Mr. Havard then welcomed everyone in attendance, including those from programs other than the CWA 303(d) Program. He said that he missed the opportunity to have an in-person gathering in Shepherdstown, West Virginia, as is usually provided by the workshop, but expressed his confidence that the virtual workshop would nevertheless be successful. He also expressed his hope that all participants and their families were healthy.

Mr. Havard noted that an impressive amount of work had been done in recent months despite the circumstances. He highlighted the submission of 16 impaired waters lists, mostly electronically through ATTAINS, since early March. He added that list submissions include 2020 lists from Alabama, Tennessee, Ohio, Texas, Kansas, South Dakota, Colorado, Wyoming, and Oregon; 8 of which having been approved by EPA. He also acknowledged the efforts of many states to catch up and be on time with list submittals, including those states that are pursuing combined submissions to get back on track. In addition, he also mentioned the submission since early March of approximately 400 TMDLs, 8 "alternatives," and 2 protection plans by 16 states in 8 EPA

Regions. Mr. Havard noted that EPA is continuing to try to meet its 30-day deadline for acting on TMDLs and emphasized the marked improvement in achieving that goal. He said that states had made over 60 percent progress towards putting Vision TMDLs, protection plans, and "alternatives" in place, and that EPA has received priority changes from most states in recent years. He referenced some specific examples of ongoing TMDL projects, including a TMDL on which Ohio is working to address algal growth in Lake Erie and a recently established temperature TMDL for the Columbia and Lower Snake Rivers in EPA Region 10.

Mr. Havard then thanked the WPG for developing an agenda to move the CWA 303(d) Program forward. He explained that an important theme for the workshop was the question of "What's next for the CWA 303(d) Program Vision?" after the current term of the Vision concludes in 2022. He noted that several of the workshop sessions—such as those concerning tools for prioritization and approaches for evaluating progress—are looking to the next Vision, which EPA is in the beginning stages of considering. Mr. Havard stated that he is especially interested in hearing from states, tribes, territories, and EPA Regions regarding what they have in mind for the next Vision cycle, and he explained that there will be breakout sessions later in the workshop to talk about what they like about the Vision and what improvements could be made to it. He thanked ACWA and EPA staff for their work in advancing the conversations around the Vision.

Mr. Havard made some brief observations highlighting program topics and themes relevant to the workshop's agenda and the ongoing Vision process. He stated that the Vision generally will serve the CWA 303(d) Program well where it fosters efficient use of resources in promoting water quality. Mr. Havard then discussed how specific themes included in the Vision would appear at the workshop. He listed engagement as the first theme, stating that it is an important tool for fostering buy-in. He mentioned that states are pursuing a range of approaches to engagement; that ELI, through a cooperative agreement with EPA, is compiling a compendium of communication techniques used by states, tribes, and territories; and that EPA is working on an engagement toolkit. Mr. Havard said that the next theme, environmental justice, would be discussed in a breakout session later that day and needs to be a continued focus of the program's work, as it is important to look at the unique water quality challenges facing minority and low-income communities. He said that the theme of integration is key, particularly in terms of partnerships with organizations that can help achieve on-the-ground results, such as FEMA and NRCS. Mr. Havard noted that EPA sponsored webinars bringing NRCS, agricultural groups, nonpoint source programs, and CWA 303(d) practitioners together. He said that getting sufficiently granular data on NRCS conservation practices is a continuing challenge in some states, but that USDA has taken steps to address stakeholder needs for these data, in particular by making HUC 12-level data available to any requester. However, Mr. Havard went on to say, this aggregated data may not always meet the needs for assessing watershed progress or determining where to conduct effectiveness monitoring. Overall, he said, good progress had been made but more needs to be done to facilitate data integration among CWA 303(d) programs, agriculture programs, sustainability programs, and other programs.

Mr. Havard then turned to the theme of picking the right tool for the job, whether that tool is a TMDL, a protection plan, or an "alternative." He noted that these are case-by-case determinations. He added that it will be important to continue to look at approaches for evaluating and communicating progress, pointing out that there would be a plenary session on the topic the next

afternoon. Mr. Havard said that the registration results indicated a strong interest in implementable TMDLs—one of his favorite topics—and that improved stakeholder and partner buy-in can buttress successful implementation. He observed that the implementable TMDL session was the most popular breakout session of the workshop and that he looked forward to hearing the ideas that would come out of it. Mr. Havard then expressed his excitement regarding tribes' continued integration into the assessment and planning programs under the Clean Water Act. He stated that there were approximately 25 participants from tribes in the workshop, and that there would be a breakout session on state-tribal cooperation on TMDLs and listing. Mr. Havard then turned to the theme of litigation, which he described as a programmatic reality. He noted that there would be a session on litigation on Thursday afternoon of the workshop. He referenced the more than 20 active CWA 303(d) cases against EPA, and that one trend was an increase in suits or NOIs arguing constructive submission of TMDLs for individual waterbodies. Mr. Havard explained that the Ninth Circuit recently had applied the constructive submission doctrine in the Columbia River TMDL matter, and that the decision was not appealed.

Mr. Havard next highlighted the importance of the timeliness of EPA and state actions, both to help bring key tools and information to the public more quickly and to meet program responsibilities. He noted that data integration and GIS-based tools are important in moving the program forward, in gathering data and relaying information at all levels. Mr. Havard said that cooperative federalism is an important theme and would continue to be important in any post-2022 Vision. Finally, he indicated that prioritization would continue to be key to any post-2022 Vision, adding that there would be a session on prioritization later that day.

Mr. Havard concluded with his thanks to those who had helped organize the training workshop and those who would be presenting, adding his sincere hope that the week would be a success.

Mr. Schempp then discussed the structure and organization of the workshop sessions, explaining how the virtual workshop had been set up so as to imitate an in-person workshop as closely as possible, with breakouts and plenaries. He noted that some sessions would be recorded to enable participants in the Pacific Islands to watch, but that, in order to encourage robust and frank discussion, other sessions would not be recorded. To this end, he added, the recordings would be accessible only until the week following the workshop. Mr. Schempp then discussed some of the backstops in place to minimize technical difficulties, but he acknowledged that there likely still would be issues. He asked for participants' patience, understanding, and (should the opportunity arise) assistance. He also recommended that participants use ELI's [website for the training workshop](), which he noted contains most of the presentations and materials from the workshop.

Mr. Schempp then walked through the agenda for the workshop. He first explained the meaning of the workshop subtitle, "Hindsight in 2020," which originally was suggested because the workshop would focus on the collective wisdom gained by participants, particularly with regard to the Vision. He noted that the first session, "Origins and Implementation of the CWA 303(d) Vision," was intended to set the stage regarding the Vision and go beyond the basics discussed on the previous week's ACWA call, which he thanked Jasper Hobbs of ACWA, Jeff Berckes of Iowa, and Rosaura Conde of EPA Headquarters for organizing. He said that the session would highlight the "why" and "how" of the Vision and its implementation to date, which could be valuable in looking past 2022 to the next Vision cycle. Mr. Schempp then explained that the breakout sessions

scheduled for later that afternoon would focus on topics of particular relevance to the Vision and that they were scheduled so as to inform participants' thinking in advance of the next day's Vision breakouts. He apologized for the fact that participation in some of the breakouts was limited in order to keep groups small enough to facilitate meaningful discussion. He noted that "Ways of Evaluating Progress," to be held the next morning, was also intended to inform the Vision breakouts and that the session would start conceptually before narrowing to focus on specific methods of evaluation used by the Nonpoint Source Program and in Minnesota. He expressed his hope that the session would be relevant to everyone and inspire some new ideas. Mr. Schempp then discussed the Vision breakouts. He referred to what Mr. Havard had said about these sessions being an opportunity for participants to express their opinions regarding the Vision, share examples of how it had worked over the last few years, and identify ways to improve the next Vision. He emphasized that these breakouts would be neither the beginning nor the end of the ongoing discussion about the Vision, but rather were an attempt to capitalize on the opportunity afforded by the convening of staff from across the country (now virtually rather than in person). Mr. Schempp then discussed the diversity of topics covered in Thursday's sessions. He observed that all of the day's sessions were structured as breakouts to allow more tailoring of topics to meet the individual needs and interests of participants. He explained that the final session, on Friday, would focus on the Vision and the insights from the Vision breakouts, with a panel of EPA and state staff giving their reactions and talking about next steps.

Mr. Schempp turned to discussing ways to make the most of the virtual workshop format. He asked that participants do their best to be actively involved in the workshop sessions, such as by using the chat feature to submit questions and using their webcams during the GoToMeeting sessions. Mr. Schempp encouraged participants to submit poems to be read during the workshop send-off, explaining that long-standing tradition. Mr. Schempp concluded by noting that one of the best things about the annual workshop is the sense of community it fosters and the opportunities it provides for people to learn from each other, in and outside the sessions. He acknowledged that things would not be the same as they would be at an in-person workshop but encouraged participants to use the technology to capture as much of that value as possible.

Session 1: Origins and Implementation of the CWA 303(d) Vision

Mr. Schempp explained that this session would be a discussion of the ins and outs of the CWA 303(d) Program Vision, its development, adoption, and early implementation and what might be next. He then introduced the panelists.

Tom Stiles, Director of the Bureau of Water at the Kansas Department of Health and Environment, spoke first and gave participants an overview of the history of the Vision. He described the TMDL Program landscape as it stood in 2011: states' consent decrees were ending and TMDL development did not have the urgency it had in the 1990s. Mr. Stiles explained that he was sitting in a hotel lobby with Eric Monschein and John Goodin from EPA Headquarters talking about where they wanted the CWA 303(d) Program to be in 10 years. He said that this evoked for him the memory of President Kennedy saying that he wanted a man on the moon within a decade and made him wonder, "Why can't we do the same thing with TMDLs?"

So, Mr. Stiles explained, they decided to look at 2022 as not just the 50th anniversary of the Clean Water Act but also the conclusion of a first Vision cycle. In crafting this Vision, he said, they thought about how it could help make a difference at a time when states were moving from developing TMDLs under consent decrees to implementing them. He referred to that meeting in the lobby as giving the Vision its first seed and sprinkle of water. Mr. Stiles added that, over the course of the next 18 months, roughly 80 percent of states worked with EPA to hammer out the details of where the TMDL Program needed to go. He referred to this process as "the epitome of cooperative federalism." He noted that the process resulted in the Vision statement late in 2013, calling it a long, run-on statement of purpose touching on what he likes to call themes: prioritization, assessment, protection, "alternatives," engagement, and integration.

Mr. Stiles said that everyone has a favorite theme or element, noting that his is prioritization. He described prioritization as a call to arms for states to take control of their CWA 303(d) lists, which continue to grow at large rates. Mr. Stiles explained that there needed to be a way for states to sift through their CWA 303(d) lists and say, "we're going to focus on this and make a commitment to addressing it over the next 10 years." He noted that Jeff Berckes of Iowa had referred to this realignment as shifting from pace to priorities, or to pace within priorities, adding that prioritization indicates commitment to continue the development of TMDLs.

Mr. Stiles then addressed "alternatives." He said that this element calls to mind the song "Loch Lomond," with its lyrics "Ye'll tak' the high road, and I'll tak' the low road, and I'll be in Scotland a'fore ye," in that "alternatives" are a way of trying to address impairments before you could address them other ways. He noted that embedded within the idea of "alternatives" is the question, "When you do a TMDL, what value are you adding to addressing impairments?" Mr. Stiles said that, since CWA 319 and watershed plans have come to the forefront as viable "alternatives," there may be instances in which a TMDL is not needed. He added that "alternatives" continue to be a powerful tool offering another way of approaching impairments beyond the traditional CWA 303(d) process yielding TMDLs.

Mr. Stiles then highlighted the importance of engagement. He acknowledged that most staff working in the CWA 303(d) Program are introverts, and that is part of the reason why they are working in environmental science. Yet, he added that science alone will not move the needle and that the social sciences must be engaged as well. Mr. Stiles referred to program staff as "agents of behavioral change," in that they are looking for people to change their practices or how they conduct their businesses. To this end, he said, the social sciences—including sociology, psychology, and economics—have to come into play to help staff make inroads and ultimately address impairments. Mr. Stiles relayed that he and Traci Iott of Connecticut had called every state to talk to CWA 303(d) Program staff and ask about their progress on the Vision, and that while they found varying degrees of progress, they found a great commitment to where the program was heading. He described this as the effect of a dandelion seed scattering, where everyone takes root and pushes the program forward. He also said that, when he and Ms. Iott reported their findings back to ACWA, they clearly saw that states are committed to the Vision and taking it seriously but customizing it to what fits their own cultures.

Mr. Stiles explained that this is one of the things that the Vision's developers had hoped to accomplish with it: states taking control of the process to actually improve the nation's water, not

just churning out TMDLs. He referred to this as the state story of what has occurred thus far with the Vision. Mr. Stiles concluded his remarks by mentioning that John Goodin had been "in on the ground floor" and had the challenge of selling the Vision to EPA leadership and the ten EPA Regions.

John Goodin, Director of the Office of Wetlands, Oceans, and Watersheds at EPA Headquarters, began by thanking Mr. Stiles for setting the stage for the discussion of the Vision. He then thanked ELI, Jim Havard and others at EPA, the state representatives, and everyone else who helped organize the workshop. He noted that, as something that had been started over 10 years earlier, the workshop is a highlight for him and he is glad the workshop could continue, especially given the extraordinary challenges presented by the circumstances. He echoed Mr. Schempp's remarks about capturing the feeling of being together at NCTC, saying that he would go outside in the evening, have a campfire, drink a cold beverage, and pretend to listen to people playing the guitar in an attempt to get into the spirit of being at NCTC.

Mr. Goodin then provided what he termed "color commentary" to Mr. Stiles' remarks, specifically pertaining to EPA's involvement in the Vision process. He stated that, to him, the value and staying power of the Vision is due to how it came to be: partnership. Mr. Goodin explained that the formation of the Vision was a partnership between EPA and states, and originally a more personal partnership among a few people interested in getting something done and addressing the fundamental issues existing at the time. He noted that the CWA 303(d) Program was then coming to the end of an era largely characterized by litigation and rote completion of many thousands of TMDLs that, in many cases, states were doing because they were so-called "easy" TMDLs that could be used to increase their numbers.

Mr. Goodin acknowledged that the drivers of pace and of completing TMDLs had run their useful course and that, at early meetings about the Vision in 2011 and 2012, there was talk about how to restate the future of the CWA 303(d) Program. One thing done at the time, he said, was to very visibly get rid of the notion of pace as the key driver. Mr. Goodin noted that he had emphasized this point by starting a session of this workshop with "Pace" written on a flipchart and then tearing off the sheet of paper, crumpling it up, and throwing it to the side. He opined that the underlying blank page was the starting point for the early work on the Vision, referencing the fact that the Vision "wish list" contained over 150 ideas contributed by state and EPA programs across the country. He added that these ideas then were distilled into the themes of the Vision and into specific actions that could drive the Vision forward. However, Mr. Goodin said, "partnership was the word every step of the way." He noted that, when the Vision was finally completed and announced at ACWA and by EPA's Assistant Administrator for Water, EPA and the states were "hand-in-glove" on every major aspect of the Vision. He also mentioned that prioritization was acknowledged to be a joint venture and not something that would be driven unilaterally.

Mr. Goodin also discussed accountability under the Vision. He acknowledged that switching from something easily measured to something far more difficult to measure is never easy. Yet, he noted that the progress being made at the time was difficult to communicate to the public because measurements like "number of TMDLs completed" were not easily connected to waters being cleaned up or pollutants addressed. Mr. Goodin added that there was little support from states on this "numbers completed" type of measurement and that it did not comport with what was captured

in the themes of the Vision. He said that, in order to be authentic and show value, a new way of measuring progress had to be developed—and the watershed area approach emerged to do just that.

Mr. Goodin then turned to individual, state, territorial, regional, and tribal leadership on efforts related to the Vision. He expressed his belief that the willingness of staff to experiment with, capitalize on, and share promising areas of work is a cornerstone of the CWA 303(d) Program's efforts, and something that gives him hope for when program veterans move on. He also mentioned that the idea of continual improvement and experimenting to move the needle is something that has been "injected" into the program and that makes the original folks involved in the Vision optimistic.

Lastly, Mr. Goodin noted that the program had made good progress since the launch of the Vision at the end of 2013 and that there are still a few more years to go to recognize what has been accomplished in 10 years. He said that the work is not over but that the seven years of the Vision so far have shown promise and progress. Mr. Goodin emphasized the importance of thinking about the sustainability of the Vision and about what has worked and what should change, adding that the agenda for the week would help with that. Mr. Goodin closed with a quote variously attributed to many: "Youth is a disease, but it is curable and it passes quickly." He explained that the Vision and those involved with the program—including states, tribes, territories, and EPA—have come into their own over the seven years of the Vision, that they are beyond their youth and now have a chance to apply the lessons learned through experience and continue to improve the program.

Julia Anastasio, Executive Director and General Counsel of the Association of Clean Water Administrators, began by thanking ELI and commending the ELI staff on its conversion of the workshop to a virtual format. She noted that ACWA has been a longstanding partner in these workshops and that ACWA strongly supports the effort put into them because they create a space for program staff to talk.

Ms. Anastasio then discussed implementation of the Vision to date. She said that, as Mr. Stiles had mentioned, he, Traci Iott, Jeff Berckes, and Julian Gonzalez (formerly of ACWA) had spent time talking to state CWA 303(d) programs to get their thoughts on the Vision. She noted that the interviews indicated that state staff overwhelmingly supported the concept of the Vision and appreciated the flexibility provided to them to reflect their priorities and what is actually possible in their respective states considering resources, staffing, and political realities. She said that the Vision also gave states the ability to step back and think critically about their programs and prioritize where to direct their efforts. Ms. Anastasio remarked that, over the years of the Vision, states have made good progress in some areas (such as prioritization and "alternatives") but that in other areas (such as nonpoint sources, climate change, and protection), the ball has not moved very much. In these latter areas, she said, more work is needed to figure out how to advance them before 2022. Ms. Anastasio also mentioned some issues that were not necessarily on the radar during the development of the last Vision, such as modeling. She added that states now feel like they are in the driver's seat in terms of prioritization and that they can focus less on "bean counting" and more on outcomes, that they can be more efficient, and that the Vision has provided an environment where greater collaboration among state programs as well as bringing in more interested stakeholders is possible.

Ms. Anastasio continued to discuss states' views on the Vision. She noted that, when states were interviewed in 2016, the initial impression was that they had more control over the program and that the "shackles" of pace had been removed, though it was recognized that TMDLs still provided the basis or the "why" of states taking action. Under this framework, she continued, prioritization provided a structure for state actions, and the use of "alternatives" enabled states to seize opportunities and keep locals engaged. Ms. Anastasio added that, because of the Vision, the CWA 303(d) Program moved from a focus of setting allocations to one of providing information for implementation. She noted that protection was a growing theme in 2016, but that some states still were not completely confident in how to approach protection or what it entailed. Overall, she said, the program was in a better place in 2016 than it was in 2012.

Ms. Anastasio said that a few years after this, the ACWA Watershed Committee Chair checked back in with all of ACWA's states, again finding overwhelming support for the Vision. She added that this check-in revealed that states really appreciated EPA's efforts to work with states and facilitate states' telling their own stories, but that some states felt that the changes to measures had been made too quickly and not collaboratively, and that the lack of engagement on changing measures meant that some states were losing some of their ability to tell their stories. At this point, she said, most states focus on nutrients, bacteria, or both, with some using narrative criteria and some using numeric criteria. Ms. Anastasio indicated that this scenario may change following the new lake guidance that was recently released and from several states developing statewide TMDLs to address bacteria-related impairments. She added that the Vision helps states focus on the monetary value of a resource, human health issues, etc. as reasons for prioritization. She said that states tend to use the open windows to make changes, to increase consistency with the most recent impaired waters list and adjust priorities to make more realistic commitments. She mentioned one suggestion from ACWA members, to make the open window coincide with the submission of the impaired waters list or to keep the window open for three to six months.

Ms. Anastasio then discussed states' opinions on a few other specific elements of the Vision. She remarked that "alternatives" remain popular, especially in instances where TMDLs might not be the best tool and where stakeholder or cross-program support is present. She noted that ACWA has found that states are hesitant to use an "alternative" if EPA's acceptance of it is uncertain. Ms. Anastasio then mentioned that protection measures may be used the least of all options, but that half of the states indicated an interest in using them more. She added that some states consider other efforts serving similar functions to be protection efforts, including antidegradation policies, Tier 2 designations, tiered aquatic life use, and a rotating basin approach to monitoring. She then made a few suggestions regarding protection, including that EPA leadership develop guidance on what protection entails, clarify associated measures, and minimize the reporting burdens.

Ms. Anastasio turned her attention to partnerships, which she said interviews indicated had not been significantly improved by the Vision, since partnerships predated the Vision and factors influencing partnerships include personalities, personal relationships, and turnover rather than the Vision itself. She noted that partnerships are important, but that the Vision may not be the catalyst for getting them going. With regard to ATTAINS, Ms. Anastasio continued, states are supportive of the upgrade and new design, but many states have not had a great experience with the migration—though they are pleased with the help they have received from regional staff in navigating the hiccups. She added that states would like to see standard operating procedures

developed, so that staff can better understand what is expected, as well as the creation of a dedicated line to ATTAINS staff at EPA Headquarters or within each EPA Region.

Going forward, Ms. Anastasio said, states feel that there are a few actions necessary to reach the commitments of the Vision, including: funding; less EPA and state staff turnover; regular national meetings in addition to the Shepherdstown workshop; continued efforts to improve the ways states are able to tell their stories; and continued collaboration among ELI, NEIWPCC, ACWA, and the TMDL Academy. Ms. Anastasio closed her comments by offering some thoughts on the next iteration of the Vision, which she said should build upon the collaborative process of the 2013 Vision and use ACWA to involve and get input from the states. The specific suggestions she offered (which she noted do not necessarily represent the views of all states) were as follows:

- Greater emphasis on "alternatives"
- Focus on modeling
- Continued if not greater engagement from EPA
- Consideration of how to account for climate issues
- Provision of positive examples that can be used to motivate and involve states that may not have quickly adopted the Vision or its principles

Ms. Anastasio reiterated that the states generally are quite pleased with the Vision process and cooperative federalism and are hoping to continue that relationship in the next Vision cycle.

Dwane Young, Chief of the Water Data Integration Branch at EPA Headquarters, then gave his perspective on progress to date and future challenges regarding the Vision. He explained that, at the beginning of the Vision process, he was just returning to EPA. In what he described as a fortunate occurrence, he had been thinking about how to better track and make use of GIS data from states, and Mr. Goodin had the idea to add that element to the Vision process. Mr. Young noted that this approach could help increase accountability without creating additional burdens. He explained that such was the underlying goal as he and his team put together the information they had and captured information from ATTAINS – for states to develop TMDLs, submit them to EPA, and have everything take care of itself once the TMDLs are entered into the system. He emphasized that the goal gets closer every day, assisted by open window periods and prioritization. He expressed his appreciation for states' work in getting things finalized as well as his hope that the process gets to a point where data entry is seamless and easily tracked.

Mr. Young referred to metrics and measures as where the rubber meets the road for the Vision and expressed his appreciation for what Mr. Goodin and Mr. Havard said earlier. He noted that EPA is close to 60 percent complete in terms of Vision metrics, which are updated monthly based on information from states, and that they are getting closer to having this information automatically available in ATTAINS for states to see their status and see the impacts on this metric as TMDLs are submitted. Mr. Young explained that adjustments had to be made over the past few years to allow for partial credit for TMDLs, which he views as an improvement to the Vision. He added that he is looking forward to future discussion on how to better implement that aspect of the Vision. He also identified electronic reporting as a critical aspect of the Vision and thanked states for their assistance in designing this aspect of ATTAINS. He acknowledged that the transition from legacy data management systems is challenging, but noted that states nevertheless are doing a good job of cleaning up old datasets. He shared his appreciation for this hard work and said that it puts things in a good position for the next phase of the Vision.

Mr. Young closed by expressing his excitement for the week ahead. He said that he was looking to take ideas from participants and use them to develop an implementable tracking mechanism to help report updates to the public and to EPA senior leadership as seamlessly and with as little burden on the states as possible. While not everything had worked out as expected in the past seven years of the Vision, he said, the lessons learned provide an opportunity to work together to improve the Vision and the CWA 303(d) Program.

Before the floor opened for discussion, Mr. Stiles suggested some things for participants to keep in mind as they look towards 2022 and the next Vision. Recognizing that 2022 likely will be a celebration of the 50th anniversary of the Clean Water Act, he expressed his belief that TMDL writers should be "at the banquet table" celebrating along with everyone else because of their contributions—and ability to contribute—to improving water quality. He said that the Vision can be seen as the pathway to doing so. Mr. Stiles then shared three considerations he learned from his experience with the Vision thus far. The first consideration he outlined concerned litigation, or fear thereof, as an impediment to achieving the full potential of the Vision. He noted that this fear has tamped down states' enthusiasm to take risks and explore approaches like adaptive management. He opined that TMDLs are not self-implementing, rather are plans, ideas, concepts, and strategies not worthy of litigation. It is the actions that come afterwards, he continued, that should be subject to litigation. Mr. Stiles expressed his belief that this concern has interfered with states' doing things like setting priorities and pursuing "alternatives" as a rapid path to improving water quality. He said that he thinks the solution to this problem is engagement: engaging environmental advocates early and often, letting them understand the pathways to improving water quality, and encouraging them to be patient. He stated that he cannot help but continue to push forward and take risks, saying that if there is going to be litigation, there is going to be litigation, but that states may as well try new things if they are going to move the needle and take action.

Mr. Stiles then used a slide with Darth Vader saying, "Don't be too proud of this technological terror you've constructed. The ability to [model a catchment] is insignificant next to the power of the [Vision.]" to explain his second consideration. He noted that the slide contained three subliminal messages. The first message was "metrics," which Mr. Stiles said he supported as a means of taking the pulse of programs and conveying that information to leadership. The problem, he said, is that a fixation on metrics can lead to a loss of focus on the Vision and the actual goals of the program. He referred to this as the environmental version of "teaching to the test" and stated that the TMDL Program should not just be about developing and producing items to hit metrics. He identified the second subliminal message as being that science has limits to its ability to persuade, referencing the COVID-19 pandemic as an example of "science being the sun and somebody always being willing to throw shade." Mr. Stiles remarked that he had never seen such a strong reaction to science trying to protect public health and that environmental issues were no different. He reiterated that the social sciences are crucial for persuading the public and helping them understand issues of science. The third subliminal message, Mr. Stiles said, was to recognize and remember that science is inexact. He said that every number produced is surrounded by error bands and that, while science is about trying to get the most precise and accurate numbers one can, error bands still provide the framework on which policymakers will fixate and base their decisions. Mr. Stiles emphasized the importance of always recognizing that, for program staff, it is more important to be successful than to be right. He noted that pursuit of the right number is fine, but

that given the wide variability of environmental data (especially with runoff and chaotic conditions), it is better to be successful and reasonable than to be right. From that point, he continued, engagement skills can be used to be successful.

The third consideration that Mr. Stiles explained, using a slide with a picture of the cast of *Star Trek*, is preparing for the next generation. He asked what attributes are wanted when building a new team. His suggestions included the technical skills of Scotty, the coolheaded logic of Spock, the steely resolve to take risks and support the team of Kirk, and the heart and passion of a McCoy. As one of the old guard about to hand the baton to a new generation, Mr. Stiles said, he hopes that the new generation put forth the next Vision with a "brave heart" (using a slide with a picture of William Wallace yelling "VISION!") and that states own the Vision and use cooperative federalism to make the CWA 303(d) Program relevant and valuable. He closed by noting that he looked forward to seeing what program staff come up with when preparing Vision 2.0.

Mr. Schempp then invited the panel to begin the discussion. Mr. Goodin expressed his appreciation for Mr. Stiles' remarks and pointed out that Mr. Stiles' combination of being both entertaining and thoughtful is a great example of a basis of engagement. He echoed the notion of employing a variety of tools and taking risks and experimenting to work toward success, pointing out that EPA and states took a risk in rethinking how the program works and that it is only by revisiting things that the program will be able to continue progressing. Mr. Goodin described this as a "directed evolution" rather than a revolution and said that it is precisely what is needed. He also explained that thousands of TMDLs are completed a year and, on average, 50 lists every two years, which essentially provides a litigation target on the order of 4,000 actions, especially in recent years where lawsuits have centered on individual listings. He added that there are currently 17 cases that EPA is tracking. While acknowledging that that is too many, Mr. Goodin noted that, when viewed as a percentage of the total number of actions, this number helps to put at least one measure of risk in context.

Mr. Goodin observed that EPA's effort to be accountable by creating a new measure drew the interest of the agency. He noted that the examiner from the Office of Management and Budget was motivated and intrigued by the way that such an approach could handle the diversity of state actions and of what needed to be measured. Even with the latest strategic plan and the EPA Lean Management System (ELMS) process, he continued, this new measure is considered to be the foundational surface water protection measure. Mr. Goodin acknowledged the justified interest in improving the Vision and measure but noted that he found the partnership formed under the Vision to be a great thing that has transcended five EPA Assistant Administrators for Water and two different presidential administrations. He said that this shows that there is something valuable at the core of the Vision, regardless of individual states' politics or interests (though he admitted that this might not be universally held among states).

Mr. Stiles responded to clarify that he does not intend for his comments to be construed as promoting anarchy or as anti-EPA, but rather that they are reflective of the attitudes of those watching the program. He acknowledged that TMDLs and metrics are mandatory under the law but said that there is opportunity to push the envelope in terms of how they are done. He stated that the only problem with metrics is ensuring that they are robust enough to recognize the different varieties of TMDLs and recovery plans that can achieve the same result, sometimes more

efficiently than by running things through the TMDL process. While everything has worked out well, Mr. Stiles said, it is important not to lose focus on what the CWA 303(d) Program aims to accomplish by worrying about what some people think the program should look like.

Ms. Anastasio pointed out that, in general, the program has started to focus on how states can tell their stories. Whatever the metrics are, she continued, the stories are what resonate with the public. She noted that measures focused on TMDLs demonstrate what the issues are within a state, and they help state agencies tell their stories and keep citizens and stakeholders engaged.

Mr. Young added that the whole purpose of metrics is to tell a story, and that it is important that they do that. He also responded to Mr. Goodin's mention of the ELMS process to point out that, without the Vision in place, it would have been difficult to establish the requirements to report monthly and make projections and plans to improve processes. Mr. Young stated that the stretch goal for the next Vision was to think about how to use that information to tell the story and to think about how to tell the story of how the CWA 303(d) Program and TMDLs connect to water quality restoration. He emphasized the many opportunities to think about those issues over the week.

Mr. Schempp then shared a few quotes that had been submitted by a participant. The first was "A river cuts through rock not because of its power but because of its persistence" from Jim Watkins, to which the participant added that program staff need to keep working together as one to restore and protect water quality, and that each state, territory, and tribe can adjust the Vision to their culture. The second quote the participant submitted, from Albert Einstein, was "The best scientists are artists as well," to which the participant added that, in order to keep the interest of the public, ideas must be explained in ways that everyone can understand. Mr. Schempp noted that this point relates to comments that most of the panelists had made, and that collecting, analyzing, and relaying information to the public in a way that people can understand has and will continue to be an important challenge for the program.

Mr. Schempp also relayed a question from a participant, who asked about types of questions from the public and Congress that EPA anticipates needing to answer as the 50th anniversary of the Clean Water Act approaches. Mr. Stiles responded that questions could be answered by pointing to what the CWA 303(d) Program had accomplished despite the deck being stacked against it by the lack of regulatory authority over nonpoint sources and the difficulty of managing water quality given contemporary issues such as runoff and aerial pollutant delivery. He added that there are two more years to show that the needle has moved, and that many times things are achieved on a very technical level, such as waters being moved out of category 5 or 4a. In terms of real environmental improvement, Mr. Stiles continued, it is important for programs to evaluate the status of their waters and think about how they have improved over the decades, for instance, Lake Erie has fish in it and the Cuyahoga River no longer catches fire. He acknowledged that these are easy answers and that more are needed, adding that there are two years left to start collecting them.

Mr. Schempp then read additional comments and questions submitted by participants. One participant remarked that there is substantial turnover in state staff, and that for newer staff, the Vision may seem like a big shift in terms of how things are done. The participant explained that this can make it a challenge for jurisdictions to take the process and make it their own, even though it is what would make the Vision most successful. Another participant asked how tribes fit into the

CWA 303(d) Program Vision, whether any tribe had received CWA 303(d) Treatment in a Similar Manner as States (TAS), and whether tribes' needs would be interpreted differently based on whether a given tribe has TAS or not. Mr. Goodin responded by saying that, when the Vision process began, the thinking was not universally so broad, but that over the years it has been shown that there are lots of opportunities for tribal engagement and for productive partnerships with tribes. He added that there are instances in the Vision itself where opportunities for tribal involvement are specifically noted. At a minimum, he said, tribal governments should help develop priorities, whether by working with EPA or relevant states. Mr. Goodin also explained that tribal engagement is important and that there is much that can be gained by working with tribes, even those without TAS, to determine where to devote program energy and effort. He expressed his hope that in the not-too-distant future there would be a first tribe to go through the TAS process for the CWA 303(d) Program and opined that several tribes across the country may be ready for that.

Key Points Raised:
- States generally are supportive of the Vision, especially of the opportunity it provides to step back and think critically about their programs, prioritize where to direct their efforts, and select the most appropriate tools to use.
- There are two more years to show that the needle has moved under the current term of the Vision.
- The end of the current term of the Vision provides an opportunity to create the next cycle of the Vision, building on the strengths of the first one while making some improvements and considering additional aspects of the program's work.
- Environmental justice needs to be a continued focus of the program's work.
- There are many opportunities for productive partnerships between EPA, states, and tribes, with or without TAS. At a minimum, they should work together to determine where to devote program energy and effort.
- EPA-state partnership has been central to the value and staying power of the Vision.
- The EPA and states took a risk with the Vision, rethinking how the program works, and only by revisiting these decisions, employing a variety of tools, and experimenting will the program be able to keep the ball rolling.
- If state and territorial CWA 303(d) programs and tribal water quality programs are going to make notable progress in water quality, they should try new things.
- An important goal for the current and next Vision is to use available information to tell the story of how the CWA 303(d) Program connects to water quality restoration.
- To the extent possible, the measures should capture all progress, including work done beyond priority areas.
- A fixation on metrics can lead to a loss of focus on the Vision and the actual goals of the program.
- Whatever the metrics are, the stories are what resonate with the public.
- The social sciences are crucial for helping the public understand issues of science.

Session 2: Breakouts

This session consisted of four breakout groups, each focusing on a different topic. Prior to the training workshop, ELI staff, with the help of the WPG, assembled a list of issues and trainings that would meet relatively common needs. Through the registration materials, participants indicated their preferences from among these topics. ELI, again with the help of the WPG, then selected the most popular four topics and developed their respective agendas, including speakers, facilitators, and discussion questions. In order to allow for robust discussion, especially in the "Environmental Justice in the CWA 303(d) Program" and "Communicating Effectively to the Public through Listing/the IR" breakouts, participation was limited to only those participants who would have attended the in-person workshop. In the weeks leading up to the training workshop, ELI staff sought the preferences, from among the four options, of each participant who would have attended the in-person workshop. ELI staff then assigned participants to breakouts according to those expressed preferences. The overarching objectives of this session were to: (1) communicate and advance the thinking on innovative approaches to important aspects of the CWA 303(d) Program; and (2) lay key subject-matter groundwork in advance of the next day's breakout session on the Vision. Presentation slides from breakouts that had presentations can be found here.

- Prioritizing Waters with Improved Approaches
  This breakout provided updates on and lessons learned from various methods of prioritizing waters, with an emphasis on prioritization under the CWA 303(d) Vision. Topics presented include the Recovery Potential Screening tool and SPARROW as well as particular considerations and procedures that states used. Emily Cira of EPA Headquarters moderated the breakout, and presentations were delivered by Andy Somor of Cadmus, Peg Foss of New Hampshire, Ashley Beranek and Kevin Kirsch of Wisconsin, and Chuck Berger of Louisiana.
- Environmental Justice in the CWA 303(d) Program
  This discussion-based breakout focused on identifying means of addressing environmental justice considerations across various CWA 303(d) Program functions. Given the composition of the group, significant discussion centered on tribes. The concept of "meaningful engagement" was discussed in detail, noting the important strategies for engagement that should balance inclusivity and relationship building while avoiding shifting the burden of engagement to communities. The breakout was facilitated by Heidi Henderson of New Mexico and Will Isenberg of Virginia.
- Incorporating 5-alts/"Alternatives" into your CWA 303(d) Program
  This breakout covered the basic components of a 5-alt plan and highlighted best practices and opportunities for integrating 5-alts into state water quality restorations programs. Amy Feingold of EPA Region 4 and Chris Hunter of EPA Headquarters provided the opening presentation and facilitated the question-and-answer period.
- Communicating Effectively to the Public through Listing/the IR
  This discussion-based breakout focused on identifying and discussing strategies for improving the communication of water quality through the Integrated Report, from novel subcategories to visuals and utilizing online resources. Traci Iott of Connecticut facilitated the breakout.

Session 3: Ways of Evaluating Progress

This session featured three presentations, each followed by a question and answer period. The Q&A was facilitated by Amy Feingold of EPA Region 4.

(1) Jared Hardner, Hardner & Gullison Associates: Using Limiting Factors to Overcome the Problem of Long Time Horizons in Evaluation

Mr. Hardner began by noting that, while he is not especially familiar with the CWA 303(d) Program, his framework can be used to evaluate any type of environmental program. He described the framework as intuitively simple, but capable of providing practical discipline that can yield good results in challenging contexts.

The challenge faced by environmental programs, Mr. Hardner continued, is that their goals are generally clear but can be distant, while funding is finite in time and amount. He explained that a typical program may have a five-year funding cycle but goals that might take decades to achieve. So, he asked, how does one measure progress and success in this context? He noted that this is a problem in nearly all of his firm's evaluations.

Mr. Hardner detailed his firm's approach to addressing this problem. The first step, he said, is to lay out all of the factors that would prevent the achievement of the goal. He added that programs generally have three to five such limiting factors, and that over the course of many evaluations in different countries and over many years, the factors generally fall into one of seven categories, several or all of which may affect a given program:
1. Weak or impractical environmental regulations
2. Insufficient enforcement
3. Insufficient funding
4. Insufficient scientific understanding
5. Insufficient institutional capacity
6. Adverse economic forces
7. Insufficient stakeholder coordination

After assessing the limiting factors affecting a program, Mr. Hardner continued, the next step is to develop strategies to address each factor. He noted that this can occur at the outset of a program (what he termed "designing for evaluation") or as a post hoc assessment. To do this, he looks at the necessary and sufficient factors for overcoming each of a program's limitations. Mr. Hardner noted that trouble often begins when a program says that such an action would be more than they can handle or that they would rather focus on what they are good at, because the chain is only as strong as its weakest link: if a limiting factor is not fixed, it will undermine or render useless the other good work being done. He gave as an example a hypothetical program that focuses on improving regulations but has little or no enforcement. In this case, he said, on-the-ground results likely would not change. He mentioned that one way of addressing an issue like this could be to find partners who can help.

Mr. Hardner explained that this approach can help measure progress because each strategy has activities and a process that can be documented and measured. If done correctly, he said, these

activities will lead to the achievement of a measurable interim outcome, which will in turn decrease the degree to which limiting factors prevent a program from achieving its goals. He also added that factors can be ranked in terms of how limiting they are and thus prioritized. Mr. Hardner summarized the steps in this process as: limiting factors → strategy → activity → strategy outcome → change in limiting factor → goal. To put this in terms of the CWA 303(d) Program, he gave as an example a situation in which a limiting factor is a lack of integration across CWA programs. He suggested that a strategy to mitigate this challenge could be to improve cross-program education; an activity to implement this strategy could be coordination events; the strategy outcome would be programs coordinating amongst themselves; the limiting factor would change as integration improved; and the goal achieved would be cleaner water.

Mr. Hardner gave an example of this approach from his own work. He described a project of the Gordon and Betty Moore Foundation aimed at supporting protected areas in the Amazon River basin. Against a backdrop of land conversion and development pressure hitting the basin from multiple directions, he explained, the Gordon and Betty Moore Foundation set a goal of conserving 80 million hectares of forest, a number chosen because it is the estimated minimum forest cover capable of sustaining the hydrological cycle of the Amazon and preventing large-scale ecosystem change. Mr. Hardner said that, to achieve this goal, the Gordon and Betty Moore Foundation made hundreds of millions of dollars of grants to support the establishment and management of indigenous and protected areas, and that as of the last evaluation, 64 million hectares had been effectively established. Over the past 15 years, he explained, progress towards this goal and towards limiting factors (including all of those enumerated earlier) were assessed and the effect of not renewing certain grants had been evaluated. Mr. Hardner noted that this analysis also revealed more specific strengths and weaknesses, such as the fact that indigenous land reserves were vulnerable in Brazil but received more government support in the Andes. He also used this example to highlight the importance of having counterfactuals in evaluations (in this case, estimating deforestation levels without the Gordon and Betty Moore Foundation's interventions).

Mr. Hardner concluded his presentation by recounting the following key concepts:
1. Set measurable goals
2. Determine the limiting factors preventing attainment of those goals
3. Develop necessary and sufficient strategies to overcoming those limiting factors
4. Measure interim outcomes of those strategies
5. Measure the extent to which limiting factors are reduced or overcome
6. Whenever possible, quantify achievement of goals

A participant asked about developing counterfactuals for regulatory programs where no action is not an option. Mr. Hardner responded that, in these cases, programs could look at trends before promulgation of regulation and work with stakeholders to get opinions on how things have been affected by specific regulations, though he acknowledged that both of these approaches are imperfect and lack a control group.

A participant asked how to distinguish between necessary and sufficient strategies and how to identify each. Mr. Hardner answered that an early step in the design process should be to engage

stakeholders who will know what might work and can participate in a dialogue about it. He noted that some things may not work, which will require staff to redesign them and make adjustments. Another participant asked about resources that can aid with limiting factor analysis, especially as related to effective collaboration. Mr. Hardner responded that strategies will be specific to the topic at hand, but recommended using keywords such as "collaboration," "collaborative grantmaking," and "collective design and grant making" to search the philanthropy literature for resources regarding effective collaboration.

A participant asked whether there is a cap to the number of limiting factors that are useful to identify or whether it was possible to identify too many to be able to tackle. Mr. Hardner said that the answer depends on whether one is a "lumper" or a "splitter." He added that most issues can be captured in approximately six factors and that he would try to group things. Ms. Feingold followed that inquiry by asking how long timeframes, such as the one in Mr. Hardner's experience in the Amazon basin, could affect limiting factors. Mr. Hardner answered that, in his experience, it was made easy by the specific factors at hand: with financing, for instance, if there was none available, everything else fails. At that point, he said, every increment of progress could be measured as helping you get closer. While it is the outcome in terms of the goals that really matters, he added, looking at incremental progress in a disciplined way helps practitioners avoid ignoring things that may appear difficult or prohibitively expensive. Mr. Hardner gave as a hypothetical example someone interested in saving the whales who decided to make and sell t-shirts that read "Save the Whales." While this might help raise awareness, he explained, it would not accomplish anything else, and it should not be considered sufficient for achieving the goal of saving the whales. Ms. Feingold said that it was a great point and that, while CWA 303(d) programs may not have the ability or capacity to do everything that is necessary to achieve the broader goal of clean water, it is helpful to keep that ultimate goal in mind and work to make incremental progress without thinking that incremental progress is the ultimate end.

A participant then asked if there is an educational component in strategizing to overcome limiting factors. Mr. Hardner responded that there absolutely is and that, in cases where the framework is not immediately understood, it is worth taking the time to continue working through it and using the initial diagram to try to explain the initial factors and strategies. Another participant asked about strategies to use in cases where the limiting factor is political. Mr. Hardner noted that such is not unusual and that policy is a common limiting factor. While it may not be something that a program is in a position to change, he said, there is always someone who can call for change. He explained that, while certain entities may not be able to engage in lobbying, there are indirect ways to achieve the same ends: publishing the right information, getting information to people who do speak to legislators and policymakers, and helping those people understand the problem better. Ms. Feingold added that this reaffirms the importance of communicating and getting buy-in and support from people outside the program.

The final question concerned quantifying limiting factors in the example given in the presentation. Mr. Hardner explained the different economic forces in different regions of Brazil, which were rated by the evaluators on a scale of 1 to 5, with a short description given for each number. He noted that this information is tested by collecting it at the outset of a project and then again from additional stakeholders to ensure that the initial answers are reflective of others' realities.

(2) Steve Epting, National Nonpoint Source Program, EPA Headquarters: A Dollar? Acre? Pound? of Protection A Day, Keeps the 303(d) List Away: Evaluating Progress Towards Protecting Waters

Mr. Epting began his presentation by noting that the question of how to evaluate progress towards protecting waters when the typical framework for progress supports restoration is a current focus of the Nonpoint Source Program. He added that, as in the CWA 303(d) Program, state nonpoint source programs were primarily focused on restoration, but that EPA Headquarters is working on a report to outline how these programs have incorporated protection.

Mr. Epting explained that his presentation would attempt to answer, or at least to stimulate thinking about, three key questions:

1. What is protection? How is protection defined in the context of water quality programs?
2. What makes tracking protection unique and, in some ways, more challenging than tracking restoration?
3. How are nonpoint source programs approaching and tracking protection work?

Mr. Epting identified the main goal of protection in water quality programs as being to prevent water quality impairment. He further described it as proactive work taken before a problem occurs or a waterbody is placed on an impaired waters list. As a starting point, he continued, the line between protection and restoration could be whether an assessed waterbody is listed as impaired (also considering the surrounding watershed and understanding what current and future conditions are threating water quality). Mr. Epting noted that EPA has produced resources to aid this way of thinking, including a guide outlining a framework for assessing watershed health. He offered some examples of this framework in action: in one case, by highlighting some of the methods and findings of a literature review regarding the effects of landscape conditions on water quality; and in another, by showing the Chesapeake Bay Program's work to set healthy watershed protection goals to maintain good water quality in targeted areas and help meet load reduction targets for an overall TMDL for the Bay. He identified the methods employed by states in targeting and defining healthy waters: some, such as Maryland, Pennsylvania, and West Virginia, use waterbody designations, like Tier 2 and Tier 3 waters, as universes of waters to protect; others, like New York, look at water quality assessment information from a given watershed and set a screening level to identify those that are unimpaired and those that are healthy; still others, like Virginia, use a biotic index to identify healthy waters. Thus, Mr. Epting observed, protection work may draw attention to different watersheds than would be the case if restoration was the goal.

Mr. Epting then shifted to explaining how to evaluate protection efforts. He noted that one of the challenges is that the conventional measures for evaluating restoration may not work for protection, since restoration progress can be evaluated in terms of improvement of conditions towards a target but, for protection, the starting point and ending point are usually the same. Thus, he added, program staff are managing to prevent or offset future pollution. Mr. Epting said that this requires estimation of what future changes will be and how much pollution will need to be offset. He described some of the National Nonpoint Source Program's efforts to that

end, starting with the most recent update to the CWA 319 Program guidelines. The guidelines, he explained, responded to state requests for opportunities to focus on protection by requiring nonpoint source management plans and five-year roadmaps to include protection as a priority and to develop a prioritization framework to target protection efforts. Mr. Epting acknowledged that protection remains a small part of the program overall, with less than four percent of the projects receiving grants in the last five years being focused on protection. He noted that the key question for management is how to effectively target the often-limited resources available for protection, as well as how to track this targeting. He added that, based on the program's review of protection work in the national and state programs, they are learning that most states are early in their development of a protection component for their nonpoint source programs. For this reason, he said, metrics tend to be program-focused, with states committing to building out the frameworks and organizational aspects of their programs. As an example, Mr. Epting described Maine's nonpoint source program, whose 2014 management plan set out a decision tree outlining the process of decision-making used to determine whether waterbodies are placed on the priority list (for either restoration or protection). In short, he explained, the state considers the value of the resource (such as whether it supplies drinking water) as well as threats to water quality such as recent changes in land use.

Mr. Epting noted that about half of state CWA 319 grants support on-the-ground watershed projects, with some states explicitly soliciting protection projects, such as BMP work or land conservation, via their RFP criteria. He listed as an example Arizona's nonpoint source program, which solicits proposals for both restoration projects and what the program calls "watershed preservation grant proposals." In evaluating these proposals, he explained, the program considers three criteria, each of which must be documented by the applicant:
  1. The waterbody is not listed as impaired for the pollutant of concern;
  2. The pollutant/parameter of concern has applicable water quality standards or a measurable target number; and
  3. There is a documentable nonpoint source pollution concern that is imminent and threatening water quality.
Mr. Epting added that, in evaluating proposals, Arizona also puts a strong emphasis on education and outreach, and that outreach on protection projects may be more important because, in the absence of an impairment, communities may not have a rallying point or perceive there to be a problem.

Mr. Epting then discussed ways that protection work is being tracked in single watersheds. At this scale, he said, nonpoint source implementation metrics are geared towards tracking the work that has been done and assessing how far along groups are towards achieving water quality goals. He explained that the watershed plan usually serves as the roadmap. Mr. Epting then showed some examples of how protection work is tracked at this scale, using metrics such as acres of land protected and adoption of protection-based ordinances in jurisdictions. He noted that, for metrics like acres of land protected, it is important to have a sense of the denominator—in this case, to understand how much land needs to be protected. He acknowledged that some states have had difficulty with this and that there are a range of approaches that vary in complexity. In this case, he explained, simpler approaches could entail using land use thresholds from the literature to set a percentage forest cover goal for a

watershed; a more complex approach could incorporate land use projections and water quality modeling to identify the lands most likely to develop and whose development would have the largest impact on water quality. Mr. Epting gave an example of the watershed plan for Lake Charlevoix in Michigan. He explained that the watershed is relatively large—about 330 square miles—and has more than 50 percent natural land cover. When the plan was developed, he continued, there were no water quality impairments, but because local partners were concerned about pollution (primarily nutrients and sediment), the plan was created to proactively manage the watershed. He said that a parcel analysis was conducted to identify the highest-priority land parcels to protect for water quality—based on factors such as slope, proximity to waterbodies, and groundwater recharge—which gave partners a sense of the "denominators" and the 200 highest-priority parcels to measure progress against.

Mr. Epting acknowledged that the program is still refining how to measure progress at the local scale and that the goal is still to demonstrate that the work leads to environmental results. To that end, he said, the relevant metrics may be similar to those being tracked on the restoration side: pounds of pollutant load being prevented, whether BMP work is still being funded in a given watershed, the number of waters with stable or improving water quality, and the number of new nonpoint source-impaired waters in targeted watersheds. Mr. Epting gave an example of the watershed plan for Lake Winnipesaukee in New Hampshire. This lake, he explained, was identified as a high quality water, so the state used a Tier 2 water quality criterion for phosphorus to manage phosphorus loading. When the plan was written, he said, phosphorus levels were low enough to support that criterion, so the plan is a roadmap to maintain the good water quality and keep it meeting that numeric target.

Mr. Epting closed his remarks by reiterating that watershed protection goals and management strategies often will be different than they would be for restoration efforts, but that they can complement each other. He added that protection also may require more wholesale changes in how to approach management, such as partnering more closely with the land conservation community to protect natural lands. Mr. Epting also noted that, given limited resources and that both the CWA 319 and 303(d) Programs are focused on restoration, protection should be targeted in watersheds where there are documented high quality conditions as well as some kind of vulnerability to degradation. Lastly, he said that his program is thinking about how watershed planning might change in the context of protection, and while there will be more to say in the future, it is assured that watershed planning is important in a protection context, including to help set water quality goals and, when possible, to set quantitative endpoints against which to measure.

The first question from a participant was whether protection includes looking just at preventing water quality impairments or also includes maintaining high quality waters. Mr. Epting responded that it depends on how you define protection and that it varies by state, but the Nonpoint Source Program sees a range of approaches as fitting under the nonpoint source guidance. In some cases, he continued, states are prioritizing watersheds and thinking about protection at the watershed scale, whereas others are thinking about individual waterbodies and defining protection as an activity that prevents an impairment along the waterbody. Mr. Epting opined that the conditions of the surrounding watershed are important when developing a framework for protection planning, even when designating "protection priority waters" at a reach scale, and that it is important to

consider conditions at the scale of both the watershed and the waterbody because that will aid in identifying management strategies that will be the most effective.

Another participant asked about protecting listed waters from further degradation and whether this could be incorporated into a CWA 319 restoration plan. Mr. Epting responded that such is the case for a lot of the nonpoint source work done across the country and, for that reason, the watershed planning approach is the most effective way to manage waters that are trending downward and are already impaired. In that sense, he said, there is some protection work being done. He added that, in these cases, the program has developed expertise in how to design watershed plans where restoration is the focus, but because impaired watersheds are not static, more general management for the future that includes both restoration and protection can be helpful.

A participant asked if Mr. Epting was familiar with any specific rules or regulations created by state governments that apply only to very high quality watersheds. He responded that the first thing that came to his mind was the use of Tier 2 or Tier 3 designations in water quality standards, which provide an extra level of protection in terms of the issuance of permits and new discharges. He added that, at the state scale, he has seen coordination with planning departments (to think about ordinances and land use planning) as a tool for protection. He also highlighted partnerships with planning departments to proactively identify areas that are most likely to develop and subsequent work with partners such as land trusts to protect those areas.

Before introducing the next speaker, Ms. Feingold expressed her appreciation for Mr. Epting's mention of discrete and actionable management goals. She suggested that they could function as the interim, bite-sized steps mentioned in Mr. Hardner's earlier presentation.

(3) David Miller, Minnesota Pollution Control Agency: Healthier Watersheds Reporting

Mr. Miller began his presentation by providing some background on the current state of water quality work in Minnesota. In 2006, he said, the state legislature passed the Clean Water Legacy Act, which established goals of assessing waters within a 10-year cycle, developing TMDLs in a timelier manner, implementing restoration activities in a reasonable time, promptly delisting restored waters, and ultimately achieving compliance with the federal Clean Water Act. To help achieve these lofty goals, he continued, voters approved in 2008 the Clean Water Plan and Legacy Amendment, which amended the state constitution to increase the sales tax rate by three-eighths of a percent and split the monies among four funds, one of which is known as the Clean Water Fund. With the support of that fund, Mr. Miller said, the Minnesota Pollution Control Agency (MPCA) adopted a watershed approach to addressing the requirements of the Legacy Act. He explained that, under this approach, MPCA and its partner organizations work on each of the state's major watersheds to evaluate water conditions, establish priorities and goals for improvement, and ultimately take action to restore or protect water quality during ten-year cycles. He added that MPCA is required by the Clean Water Legacy Act to develop watershed restoration and protection strategies, which the agency calls WRAPS reports. However, Mr. Miller noted, the requirement is very open-ended and leaves questions like, "What is progress?" and "What are milestones?" and "What are water quality goals?" He explained that MPCA has worked with stakeholders to develop answers these questions that work for everyone. He added that this work began in 2016 with PDF documents

containing basic measurements of water quality and BMP implementation, as well as wastewater treatment plant loading trends, for individual watersheds for which WRAPS reports had been completed. Since that time, Mr. Miller said, MPCA has developed an online app called Healthier Watersheds.

Mr. Miller then demonstrated the Healthier Watersheds tool. He described the tool as a suite of five Tableau reports (Tableau being the reporting software MPCA uses to query its enterprise database and present information both internally and externally). He noted that it contains much of the same information as the PDFs, but that efforts to further develop and expand the reports are ongoing. Mr. Miller then walked through the reports contained in the tool. The first report shows the status of WRAPS reports, which he explained was chosen as a high-level starting point identifying whether or not a watershed has started the WRAPS process, if its WRAPS report is available for public comment, or if that public comment period has closed. He acknowledged that this is simple but noted that MPCA had received many requests for something like this and that stakeholders use it regularly in their planning processes.

Mr. Miller described the next report, "TMDL status," as much more detailed. On the surface, he said, this report is like a fancy CWA 303(d) list, showing all of the impairments in the state and when TMDLs have been completed or are planned to be completed. He noted that TMDL allocation summaries, where completed, also have been incorporated into this report, which required the building of a database management system containing all of the PDF documents with this information. Mr. Miller showed an example of this use of the report—which also allows users to filter by watershed, legislative district, or specific pollutants—and remarked that it is better at getting information to stakeholders than the spreadsheets that MPCA used in the past.

The third report that Mr. Miller presented, "wastewater treatment plant progress," shows pollutant loading from wastewater treatment plants in the form of a map indicating whether the state's watersheds have TMDL allocations for phosphorus, as well as whether phosphorus is decreasing or increasing for these watersheds. Mr. Miller observed that phosphorus is trending downward in many watersheds. He also noted that the report allows users to see details regarding individual facilities and shows actual loading numbers for phosphorus.

Mr. Miller provided extensive details regarding the fourth report, which shows BMPs implemented by watershed. He noted that this report incorporates information on BMPs collected by both state and federal partners, and that it took significant effort to gather the information and figure out how to store and share it, adding that looking for more sources of information and better ways to be transparent with the data is an ongoing process. Currently, he explained the report allows users to choose a watershed and see a simple summary of BMPs in the database, including concentration of BMPs and a simple count for sub-watersheds. Mr. Miller said that the sources are currently programs from the National Resources Conservation Service (NRCS), Environmental Quality Incentives Program, Conservation Stewardship Program, and easement programs, as well as state programs including the Agricultural Water Quality Certification Program, the Agriculture Best Management Practices Loan Program, the state CWA 319 Program, and the state Board of Water & Soil Resources. So, he explained,

there are thousands of BMPs in the database, which is updated every year, adding that the resource is turning out to be valuable for a number of different uses. He demonstrated the functionality of the report, showing that a user can hover over a sub-watershed to see the number of BMPs, which impairments are present, and which BMPs might influence impairments. Mr. Miller also indicated that the report includes a table with different "groups" of BMPs in WRAPS reports as well as actual practices in the database. He added that this report does a good job of disseminating information that local governments might not have had access to or might have struggled to collect in one place.

The last report that Mr. Miller covered shows spending for implementation projects, using data from all of the sources used in the BMP report as well as funding for Conservation Reserve Program projects. He explained that this report is not meant to audit the use of federal or state funds, but to give a general idea of the degree of implementation. He added that the report allows users to filter by type and funding source, as well as to see more details about projects.

Mr. Miller then explained the reasoning behind the development of the tool, as well as its importance to MPCA. First, he said, MPCA wanted to build a data source for all of this information that continually would be useful and that could be made available to stakeholders. He added that the developers of the tool are always looking for better ways of collecting and storing data and that eventually they will try to make data more readily available and to increase transparency around the effort, including by creating documentation about what has been done to the data and why. Ultimately, Mr. Miller continued, the goal is not just to meet the statutory requirements but to communicate about the work that the state is doing. He noted that many different groups use the information in the tool, including local governments (who use it for annual reporting or other means of sharing information with constituents) and the legislature (which uses it for high-level decision-making). He observed that the tool currently has a lot of data but does not include as much context as it could, and he explained that MPCA hopes to use the tool to tell more of a story to audiences like the legislature in the future. He added that MPCA staff have been very interested in the information and that other national and statewide efforts, such as the Minnesota Nutrient Reduction Strategy, have made use of the data.

Mr. Miller closed by noting that MPCA is currently in the process of updating the data with information from the latest fiscal year and working to add more detail regarding TMDLs and statewide BMP trends. He explained that the long-term objective is to look at the goals in the WRAPS strategies and compare them to the implementation data in the database, as well as to eventually model pollution load reductions from BMPs and compare those against needed reductions.

A participant asked about the program used to develop the reports and what kind of training is required to make use of it. Mr. Miller answered that the program used is Tableau and that it is easier than previous tools MPCA had used, many of which required users to write SQL code. He explained further that many resources are available to help new users and that the software is generally accessible and easy to use once data sources are set up. The same participant followed up to ask about the platform on which the state website is built. Mr. Miller responded by saying that he did not work on the website, but that they set up a public Tableau server and then gave it to the state's web developer to embed on the state website, which he believes is built using Drupal.

Another participant asked about the cost of using Tableau. Mr. Miller explained that the cost depends on the specific agreement and factors such as the size of the organization, but that it is relatively affordable compared to other similar programs. He added that MPCA has an enterprise agreement but that Tableau has switched to a monthly or annual license model, for which he does not know the price.

Other participants asked how the data is entered (batch or individually) and how often it is updated. Mr. Miller explained that the information is updated every year, even though it is only required to be updated every two years. He added that spreadsheets and databases are standardized and then batch loaded into the system where they can be queried with Tableau, noting that this standardization requires a lot of work on the back end. Eventually, he continued, the hope is to have an online form where information can be submitted with minimal formatting. A participant followed up to ask whether external partners can update information; Mr. Miller responded that partners have the opportunity to submit information around the annual updates and that allowing partners such as local governments to submit information themselves is a goal for the future.

Several participants asked questions related to BMPs. The first one asked whether NRCS conservation practice standards were equated with BMPs, even if landowners were not implementing practices to the maximum extent. Mr. Miller answered that NRCS practice standards are used as baselines for BMP practice descriptions and that MPCA has created practice descriptions when these standards are not provided. He added that they do not verify or follow up on implementation, but rather, when grants or loans are issued and a BMP appears on a list of practices, it is entered into the system and assumed to be installed and functioning properly. Another participant asked how BMPs were assigned locations (i.e., whether they are associated with sub-watersheds or assigned specific locations to tie directly to impaired waters within a watershed). Mr. Miller responded that state-funded BMPs are given geolocations and can be used for more detailed analysis but that federally funded BMPs only have HUC12 locations, primarily for privacy reasons. He also noted that the state Board of Water & Soil Resources has a data portal called the Minnesota Geospatial Commons where relevant information is publicly available.

Another participant asked whether there had been any effort to incorporate tribal water quality data collected with federal funds. Mr. Miller responded that there had been an effort to incorporate tribal land boundaries into the basemap and that implementation in those areas would be shown in a future version of the tool that can incorporate submissions from other organizations. Yet another participant asked about Minnesota's process for submitting the Integrated Report to EPA and whether this tool can assist with that process. Mr. Miller answered that much of the same information is submitted, but that the state's tracking system for ATTAINS is separate from this tool.

Ms. Feingold closed the session by mentioning that many participants had commented to say that they were impressed with the online tool and the clarity with which it displayed the data. She then thanked the speakers for bringing their perspectives to the question of how to measure progress towards improving water quality. Finally, she read a quote from TS Eliot—"We had the experience but missed the meaning"—to convey the importance of bringing back meaning in how the work done by the program is evaluated and conveyed.

Key Points Raised:
- The challenge faced by environmental programs is that their goals are generally clear but can be distant, while funding often is short-term.
- An approach to addressing this problem is to: (1) set measurable goals; (2) determine the limiting factors preventing attainment of those goals; (3) develop necessary and sufficient strategies to overcoming those limiting factors; (4) measure interim outcomes of those strategies; (5) measure the extent to which limiting factors are reduced or overcome; and (6) whenever possible, quantify achievement of goals.
- Programs often have multiple factors that limit their ability to achieve their objectives. If a limiting factor is not fixed, it will undermine or render useless the other good work being done. If that factor is not an area in which the program has experience or is comfortable, one solution is to find partners who can help.
- The conventional measures for evaluating restoration may not work for protection, since restoration progress can be evaluated in terms of improvement of conditions towards a target but, for protection, the starting point and ending point are usually the same. Thus, program staff are managing to prevent or offset future pollution, which requires estimation of what future changes will be and how much pollution will need to be offset.
- Most states are early in their development of a protection component for their nonpoint source programs, so metrics tend to be program-focused, with states committing to building out the frameworks and organizational aspects of their programs.
- At the watershed scale, nonpoint source implementation metrics are geared towards tracking the work that has been done, such as acres of land protected and adoption of protection-based ordinances in jurisdictions, and assessing how far along groups are towards achieving water quality goals.
- Given the limited resources and that both the CWA 319 and 303(d) Programs are focused on restoration, protection should be targeted in watersheds where there are documented high quality conditions as well as some kind of vulnerability to degradation.
- Innovative digital tools can be used to track progress and convey it to the public in easy-to-understand formats.
- Ultimately, the goal is not just to meet the statutory requirements but to communicate about the work that the state is doing.

Session 4: Vision Breakouts

This session consisted of seven breakout groups, each focused on the same topic: identify ways in which the CWA 303(d) Program Vision could be improved to better support the diverse circumstances, needs, and values of states, territories, and tribes while setting a country-wide course for the program. In order to allow for robust discussion, participation was limited to only those participants who would have attended the in-person workshop. ELI staff assigned those participants to breakouts in a manner that maximized the diversity of perspectives, including size of the program, type and geographic location of the jurisdiction, duration of experience of the individual, and the individual's past and present program affiliations. Each breakout group was led by a pre-appointed facilitator, with technical support and a note-taker. The organized notes from the seven breakout groups served as the substantive foundation for the report-back portion of Session 7.

Session 5: Concurrent Trainings I

This session consisted of five trainings, each focusing on a different topic. ELI staff selected the topics based on responses in the registration materials and then, with the help of the WPG, developed the respective agendas, including speakers, facilitators, and discussion questions. Participants were assigned to a training based on their respective preferences, expressed in the weeks prior to the training workshop. Presentation slides and materials from each concurrent training that had them can be found here.

- Implementable TMDLs: An Exercise in What Makes a TMDL Useful to Its Users
  This breakout explored the use of information in TMDLs from the perspective of user groups engaged in implementation: identifying potential user groups for a TMDL, discussing specific characteristics of a TMDL that are important to those users, and sharing best practices that can be applied to bolster their utility. Emma Gildesgame of NEIWPCC and Dylan Laird of EPA Headquarters facilitated the discussion, and Kristy Fortman of Montana presented an example.
- Assessment Methods for Aquatic Life Use
  This breakout provided an overview of various tools to assess aquatic life use, including Ohio's tiered biological benchmarks, the Biological Condition Gradient, Pennsylvania's semi-wadeable macroinvertebrate multimetric index, and eDNA. Bill Richardson of EPA Region 3 moderated the breakout, and presentations were delivered by Sarah Becker of Ohio, Susan Jackson of EPA Headquarters, Dustin Shull of Pennsylvania, and Amy Bergdale of EPA Region 3.
- Communication Tools
  This breakout provided overviews of two in-progress communications efforts, the CWA 303(d) Communications Toolbox and the Communications Compendium. It also provided examples from three states of using different media, including videos, websites, Story Maps, and social media, to engage and educate stakeholders and the public. Sara Schwartz of EPA Headquarters moderated the breakout and presented on the CWA 303(d) Communications Toolbox. Adam Schempp of ELI, Jeff Berckes of Iowa, Lara Panayotoff of Kentucky, and Traci Iott of Connecticut also delivered presentations.
- ATTAINS for the Casual User
  This ATTAINS training focused on how to find data in the ATTAINS user interface and how to get data out of ATTAINS using reports. It covered the Assessment cycle promotion process and when data become visible to the public, in addition to the types of ATTAINS data that are used in How's My Waterway, when those components become available in How's My Waterway, and how data go from ATTAINS to How's My Waterway. The training was facilitated by Cynthia Johnson of EPA Headquarters and delivered by Jesse Boorman-Padgett, Wendy Reid, and Kiki Schneider of EPA Headquarters.
- ATTAINS Secret Sauce Training—Tips and Tricks
  This ATTAINS training was designed for users who are responsible for entering and/or reviewing data in ATTAINS. It covered various tips and tricks for navigating ATTAINS, dealing with common problems, and generally making the life of an ATTAINS user a little easier. It also highlighted how data go from

ATTAINS to How's My Waterway, to help trainees understand how their data will appear to the public. The training was facilitated by Miranda Chien-Hale of EPA Headquarters and delivered by Laura Shumway and Dwane Young of EPA Headquarters and Megan Tulloch of RTI.

Session 6: Concurrent Trainings II

This session consisted of six trainings, each focusing on a different topic. ELI staff selected the topics based on responses in the registration materials and then, with the help of the WPG, developed the respective agendas, including speakers, facilitators, and discussion questions. Participants were assigned to a training based on their respective preferences, expressed in the weeks prior to the training workshop. Presentation slides and materials from each concurrent training that had them can be found here.

- Permitting and the CWA 303(d) Program
    This breakout covered a variety of examples of effective communication and coordination between CWA 303(d) and permitting programs, shared by staff from both programs in Florida and Kansas. From Florida, Greg DeAngelo and Erin Rasnake of the Florida Department of Environmental Protection presented. From Kansas, Michelle Probasco and Tom Stiles of the Kansas Department of Health and Environment and Trevor Flynn of the City of Lawrence presented.
- CWA 303(d) List and TMDL Litigation
    This breakout summarized recent and pending federal TMDL and listing litigation and the potential impacts of recent decisions. Jim Curtin, Tom Glazer, Steve Sweeney, and Alec Mullee of the EPA Headquarters Office of General Counsel delivered the presentation.
- Hydrologic Alterations and Water Quality: Opportunities and Challenges
    This breakout explored expanding opportunities to improve water quality by restoring natural infrastructure under Clean Water Act programs and envisioned under the new America's Water Infrastructure Act, including how to address temperature, dissolved oxygen, salinity, sediment, nutrients, and other water quality problems where hydrologic alteration is the underlying cause. Amy Feingold of EPA Region 4 moderated the breakout, and Lisa Perras Gordon of EPA Region 4 and Kevin O'Donnell of Florida delivered presentations.
- State-Tribal Partnerships on TMDLs and Impaired Waters Listing
    This breakout provided examples of communication and collaboration between tribes and states regarding the listing of waters as impaired, development of TMDLs, and implementation of restoration efforts, and the lessons learned from those experiences. Dylan Laird of EPA Headquarters moderated the breakout, and presentations were delivered by BryAnna Vaughan of the Bishop Paiute Tribe, Ed Hancock and Cindy Wise of the California Regional Water Quality Control Board (Lahontan), and Christina Staten of Montana.
- Modeling Showcase
    This breakout provided many examples of interesting and unique uses of water quality models in TMDLs and assessments, giving participants a wide range of

modeling ideas to help solve water quality problems. Jason Gildea of EPA Region 8 and Jasper Hobbs of ACWA moderated the breakout, and presentations were delivered by Ben Cope of EPA Region 10, Jim Hallmark of Iowa, Ansel Bubel of Florida, William Howard George of Montana, Ryan Shoginaga of Oregon, Nicholas von Stackelberg of Utah, and John Davis of EPA Region 4.

- The Water Quality Portal

  This training included an overview of the systems of the Water Quality Portal and how data are published, followed by hands-on training on how to retrieve and use data from the Portal. The training concluded with example products (developed and in development) that support water quality data users and the Portal's connection to How's My Waterway 2.0. The training was facilitated by Cynthia Johnson of EPA Headquarters and delivered by Laura Shumway and Jesse Boorman-Padgett of EPA Headquarters and Jason Jones of Arizona.

Session 7: Report-Back and Discussion of Vision Analysis

Mr. Schempp began the final session with an overview of its objective: to summarize the collective experience of the group of participants with the Vision Goals and to highlight ideas for a post-2022 Vision. He explained that the session would start with a quick synopsis of the information collected from Wednesday's Vision Breakouts, with the intention of providing a robust foundation for comments and suggestions for the remainder of the hour-and-a-half period, including from the panel of Traci Iott of Connecticut, Dave Werbach of EPA Region 5, and Jim Havard of EPA Headquarters. Mr. Schempp encouraged participants to provide their reactions, comment with additional ideas, and ask questions. He noted that Wednesday's Vision Breakouts had been attended by staff from almost every state, the District of Columbia, half of the territories, five tribes, a tribal fish commission, EPA Headquarters, and all 10 EPA Regions, and that the summaries from each breakout totaled 20 pages. He clarified that the synopsis he was about to provide does not contain consensus statements or universal truths; rather, it is a collection of individual experiences and ideas expressed in the breakouts.

Mr. Schempp started with a few overarching concepts and ideas. First, he said, participants noted the stability of the Vision and the value of maintaining that. Second, he continued, a particularly influential aspect of the Vision appears to have been its encouragement to think strategically about the implementation of TMDLs and other plans, and ultimately the restoration of water quality. Mr. Schempp added that implementation is not emphasized in the Vision to the extent that it is an objective of the work of the CWA 303(d) Program. Third, he explained that participants saw flexibility as critical to the success of a Vision, including choosing the priorities important to that jurisdiction, the opportunity to revise those priorities through periodic corrections, and the ability to choose the right tool (whether a TMDL, "alternative," or protection) to address the issue at hand. Fourth, Mr. Schempp highlighted the expressed need for greater clarity and consistency in the language used to talk about the Vision, so as to improve communication about program experiences and explain the value and focus of the program to others. Fifth, he added, is an appreciation for accountability and measuring progress but a desire for improved communication about expectations, tracking success, and how programs are being evaluated. He noted that this could include more clarity from EPA on how measures are used to, for example, promote the

program to OMB, as well as more clarity from states and territories about accountability to the public and managers.

Mr. Schempp added that he was personally struck by the fact that, for nearly all the Vision Goals, at least one participant noted it as an area where their program could improve, and at least one other noted it as something that they do well. He said that each goal still seems to be relevant, in at least some jurisdictions, but what needs to be done within each broad category might be different than was needed when the Vision was created. Mr. Schempp referenced an analogy suggested by Mr. Berckes, where the Vision is a house whose structure is sound but that might require some remodeling. Given the apparent comfort with the six Vision Goals, Mr. Schempp summarized the other points captured during Wednesday's Vision Breakouts under the headings of the respective goals, highlighting both positive experiences and opportunities for improvement.

Prioritization: Overall, participants indicated that prioritization was a good way to provide a framework, strategy, and process to follow; for some jurisdictions, it also has provided a tool to guide restoration activities from one administration to the next. Participants noted that prioritization allows programs to focus their efforts on fewer locations, pursuing quality over quantity; it also enables flexibility, encourages long-term planning, helps establish a process for collaboration, aids engagement, and prompts dialogue. Many participants emphasized the importance of continuing opportunities to periodically adjust priorities. Some participants explained that their next prioritization planning process would include more engagement, both with other programs and with outside stakeholders.

Assessment: Participants emphasized the value of ensuring that TMDL monitoring and assessment needs are communicated and addressed in initial monitoring efforts. They also highlighted the importance of ensuring that, when modeling is done externally, government staff are trained to understand and incorporate modeling concepts and review the models, and that there is ample documentation on methods and data use. Some participants noted that the loss of staff can create problems when the modeling is done internally or externally. Opportunities for improving assessment that were raised in the breakouts included using goals to tell stories in ways that everyone can understand and to "bridge the gap" between long-term goals and progress being made on the ground. Participants also noted the importance of collaborating on more than just the collection of data for impairment assessment or environmental conditions generally, but also for assessing program activities, program effectiveness, project effectiveness, and more. Participants suggested adding more emphasis and support in the Vision for CWA 303(d) coordination with the monitoring program.

Engagement: Participants observed that engagement is most successful when done early and often throughout the entire process – standards, monitoring, assessment, TMDLs, nonpoint source, and permitting – and that it works well when other groups, such as universities, agricultural extension services, and watershed groups, can serve as intermediaries. Identified opportunities to improve engagement include providing tools, methods, and strategies that help communicate with different communities, such as tailoring different documents to different audiences. Participants also noted that EPA and states should be educated on tribal entities and hold a place in the work of the program for tribes, regardless of TAS status.

Integration: Overall, participants reported that programs are doing well with integration, especially where other CWA programs are housed in the same location or under one umbrella program, such as a water quality division. They also noted that continued efforts are needed with not only other CWA programs but also other agencies, both at the federal level and within states, territories, and tribes. Identified opportunities to improve integration include aligning commitment processes under CWA 319 and CWA 303(d), better communicating the importance of TMDLs to other agencies such as land use agencies, and exploring the use of water quality management plans and the continued planning processes as means of supporting integration.

"Alternatives": Participants from some jurisdictions have found "alternatives" to be a helpful option and a good way to get support from stakeholders in cases where a TMDL would not be viewed favorably. Participants from other jurisdictions are unclear of the benefits or purpose of "alternatives" and what a good "alternative" would look like. Identified opportunities for improvement include increased consistency across regions in terms of what acceptable "alternatives" look like, as well as procedural and messaging improvements at other levels of government. Some participants recommended development of online repositories of "alternative" plans, to provide insight into different aspects of or approaches to "alternatives."

Protection: Participants generally recognized the value of protection and appreciated the flexibility to focus resources of those efforts, but the development of protection plans was viewed to still be at a relatively early stage. An identified opportunity to improve protection was clarifying the EPA's expectations and the variety of options available as well as better sharing the approaches and lessons learned from those jurisdictions that are further along in the process.

Mr. Schempp then invited the panelists to provide their reactions and perspectives.

Traci Iott, Connecticut Department of Energy and Environmental Protection, began by expressing her appreciation for the work of other states and all levels of EPA, opining that the opportunity to reevaluate—and modify, within the confines of the law—a program as large and significant as the CWA 303(d) Program is of great value to states, as evidenced by state participation in the Vision process. Ms. Iott added that it is a big challenge for EPA because it is easier to review and oversee the program if every state is doing the same thing, but that the flexibility being afforded to states is a gift. She also expressed her excitement over seeing new staff begin to learn about and embrace the Vision.

Ms. Iott reiterated Mr. Schempp's point that the general framework for the Vision is a good one. She noted that she was struck by the concept of thinking of the Vision as an "a la carte menu" from which jurisdictions can select different components to emphasize and pointed out that this related to Mr. Schempp's point about different jurisdictions feeling positive about different elements of the Vision. Ms. Iott said that she thinks states need some "tech transfer" and discussion among programs that have worked within different areas of the Vision to help share experiences and lessons learned. One thing that all states have really embraced, she explained, is the prioritization process. She added that it is a really big deal from a programmatic perspective, and that it is impressive that all 50 states have submitted priorities to EPA. She said that the opportunity for

programs to work with each other will help them move forward faster, and that it seems like the current framework within the Vision offers that. However, Ms. Iott continued, the house analogy is an apt one in that there are elements of the Vision that could be improved. She mentioned that many conversations in the breakouts had centered on assessment, in terms of both how to assess waterbodies and how to assess programs and effectiveness, and that this is an area for improvement.

Ms. Iott added that, when attending national CWA 303(d) Program meetings, she is always struck by the fantastic things that programs around the country are doing. She said that this impression causes her to try to continue to facilitate conversations and knowledge sharing among states. Ms. Iott asked participants to think about their respective contributions and ability to help the program move forward. Even the many new staff members participating in the workshop, she noted, can bring fresh eyes and great ideas.

Ms. Iott concluded her remarks by restating her belief that the Vision has provided an important opportunity for states to step up and take ownership of the CWA 303(d) Program, do what is best for their own situation, and work with federal partners and other programs. She also reiterated that most of the discussion concerned how to improve the Vision and that participants were not interested in reinventing it wholesale. While much of the knowledge transfer will be among states, she added, states are looking for feedback from EPA in the form of "guidelines as opposed to guidance" so that states can understand what is required for submittals and proposals while maintaining their own flexibility. Lastly, Ms. Iott thanked EPA for providing the opportunity to work within the Vision and expressed her enthusiasm for continuing the process alongside state, tribal, and territorial partners.

Dave Werbach, EPA Region 5, began by acknowledging that he was initially somewhat pessimistic about the Vision and whether it would evolve to make sense. However, he said, he has been extremely happy with how well things have gone, that the Vision process has done many good things, and that states, EPA Regions, and EPA Headquarters all have bought in and helped the process positively impact programs. Mr. Werbach opined that the most important part of the Vision has been the long-term planning, noting that, before the Vision, he heard from many states that they had not considered what to do beyond the next year or two and that states often were late in meeting the two-year schedule on lists. The long-term schedules, he explained, have encouraged states to plan out and think about what to do three, four, and five years down the road, and to begin longer-term processes, like setting up financing and monitoring, necessary for development of large and complex TMDLs. Mr. Werbach identified as a significant benefit of the Vision the reality that programs now can work on more complicated TMDLs because they can balance out a year with few or zero TMDLs across two or three years. Before the Vision, he added, states may have been churning out 50 TMDLs a year to get credit and meet the numbers required, but these TMDLs may not have been what was most needed.

Mr. Werbach then relayed some messages and points he had heard from states in his region and others during the workshop. He said that TMDLs, "alternatives," and protection are all tools and that whether or not to use each tool is each program's choice. Echoing the remarks of Ms. Iott, he added that each state is putting their own spin on the Vision, and that it is impossible to compare across states because each state has its own approach and context. Instead, Mr. Werbach continued,

it is important for each state to meet its own needs, and programs should not feel pressure to use "alternatives" or protection strategies (though, he noted, TMDLs are mandatory). When states are ready to make use of these tools, he added, EPA is there to help. He also noted that interest in "alternatives" has been increasing in Region 5 and that he hopes it will continue. Mr. Werbach mentioned that the meaning of "commitment" has been another increasing common point of discussion over the prior few years. He said that EPA views "commitment" to refer to states' promises to accomplish certain things by a given date, whereas many states view it as objectives that they hope and plan to get done, but budgets and administrations change, crises arise, and staff leave. Mr. Werbach noted that, in the future, it will be important to consider how to track and measure commitments and that, while states should not under-commit and "game the system," nor should they over-commit and be left on the hook for things they cannot accomplish. He added that program staff now have a better understanding of the implications of the Vision and that everyone is getting closer to being on the same page, especially regarding the importance of flexibility.

Mr. Werbach cautioned that measures should not be tied too closely to the Vision, as measures are a program issue not inherently a part of the Vision. He noted that, while everyone hates "bean counting," it is important to demonstrate that the money being spent and work being done are having positive environmental impacts, so it is important to figure out how to measure and track that impact. Whatever you call it, Mr. Werbach continued, it will be there, and as the next Vision will probably include measures, it is important to be prepared to have to measure something and to determine what that will be. Mr. Werbach concluded his remarks by opining that what often is lost in these discussions is the importance of continuing to make progress, such as by completing more and better TMDLs, "alternatives," and protection work. The ultimate goal, he said, is for the Vision to help drive the CWA 303(d) Program forward.

Jim Havard, EPA Headquarters, began by thanking Mr. Werbach, Ms. Iott, and Mr. Schempp for their remarks, and Ms. Conde and Ms. Feingold for their help in preparing the Vision Breakouts synopsis. He then spoke to some of the overarching themes touched upon by the previous presenters. He expressed his appreciation for the general interest in maintaining the stability provided by the Vision, its support for the work of the program (including listings and TMDLs), and the importance of flexibility. Mr. Havard explained that the Vision Goals allow an "umbrella" of ways to work on common themes in pursuit of the mission of protection and restoration of water quality: prioritization allows the program to pursue what matters most to states and the public; assessment allows the program to learn about progress and adaptively manage; integration and engagement allow the program to find strategies and synergies working with other programs and organizations to achieve results; "alternatives" allow the program to, in some cases, use the best tool to achieve results; and protection allows the program to move beyond restoration in cases where the investment is worth it.

Another key message from the workshop, Mr. Havard said, was about implementation. He noted that much of what was discussed regarding the Vision is aimed at helping make implementation more successful. He highlighted the importance of focusing on implementation in the development of the next Vision. Mr. Havard also said that messaging is important at all scales: locally, within states and tribes, and nationally. Evaluating progress and being accountable, he added, are messaging for the program as a whole at the national level; the stories that people in the program tell shape how the program is perceived and the opportunities it has. He noted that the program

continues to have a role in telling this story and that it is important to keep it in mind and be accountable to the public.

Mr. Havard then commented on the input of workshop participants regarding specific Vision Goals. He noted that prioritization is still the lynchpin of the Vision and that it is important to integrate as priorities are set because other water programs may have their own agendas and planning processes. Integration and discussing prioritization with the public, Mr. Havard continued, is also key to successful messaging. He noted that the long-term planning mentioned by Mr. Werbach will continue but opined that there must be opportunities for in-course corrections on priorities as states continue to work on their plans. Regarding assessment, Mr. Havard highlighted the importance of thinking about impairment status but also approaches to evaluating progress and evaluating the techniques used to address water quality, as well as how well they are working. He added that assessment helps programs tell their stories, as they implement the program and work with other entities.

Regarding engagement, Mr. Havard mentioned that there was much discussion about the importance of buy-in and understanding and how the public can help shape the approaches taken by the program. He noted that EPA is working with states and ELI on a compendium of approaches to engagement and on a communications toolbox. He referenced the emphasis, especially in the session on environmental justice, on the point that engagement is hard work on all sides, including for staff who are presenting and trying to get input from the public; still that work is important to communities and thus important to the program. Engagement is important both locally and nationally, he said, in terms of telling the story of the program and building enthusiasm for its work. Mr. Havard described integration as a key to restoring and protecting water quality and said that integrating with other programs can inform the tools available to get the job done. He emphasized the importance of working with agricultural stakeholders—such as NRCS and USDA—at all levels, as well as with FEMA and other stakeholders working in the area of sustainability. Mr. Havard separately mentioned tribes, noting that work with tribes involves engagement as well as integration and that it is important to figure out how tribes best fit into implementing the program moving forward, even where they do not have CWA 303(d) TAS. He expressed his hope that this work would continue and that there would be good examples of tribes getting TAS approval in the near future, but he acknowledged that not all tribes will be able to do so and that there must be opportunities for integration with them all the same. He alluded to the workshop session on state–tribal integration and its examples of states and tribes working together, with EPA in the loop, adding that these partnerships had been done in a way that respected tribal jurisdiction and policy.

Mr. Havard referred to "alternatives" as being about "picking the right tool for the job." He reiterated that, where waters are listed on the impaired waters list, TMDLs are required, but where impairments can be removed through alternative means, "alternatives" can be an important approach. He emphasized that both TMDLs and "alternatives" include the "math"—determination of what the loads must be to achieve the desired water quality—and the "path"—the implementation approach that will get to the desired water quality. Mr. Havard clarified that "alternatives" are not just about implementation and TMDLs just about the math; rather that both are about both. Turning to protection, Mr. Havard said that there is continued interest and that EPA has worked with ELI to develop a protection compendium. As part of this process, he added, EPA

has developed a draft FAQs of protection, which has been sent to all states and which can be viewed online.

Mr. Havard then talked about the process moving forward for the CWA 303(d) Program Vision. He reiterated that contemplation of the next Vision is only in its beginning phases and said it is very important to continue to build relationships in the spirit of partnership and collaboration. He noted that ACWA has done a very good job setting up discussions about the next Vision and stated that EPA looks forward to continuing those conversations. He also mentioned that EPA has been discussing next steps internally and that there is an EPA workgroup developing next steps for the Vision. Mr. Havard expressed his appreciation for the input provided during the workshop by state, tribal, territorial, and EPA participants and his enthusiasm for the next two years of prioritization under the current Vision. He closed by noting that this is an exciting time for the program, adding that he feels a lot of cohesiveness regarding the main ideas of the Vision and appreciates the ideas for improving it.

Mr. Schempp then relayed questions and comments from participants to the panelists. The first comment reiterated the point made by Mr. Werbach that something would need to be measured, adding that this was not necessarily considered in the development of the first Vision and that the current measures may not fit perfectly. Another participant asked whether there had been any discussion about giving states "credit" for the development of "alternatives" or protection plans. Ms. Iott responded to that question by noting that Connecticut had identified various waters as receiving TMDLs, receiving "alternatives," or being protected, and that because all of them were included on the list of commitments submitted to EPA for 2022 (as part of WQ 27.5), the state expected that they would be counted towards the percentage of waters for which Connecticut has plans in place. Mr. Werbach confirmed that this was the case. Mr. Havard added that many such "alternatives" and protection plans had been credited across the country and that FAQs regarding the Vision that are available on the Vision website discuss at length measures under the Vision.

Another participant asked whether TMDLs had "shelf lives" and, if so, how long they are good for, citing watershed-based plans for comparison. Ms. Iott responded that TMDLs are, if not eternal, still in effect after the water quality targets they aim to support have been achieved. Thus, she explained, they do not sunset or expire, though they may be revised. Mr. Werbach seconded this answer.

A participant echoed Ms. Iott's earlier point about states needing guidelines rather than guidance. The participant added that, in the Vision breakout, participants emphasized how helpful these guidelines could be for long-term planning (e.g., by providing certainty regarding scheduling of open windows so that programs do not have to rush once they are announced). The participant opined that, while flexibility is one of the most important things provided by the Vision, balancing flexibility with guidelines can help states adapt over time. Ms. Iott added that many participants shared this view and also suggested allowing changes to priority lists at regular intervals, as states were appreciative of the opportunity to change priorities. Mr. Werbach added that regions appreciate that opportunity, too.

Another participant, noting that there had been some discomfort in 2015 regarding tracking implementation of WQ 27 plans (especially "alternatives," many of which have a timeline greater

than 10 years), asked whether anyone had ideas regarding the path forward, past the development of these plans. Ms. Iott noted that Connecticut worked on "alternatives" involving long timescales and that she felt as though progress was being made if interim milestones were met, referring back to Mr. Hardner's presentation on measuring success. Mr. Havard asked for clarification on whether the question referred to how to ensure that "alternatives" were counted towards measures or how to use "alternatives" to restore water quality. Mr. Schempp clarified that the question was referring to how to be accountable and measure progress given the different timescales over which "alternatives" are implemented and affect water quality. Mr. Werbach agreed that determining how to track implementation and effectiveness would be a key question for the next Vision. The participant explained further that external partners were putting in significant work in support of "alternatives" and that they did not want that work to be for naught if it was later determined that progress was insufficient and a TMDL would be required. The participant added that the project was looking at benthic restoration over a 40–60-year timespan and that they have a way to show progress but want to be sure that it can be captured in ATTAINS or otherwise reported and communicated through the integrated reporting process. Ms. Iott responded that the integrated reporting process might not be the best place to report this progress; while there could be a paragraph or page discussing the project and providing updates, it might be better to work with EPA regional staff and keep them in the loop. Mr. Werbach agreed, noting that it may be difficult to track the project as a measure, but that it should be documented and interim milestones established. He also felt it was important to clarify that progress does not necessarily mean the attainment of standards and that progress could instead refer to implementation: getting BMPs into place, planting of cover crops, etc. Ms. Iott added that this concept applies even to direct-to-permitting "alternatives," because it may take time to achieve capital improvements or get multiple stakeholders onboard across a watershed. Mr. Havard echoed Mr. Werbach's comment about the importance of communicating with EPA regional staff and said that it is important to be transparent with stakeholders and the public about steps being taken and the processes involved. A participant commented that, because it is critical that plans be implemented, but that is not something over which the CWA 303(d) Program has control, a culture shift is required in terms of how water programs and agencies work together. Another participant asked whether the types of "alternatives" being discussed would be reported under Category 5-alt or Category 4b, to which Mr. Schempp responded that the specific projects discussed appeared to fall under Category 5-alt., and many people concurred. Yet another participant suggested that the challenges mentioned do not lend themselves to a Vision solution. Mr. Werbach replied by noting that measuring progress could be incorporated into the documentation expected for the 5-alt process, and that at some point it will be necessary to show progress or else a TMDL will be required.

A participant related her experience working with the E-Enterprise Leadership Council, a joint workgroup for states, tribes, and EPA, whose goals include modernizing the business of environmental protection and promoting efficiency. In support of these goals, she continued, a Quality Assurance Project Plan (QAPP) workgroup was created to help streamline and foster consistency in terms of how QAPPs are reviewed among regions while acknowledging the variability of QAPPs within states and tribes. The participant then asked whether there is interest in creating a similar workgroup to build consistency across EPA regions in terms of outreach about "alternatives." Ms. Iott agreed that having consistency among regions could be helpful and that opportunities to share experiences among states, tribes, and territories working on "alternatives" would be good. Mr. Werbach added that there is an informal process of checking in among EPA

regional staff and that regions are interested in ensuring that they are relatively consistent. Mr. Havard emphasized the importance of ensuring that "alternatives" in place are available to everyone, noting that the current goal is to have them all in How's My Waterway. He also mentioned that EPA is open to looking at other ways to facilitate knowledge sharing on "alternatives" and pointed to an ELI compendium on "alternatives," which contains ideas and raw materials for activities that could become Vision "alternatives." Ms. Iott added that the monthly ACWA Watersheds Committee calls provide an opportunity for sharing of experiences.

A participant indicated that he sees the Vision Goals becoming fundamental principles of the CWA 303(d) Program after 2022. He acknowledged that both states and EPA need to improve on some of the goals, such as integration, but said that, irrespective of EPA measures, state programs have successfully implemented the spirit of the Vision and should be commended for those efforts. Moving forward, he added, states and EPA can build upon these successes and continue to implement the Vision's principles to improve water quality and achieve the CWA goals of protecting and restoring the nation's waters.

Another participant asked whether there is a way to get "credit" for implementation for developing an "alternative" plan for nonpoint sources in a watershed that already has a TMDL. Mr. Schempp replied that such might be possible if the TMDL and "alternative" dealt with a different pollutant. Ms. Iott agreed and explained that, if addressing a different pollutant, the "alternative" would be considered a different action and could be evaluated as an "alternative". If it was for the same pollutant, she continued, the plan essentially would be an implementation of the load allocation portion of a TMDL and so likely would not be eligible to be counted.

A participant asked whether there had been discussion regarding "credit" for TMDL projects outside of priority areas and whether this is included as part of Vision flexibility. Ms. Iott said that she hoped so and noted that one aspect of the Vision that had not worked as intended was the ability to tell the complete state story, adding that it is not realistic for most states to work exclusively on priority waters. Mr. Havard agreed that this is an important concept and something that needs to be considered in discussions of how to evaluate the program moving forward.

Another participant asked whether the next prioritization cycle would again cover a ten-year period (from 2022 to 2032) or whether that might change. Mr. Havard expressed his interest in opinions on the issue. He also recognized that states are doing a lot of planning past 2022. Ms. Iott mentioned that this would be a good topic for an ACWA call, noting that a lot of states are planning beyond 2022. Yet another participant opined that a ten-year Vision period is too long unless there are opportunities to adjust, but that a period under five years would require too much time to be spent updating it, so a five- to eight-year period may be best. Ms. Iott then encouraged state staff to reach out to her, Jeff Berckes, or Jasper Hobbs with ideas or examples, explaining that they are putting together reflections on the Vision to share with managers at the state level and to build a foundation for continued collaboration with EPA on the next Vision.

A participant remarked that the CWA 303(d) and Nonpoint Source Programs were on different prioritization schedules and should be better aligned. Ms. Iott agreed. Mr. Havard observed that the CWA 303(d) Program Vision is about what states are working on and doing next but that states have other priorities, possibly including plans where TMDLs are already in place, and that

implementation is the next step. Integrating between the Nonpoint Source and CWA 303(d) Programs is key, he said, but these programs sometimes operate at different, but complementary parts of the process.

Key Points Raised:
- There is general support for the Vision and its six goals, but some elements could benefit from a few tweaks.
- Experiences have varied: nearly all the Vision Goals were identified as being an area of strength for some and an area for improvement by others.
- There is a general request for more information from EPA regarding expectations for "alternatives" and protection plans.
- EPA has developed a draft FAQs of protection, which has been sent to all states and which can be viewed online, and will continue to offer technical assistance on all Vision-related matters.
- More and better communication among jurisdictions and water quality programs as well as with the public is necessary and is something with which EPA can continue to help.
- Regardless of the form of the next Vision, tracking and measuring progress will be important, and dialogue among states, tribes, territories, and EPA will be critical to effectively developing those elements.

Send Off

Mr. Schempp then thanked the panelists and invited Mr. Havard to give closing remarks. Mr. Havard began by thanking Ms. Iott and Mr. Werbach for their insights on the previous panel. He then expressed how impressed he was with the presentations and discussions of the whole workshop as well as his hopes to meet again in person, noting that funding was in place to host the event at Shepherdstown in 2021. Mr. Havard noted his agreement with the comment from the previous session about the great work being done by states to implement the Vision. He said that he understands the expressed interest in guidelines from EPA and the importance of EPA providing structure and tools to support states, territories, and tribes in their implementation efforts.

Mr. Havard then thanked the staff of ELI, NEIWPCC, ACWA, and the other members of the Workshop Planning Group for managing the shift to a digital meeting. He acknowledged the great engagement and input from state, tribal, and territorial participants. Reiterating his opening remark that, "we do our best work when we work with those we know well," he added that he always enjoys seeing relationships build at these annual training workshops. Mr. Havard lamented the inability to do that in person this year, but he said that he was glad to have had the opportunity to continue to build and maintain relationships through the virtual meeting. He also mentioned that he missed the opportunity to collaborate and play music with others at Shepherdstown and that he and other participants had worked during the evenings to write and record a song, "Shepherdstown to Cybertown." He played the video, which was met with enthusiastic reactions by many participants.

Emma Gildesgame of NEIWPCC then read some of the poems submitted by participants in response to one of the challenges issued at the beginning of the training workshop. The poems were as follows:

1. Let's move the needle
   Success is better than right
   Try things; try new things.

2. Virtual meetings
   Clean water topics abound
   My couch is comfy.

3. You might be muted
   Uh-oh, can you hear me now?
   Ah, yes, we can.

4. Assessment models
   Environmental justice
   Clean Water Act progress?

5. TMDLs have been the favorite pup
   But "alternatives" fit best in our cups
   Trade the allocations
   For more implementations
   According to Berckes, that's donkeyed up.

6. New Vision planning
   But no bonfire this year?
   How else will we plan?

Mr. Schempp then provided a few closing remarks. He noted how impressed and appreciative he was at how well the participants had adapted to the virtual format. Reiterating his earlier observation that the annual training workshop is successful because of its participants, he said that they had made the workshop as interactive and collaborative as it could be under the circumstances. Mr. Schempp also expressed his hope that the event was useful to both first-time and repeat participants. He thanked them for blocking out their time to attend. He then shared a few pictures that participants had sent of their "socially distanced Shepherdstown." Mr. Schempp thanked the WPG and the rest of the ELI team for their help, and then invited Kristy Fortman of the Montana Department of Environmental Quality (MDEQ) to close the training workshop.

Ms. Fortman began her remarks by thanking the WPG for their role in designing the workshop. She noted that, while she wished the workshop could have been held in person, there are some advantages to the virtual format, including the opportunity for significantly more people to participate and to evaluate the future of the CWA 303(d) Program in a virtual world. She noted that a lot of the technology used for the workshop is intuitive and can be used by the programs, for instance, to host meetings that traditionally would be held in person. Ms. Fortman added that it is

important to figure out how to use these tools effectively, including ensuring that attendees are set up properly and know how to use the platform, establishing a dedicated facilitator or troubleshooter, and asking attendees and presenters to have cameras on and communicate through the various methods available. She identified this sort of preparation as one key to the training workshop's success.

As another example of effective digital communication, Ms. Fortman shared a Story Map she had created, showing projects discussed by other workshop participants. She explained that even basic Story Maps can help the public visualize and contextualize information regarding work being done. She also mentioned dashboards as an increasingly popular tool for presenting live, up-to-date information in easily understood formats, using as an example a MDEQ dashboard with information on assessments, TMDLs, implementation, and more from four state water quality programs. As another example of communicating using new technologies, Ms. Fortman shared drone footage collected as part of a remote site visit. She noted that using drones allows staff to cover more ground than they might be able to with a single site visit and that time-lapse videos can effectively show project funders and stakeholders how projects have been implemented over time. Ms. Fortman added that there are many different things that are being done by different programs. She noted that her team had been inspired by a presentation at the previous workshop regarding Nebraska's use of an app to create a video showing the program's work over the course of a season, as a succession of one-second-long clips from each day; MDEQ staff made a similar video, which they were planning to post to social media the next week.

Ms. Fortman said that, in the past, MDEQ staff had just shared updates to the department website and hoped that the public came across it, but that they were now making increased use of social media. She gave as an example a video that she had made using TikTok to post to the agency's Instagram and Facebook accounts (as MDEQ does not have a TikTok account) and add to the agency's website on sediment. She explained that the video, which is intended to grab viewers' attention and direct them to additional resources, is very short and designed to be shared with a caption along the lines of "Did you know that streambank erosion can harm fish and cause property loss?" with a link to a webpage with more information.

Ms. Fortman concluded her remarks by encouraging participants to make use of the great variety of available tools. Even if there is nobody on one's team who is familiar with a tool or generally tech savvy, she said, there are many tutorials online, and it usually is not hard to play around with tools without fear of "breaking anything." She also encouraged participants to reach out to other program staff who had created tools they found interesting for more information or advice. Lastly, Ms. Fortman noted that new technologies not only play a crucial role while staff are working from home or quarantining, but they will have a significant impact going forward; thus, it is important for program staff to be ready to make the most of them.

APPENDIX 1: TRAINING WORKSHOP AGENDA

2020 NATIONAL
CWA 303(d) TRAINING WORKSHOP

HINDSIGHT IN 2020

May 26 - 29, 2020

TRAINING WORKSHOP AGENDA

PURPOSE OF THE TRAINING WORKSHOP

To provide an opportunity for staff from state and territorial Clean Water Act Section 303(d) Listing and TMDL programs and tribal water quality programs to learn about and discuss program implementation approaches and tools, the Vision, and future goals of the programs.

WORKSHOP OBJECTIVES

- Learn about the **history of, experiences with, and opportunities for** the CWA 303(d) Program Vision.
- Learn **techniques for collaborating** across jurisdictional boundaries and with other programs, agencies, and organizations.
- Learn about **tools, systems, and strategies for communicating** water quality information.
- Receive **updates on research, materials, and legal developments** relevant to the CWA 303(d) Program.
- Enhance the **network of listing and TMDL professionals** by expanding and improving communication among the states, tribes, and territories and with EPA regions and headquarters.

OUTPUT

A final report summarizing the proceedings of the training workshop, which may assist in Vision planning and serve as a reference for program personnel implementing their responsibilities consistent with the current Vision.

Tuesday, May 26

1:00 pm – 1:45 pm   **Welcome**

1:45 pm – 2:45 pm   **Session #1: Origins and Implementation of the CWA 303(d) Vision**
State, EPA, and ACWA staff central to the development and early implementation of the Vision will recount the circumstances of its creation and the process and challenges along the way, all to set the stage for the week's discussions.

2:45 pm – 3:15 pm   Break

3:15 pm – 5:00 pm   **Session #2: Breakouts**
Training workshop participants will attend one of the following webinars based upon their topic preferences expressed in advance of the training workshop.
- Prioritizing Waters with Improved Approaches
- Environmental Justice in the CWA 303(d) Program
- Incorporating 5-alts/"Alternatives" into Your CWA 303(d) Program
- Communicating Effectively to the Public through Listing/the IR

Wednesday, May 27

1:00 pm – 2:45 pm   **Session #3: Ways of Evaluating Progress**
Presentations demonstrating approaches to evaluating, documenting, and communicating program progress will provide ideas and methods beyond delistings and EPA program measures.

2:45 pm – 3:15 pm   Break

3:15 pm – 5:00 pm   **Session #4: Vision Breakouts**
Training workshop participants will be divided into 7 groups of roughly 18 people to identify ways in which the CWA 303(d) Program Vision could be improved to better support the diverse circumstances, needs, and values of the states, territories, and tribes while setting a country-wide course for the program.

Thursday, May 28

1:30 pm – 3:00 pm   **Session #5: Concurrent Trainings I**
Training workshop participants will attend one of the following webinars based upon their topic preferences expressed in advance of the training workshop.
- Implementable TMDLs: An Exercise in What Makes a TMDL Useful to Its Users
- Assessment Methods for Aquatic Life Use
- Communication Tools
- ATTAINS for the Casual User
- ATTAINS Secret Sauce Training – Tips and Tricks

3:00 pm – 3:30 pm   Break

3:30 pm – 5:00 pm   **Session #6: Concurrent Trainings II**
Training workshop participants will attend one of the following webinars based upon their topic preferences expressed in advance of the training workshop.
- Permitting and the CWA 303(d) Program
- CWA 303(d) List and TMDL Litigation
- Hydrologic Alterations and Water Quality: Opportunities and Challenges
- State-Tribal Partnerships on TMDLs and Impaired Waters Listings
- Modeling Showcase
- The Water Quality Portal

Friday, May 29

1:00 pm – 2:30 pm   **Session #7: Report-Back and Discussion of Vision Analysis**
ELI staff will present a summary of the experiences and ideas expressed during the Vision Breakouts on Wednesday, followed by a panel discussion among state and EPA staff and a facilitated discussion among all participants about themes and the way forward.

2:30 pm – 3:00 pm   **Send Off**

APPENDIX 2:
COMPILATION OF TRAINING WORKSHOP PARTICIPANT EVALUATIONS

One hundred workshop participants completed an anonymous Participant Evaluation Form (distributed via email). The combined numerical results from the evaluations indicate an overall event rating of "Very Good-to-Excellent" across all categories except Group Interaction, which received an average rating of "Good-to-Very Good." In addition to the numerical responses, we received many written comments, which are reproduced here.

Participant Evaluation Form: Compilation

Scale: 5 = Excellent, 4 = Very Good, 3 = Satisfactory, 2 = Fair, 1 = Poor

The Workshop—Overall

> Information Presented
> > **5** (40) **4** (49) **3** (4)   **2** (1)   **1** (0)   **AVG: 4.36**

> Workshop Materials
> > **5** (37) **4** (48) **3** (9)   **2** (0)   **1** (0)   **AVG: 4.30**

> Workshop Organization
> > **5** (66) **4** (24) **3** (5)   **2** (0)   **1** (0)   **AVG: 4.64**

> Group Interaction
> > **5** (19) **4** (22) **3** (43) **2** (9)   **1** (0)   **AVG: 3.55**

> Session Facilitation
> > **5** (60) **4** (30) **3** (3)   **2** (1)   **1** (0)   **AVG: 4.59**

> Videoconference Platform and Technology (GoTo)
> > **5** (48) **4** (43) **3** (5)   **2** (0)   **1** (0)   **AVG: 4.45**

Comments:
- I think it was great that this was so accessible to other employees. Even though we didn't have the face to face interaction, I think we had a lot more people involved. I'm even thinking that we could do a virtual meeting every other year - the in person meeting is still valuable but I think in terms of participation this reached a lot more people.
- I really appreciated being able to participate and would like to see at least the technical workshops be offered digitally every year so more people can participate.
- The workshop was exceptionally well-organized and utilized appropriate technology that far exceeded expectations and was excellent overall. Adam, Sam, Emma and the other facilitators did an exceptional job and kept everyone on point and task. I was expecting

discussions to be difficult and have large blocks of silence, and to my surprise, that expectation was not realized as every session facilitator was able to spark discussion to begin and the participants freely chimed in and kept the conversation going. The only shortcoming was the inability to attend in person and have the broader interaction with staff from all the states, tribes and territories. Overall this was an excellent workshop.

- The conference has been a success even with the virtual platform. All the sessions have worked and communication has been great. It's not the same as in person but the ELI staff and presenters have all done a great job.
- ELI did an amazing job with converting to all-video conference and striking a good balance between replicating NCTC and using the opportunity to involve many more people. Offering pre-workshop GoTo trainings was genius and helped me get some comfort level with presenter status controls. Great job all around!
- Recommend greater use of interactive surveys to elicit feedback and to evaluate understanding of the various presentations.
- Having to be a virtual conference, it's impossible that you'd replicate what goes on in person at Shepherdstown. That said, I still felt very engaged and thought that the sessions were well facilitated, and lived up to the level of intrigue/thought-provoking content/discussions that it always has. Even though I 'debrief' in my house this year, I still find my head spinning on ideas like I have in Shepherdstown in the past. I will say that participation in discussions were more limited, which is I guess a given, so that was a bummer. Nonetheless, the discussions that did occur were still super helpful and interesting.
- I think the group interaction went as well as it could have. The medium really lends itself more to commentary than discussion.
- The group did a great job under the circumstances. I didn't give really high ratings because I struggled with the virtual nature of the conference and would have benefitted from in-person interaction (this is my first year in my job at the agency). Also this week was hard because I'm in the thick of the violence in Minneapolis, so that took focus away. I hope to be able to join you all in person next year or soon thereafter!
- Fantastic work turning the training workshop into a virtual platform. I thought the breakouts worked well and there weren't many technical issues to speak of by the end of it. I really liked the format of the Vision Breakouts and would encourage more of that type of interaction, if we find ourselves doing similar virtual meetings in the future. You all did a great job!
- Overall for the first try, great job.
- I would have liked more group discussions, but realize it's extremely difficult given the digital platform. Maybe small group casual discussions in the future?
- I did miss the in-person interaction and being at the NCTC (as I'm sure most of us did); however, I think everyone involved with this workshop did an excellent job of taking an in-person workshop and translating it to a virtual environment, especially given the limited time. I thought the polling option in the webinars was a nice feature. It added a level of participation without interrupting the flow of the presentation and helped to contribute to further discussion on the poll topic. One thing that would have been nice would be to have the ability to see audience questions as they are written. I think this would help other audience members get to thinking about potential questions they might have, as well as to reduce the asking of redundant questions.

- Overall, I'd say this was very successful in the transition to online. To me, one of the biggest historical drawbacks to the meeting is the inability to send multiple staff and cover lots of bases/sessions. This online option, in addition to hopefully 1-2 people in person, could help with that.
- I would say that the whole experience suffered from not being in person. Typically the week in Shepherdstown is immersive and requires/provides an opportunity for attendees to block out other responsibilities to focus on inspirational and educational 303d topics. Lower marks for information and materials is primarily based on there being less this year. Group participation was limited by the videoconference platform. I believe the breakout sessions went very well. Overall, the videoconference used for plenary sessions was successful by allowing so many folks to attend -- but it is hard to recreate the in-person experience. As always, facilitation could. not. be. better. Period. ELI does an excellent job from beginning to end!
- Some of the presenters weren't quite sure how to utilize the platform so some of the presentations were needlessly interrupted.
- I thought the conference was awesome. Well done.
- I think the virtual conference went well, especially in light of the situation.
- Given the situation, I believe this was an excellent conference. The topics covered were useful to move forward with the program. I like the recorded to view sessions that I could not attend and also to go back to ones that I could for reconfirmation of information. It would be nice if we had more than one week to review. Having the recording was also useful to share with others that could not attend. There were occasions when sound broke or links were dropped (most likely on the end user side) which is why having the recordings are great.
- I wish the presentations were available, or separate documents with the links.
- Everyone was professional, the platform was more than adequate, and interaction occurred.
- Thank you all so much for your hard work! I would greatly enjoy other workshops digitally if that is what our future holds with the current state of the pandemic.
- I liked the videoconference.
- Overall, I'd say this was a great success given the circumstances around COVID-19! As a first time attendee, I would have loved to meet and see presentations in person, and will look forward to it next year! Sam and Adam did a wonderful job organizing and facilitating.
- Information presented was informative and useful. However, I have two suggestions for next time. 1) I suggest providing lecture notes / handouts before, and letting people know at the very beginning that recordings will be available. I was so busy copying down information on slides that I didn't focus as well as I might have on what the presenters were saying. 2) If there are words you use that might not be universally understood by water quality scientists, it would be good to have definitions. Still not absolutely sure what "Attain" is or "Aqua." Minor point, but there it is.
- Excellent virtual conference. Guam's 303(d) program facilitation and implementation operate at a much smaller scale than state level programs. The VISION wasn't on our radar until 2019 but the principles of prioritization, assessment, integration, etc. were logical planning concepts needed to achieve water quality restoration. We continue to benefit from these annual 303(d) training opportunities and appreciate the lessons learned

from state, regional, and EPA HQ staff who attend and share their success stories. THANKS ADAM!

- Great job given the circumstances. I don't believe there was as much participation and interaction as there would have been at a face-to-face meeting.
- CNMI really appreciates the making of accommodations for us to participate and having presentations recorded for later viewing given the time difference.
- While I understand there are downsides to having the conference via the web, there is considerable benefit to opening it to those of us who usually do not have the opportunity to attend. Only a few people from my agency's HQ attend the in-person conference, so I appreciated this opportunity. If you prefer to return to in-person conference, perhaps you could still allow us to watch the training presentations via webinar (even if only recordings are provided after the conference).
- I think the presenters and facilitators did an excellent job, there were just several topics that I did not find relevant to my core duties.
- It was far better when presenters shared a PowerPoint. It is hard to pay attention to just a person talking on a webcam for a half hour.
- Some of the presenters and facilitators still did not have a grasp on using the tech. Audience participation was clunky -- Emma in particular did a great job of calling on people, getting them unmuted, and reading comments; however, some of the audience members didn't seem to grasp how to effectively participate/use the floor.
- I would have liked smaller break-out groups given the format of the sessions.
- Despite the alternative format the conference went smoothly, the presentations were informative, and I learned a lot. Obviously, this format isn't as good for collaboration and discussion as an in-person meeting, but all-in-all it went well and I am very thankful for ELI finding a way to make this happen. If we do have to go a digital route again in the future, I would prefer some approach that allows all attendees to share their webcams. I missed seeing everyone.
- Considering the situation, I thought the organizers did an excellent job.
- Kudos to ELI staff and partners willing to be adaptive, step up, and pull this off.
- It was better than not having the meeting, but for me, the best parts of this meeting are the impromptu interactions with other states. If we have to do this again for some reason, you may want to see if you can find a way to help that happen.
- Incredible job given the circumstances. The balance between making it feel like a real workshop experience and not overloading people with screen time was very well done.
- I feel that a good job overall was done, however the newness and unfamiliarity with the technology did create some hiccups.
- This conference went extremely well. It was organized well, and was one of the simpler virtual meetings I've ever been to. Thank you for all the individual calendar requests, and post-session email follow-ups.
- While the virtual platform worked well and allowed additional participation, it did lack some of the Q&A / discussions, even though questions were encouraged.
- Some of the breakout sessions had facilitators that didn't really facilitate, therefore I didn't gain too much out of it, other than many of my fellow state staff offering up information.
- A great workshop overall.

- I thought this went extremely well, especially since it was converted to virtual at the last second! Nice job everyone!
- Think ELI, EPA, NEIWPCC, ACWA et al did a terrific job in hosting and running this virtual conference, given the pandemic situation circumstances. I probably would not have been a traveler to Shepherdstown, so virtual meetings allowed me to attend a lot more of the conference than usual, so I appreciated the opening up of participation to a lot greater audience. This made it more technologically challenging. However, most all sessions that I participated in ran relatively smoothly. Thanks to everyone involved in organizing the agenda, technology, moderating, etc.
- My only comment is that group interaction went okay in small groups (of course it doesn't replace the in-person experience); however the bigger group "group discussions" didn't work well.
- I almost liked the virtual option more than the in-person option. WV is great, but it is soooo far from home, and last year I had a horrid travel experience. Presenters did a great job, moderators did an amazing job!
- Group interaction was understandably an issue- except for the music folks. If we have to do this again next year, we should build in more group interaction up front.
- The overall conference was really good. I think the biggest issue was the video format hindered group interaction and of course discussion outside the sessions. It would have been useful to be able to see other people's questions in the comment box (I understand the platform did not allow this). However, group interaction will never be as good online as in person. That being said, the ability to view videos the next day (for breakouts I was not signed up for) was very helpful. It is much better seeing the whole presentation than just getting a powerpoint and trying to figure out what the slides mean with no audio. I hope we can return to in person in the future, but maybe the videos could be shared either live or the next day for a limited time like they were this time. That way people who could not attend in person could still hear some good information even if they can't participate directly.
- I was very pleased at how few technical difficulties there were with the webinars. I also really liked having the recorded sessions, that way I could watch sessions that were concurrent that I was interested in.
- everyone did a great job adapting to the cybertown platform.
- I thought it went very smooth, good job!
- It was very nice to see recorded webinars later.
- Under the circumstances, I think ELI adjusted the conference in a workable manor - we were able to talk about the Vision and hear about other work being done. Interacting with my peers was more difficult.
- ADAM AND SAM ARE GREAT
- I enjoyed the workshop and learned a lot about what EPA and other states are doing and thinking about the Section 303d program. It was the first time I had the opportunity to attend this event. The organizers did a great job putting the workshop together and presenting and facilitating the sessions under unusual and difficult conditions. Thanks for all your hard work.

B. Goals, Outcomes, and Expectations

- How effective was the workshop in satisfying the stated objectives?
    - **5** (32) **4** (51) **3** (8) **2** (1) **1** (0) **AVG: 4.24**

- How successfully did the workshop meet your own expectations?
    - **5** (35) **4** (40) **3** (14) **2** (3) **1** (0) **AVG: 4.16**

Comments:
- As I noted in the previous comment, my expectations were exceeded, and the workshop provided excellent content and information sharing. I have been participating since 2012, and this is the best, most well-organized and valuable workshop/conference I have attended, and it continued in this virtual environment.
- Excellent organization in a virtual setting.
- I knew it wouldn't be the same, but like I said above, it was still very successful at stimulating the same environment of critical thinking and inspiration.
- I think the workshop met it's goal in more ways than I could have anticipated given the virtual format. Lots of good discussion.
- Broken record here, but in-person is better.
- Lots of good discussion, and I look forward to chatting with others from our state to compare notes.
- I believe breakouts about Vision were successful, but overall there still seems to be a disconnect between aspirations of Vision and evaluation through the WQ measures. Just difficult to feel like there is a straight path forward to reach goals. Every state is so different -- every Region is so different. I believe this conference acts as a forum to share ideas -- that is successful... but at the end of the day, without $ or regulations, some elements of Vision get pushed to the back burner. This is a big hurdle for the future.
- I was concerned that it would not be as formative being remote. Yes, the interaction of face-to-face is better, but given the time, this exceeded my expectation.
- Converting meetings and workshops to a digital platform can be a challenge, but you all did great with such short notice.
- Thanks for sharing the recordings of the other sessions. This was valuable.
- This was a great effort to coordinate all sessions to be done virtually. All organizers clearly spent a lot of time preparing for the virtual format.
- In some of my sessions, it seemed like the focus was on gathering data from participants rather than having a meaningful discussion with those of us in the room.
- I was not sure how it would work, but I learned a lot.
- Tough to completely replicate the in-person element and, unfortunately, we lost out on some of those good opportunities to no fault of ELI. The sessions were great, but with the reduction in time available, we still lost some programming hours. If we need to do this in the future, I would suggest a non-holiday week to open up another afternoon.
- Because I'm very new to this program, I was not scheduled to attend the conference, but I've very grateful to be able to attend. It helped me to start thinking big picture about what I'm doing.

- The workshop planning team did a great job transitioning to virtual, but this workshop really needs to be in person, when possible.
- All the presenters were well-prepared and did a good job presenting their materials.
- I gained a lot of valuable information from each session/training that I signed up for.
- I loved it and am looking forward to sharing information with my group.
- The retrospect of the Vision process was very interesting. It's hard to believe that the end date for the first test of the Vision or 2022 is already so close. Looking forward to Vision 2.0 and beyond.
- Considering the circumstances, the workshop did a great job.
- Things went much better than I expected. I was a bit worried when I received all of the emails prior to the webinars, but it ended up working out splendidly.
- Given the circumstances, I thought it went very well-especially considering the very short pivot time needed to go online. Great job.
- Other than the general things that we obviously missed not being in person, I felt like the one session I really missed was the region breakouts. This is usually a great opportunity to talk with our neighbor states about similar issues we're having.
- I've been involved with the vision process in my state for many years, and it was useful to hear the review of the vision process so far and the ideas for the next vision process.

Specific Sessions

Welcome

$$\mathbf{5}\ (37)\quad \mathbf{4}\ (33)\quad \mathbf{3}\ (5)\quad \mathbf{2}\ (0)\quad \mathbf{1}\ (0)\quad \mathbf{AVG:\ 4.43}$$

- The welcome and retrospective was very effective at setting the stage and getting everyone in the correct frame of mind to discuss 303(d) vision and future needs.
- Nicely done to cover a lot of material and introduce the audience to how to use the virtual platform.
- Need more diversity.
- Good opening. It's always nice, but I love the meat of the discussions, so it's impossible to be over the moon on this one.
- Several people had a hard time getting connected to the Welcome because the webinar only referred to the Origins session. It was easy enough to direct people, but I'm sure people missed out trying to get on. On this note, it was really helpful to have someone on call to help. I did end up reaching out and got a really quick response that helped me direct someone to their session.
- Great overview and outline of the workshop.
- I liked the challenge to look for presenters' agency shirts, pets, swag, etc.
- Overall - a great job! I was hoping for better discussion, but there's only so much you can do!
- PowerPoints or visuals would have made this better, but really no complaints. The welcoming is always my favorite and a good reminder of why we work on water quality issues and the 303(d) program.

- Some of the presenters seemed to have conflicting opinions on how to proceed with the Vision.
- Nice intro to the staff and purpose.
- Again this was the best it could be, so my rating is based on that -not comparing it to in-person.

Session #1: Origins and Implementation of the CWA 303(d) Vision
5 (26) **4** (42) **3** (8) **2** (2) **1** (0) **AVG: 4.18**

- The history of the vision was very helpful for the participants that were new to the workshop and the vision. The overview was comprehensive and set the stage for the week's sessions and discussions.
- Tom Stiles' perspective was really energizing and made me think about how to be more bold.
- I am very new to TMDLs and 303(d) so would have appreciated a more 101-level introduction to the origins of the vision. Maybe some materials in advance of the training for newbies would have been useful.
- I appreciated the presentation of the protective aspect of TMDLs.
- I thought it provided some good background, that also seeded a lot of the discussions throughout the week. SO again, good stuff, but not the meat of the workshop that I truly love.
- I thought it was very insightful and informative. Good panel.
- I didn't really need this session.
- Interesting presentations and discussions.
- Good background.
- It was interesting and presented in a clear manner.
- Tommy Stylez does it again. The man has a gift.
- I had technical difficulties on my end and missed some parts of the session. I'm glad there is a recorded version of the session.
- I did not know there was a specific Vision for the program. This was a good overview.
- Did not attend.
- Presenters should have used Powerpoints along with their talks. I found it very hard to follow.
- It was nice that there were several staff there that were around while setting up the original Vision. Nice to hear the intent and how things have progressed.
- Tom Stiles is always informative and very entertaining.
- This session went well, but for those of us less familiar with a Vision project, it was missing background info.
- The speakers did an excellent job setting the stage- great background, context and viewpoints.

Session #2: Breakouts

- *<u>Prioritizing Waters with Improved Approaches</u>*
  5 (7)   **4** (8)   **3** (1)   **2** (0)   **1** (0)   **AVG: 4.38**

  - Good examples and presentations. I thought it came together really well.
  - The presenters all did a great job.
  - I think I misunderstood the original intent of the session; I probably would have been better served in the 5-alt session, but I still learned a lot; getting perspectives from other states was great.

<u>Environmental Justice in the CWA 303(d) Program</u>
  5 (5)   **4** (6)   **3** (0)   **2** (0)   **1** (0)   **AVG: 4.45**

  - Will did a nice job facilitating, but I do think it hindered his ability by not having a webcam. The discussion centered mostly around tribal issues, which turned into a great discussion. I think we could have additional calls about other aspects of EJ too.
  - Need more time to really dig in.
  - I really liked this session and the dialogue that occurred. It's weird, because tribes are definitely a disadvantaged group that would fit under the guise of a EJ community. However, because of their dominance in the group, we didn't really get to talk much about how to improve the overall vision from an EJ perspective. That said, it was a really valuable perspective on the engagement goal. So, I don't think it was a bad conversation at all. Instead, it seemed like a good opportunity for learning the experience of the other side, and trying to learn how to be better with EJ from that perspective.
  - Need to brainstorm ideas of how to move forward.
  - I came into this not knowing anything about EJ projects, again it would have been nice to have project-specific examples and more background, but it ended up being my favorite presentation as far as the group discussion.
  - Discussion was focused on public outreach. I like to participate on a more technical discussion.

<u>Incorporating 5-alts/"Alternatives" into Your CWA 303(d) Program</u>
  5 (9)   **4** (10) **3** (0)   **2** (0)   **1** (0)   **AVG: 4.47**

  - Great session and overview. I got a lot of new ideas and will be eager to talk with my state coordinator.
  - I probably had to talk too much to keep things going, but we did get a lot of useful info on what everyone is doing.
  - Included information I have heard before.

Communicating Effectively to the Public through Listing/the IR
$\quad$ **5** (3) $\quad$ **4** (6) $\quad$ **3** (0) $\quad$ **2** (0) $\quad$ **1** (0) $\quad$ **AVG: 4.33**

- Facilitator did an excellent job involving all participants in group discussions.
- It was good to see some of the tactics other states are using.
- Harder to connect virtually, but under the circumstances, it worked. I picked out some things that sparked some ideas for our program.

Session #3: Ways of Evaluating Progress
$\quad$ **5** (26) $\quad$ **4** (32) $\quad$ **3** (9) $\quad$ **2** (1) $\quad$ **1** (0) $\quad$ **AVG: 4.22**

- I still don't think we have nailed down a really great way to measure progress but this discussion was a good start.
- Great example (Amazon protection) that really helped visualize the concept of measuring progress - great also to have a non-water quality example to show the versatility of the approach.
- I appreciated the presentation by Jared Hardner on identifying limiting factors.
- Awesome all around. Love Jared's perspective and presentation.
- Really good thought-provoking presentations! I always like a presentation that isn't in our discipline to help get some cross pollination of ideas!
- I thought the session was effective in getting people to step back and think more holistically about evaluating progress. I would have liked to have a small group discussion about how people might translate this into their programs. I think this is still good follow up to have.
- Didn't do much for me.
- Fantastic insight on ways of considering evaluating progress. I also enjoyed seeing how Minnesota (David Miller's presentation) uses technology to summarize and present their data visually.
- Had a heavy focus on protection plans (which we don't emphasize) but was a good, well-rounded discussion.
- Challenging thought - to evaluate progress when restoration is such a lofty goal. Really like Minnesota's presentation and webpage. I like that level of accountability to the public.
- Some interesting methods for evaluating progress.
- Liked the candidness of the panel. The overarching focus of programs is the restoration or protection of waters.
- Good mix of speakers and topics.
- Interesting perspectives given in this session.
- Excellent presenters.
- I really enjoyed this session; great to have a speaker from outside the program, very helpful perspective.
- The Minnesota platform was awesome.
- Great talks. Great PowerPoint presentations.
- Good insights and ideas for me to take home.

- Was impressed with Minnesota's reporting tool developed by using Tableau program.

Session #4: Vision Breakouts
5 (22) **4** (19) **3** (9)   **2** (0)   **1** (0)   **AVG: 4.26**

- Rosaura did a fantastic job facilitating the session and discussion. Conversation was free flowing, and with some gentle nudging and direction from Rosaura, we stated on point. The content of the discussion was excellent, and I'm always impressed with my colleagues from other states with their dedication to water quality management and the novel and innovative strategies they have developed and implemented to harness and leverage the vision.
- This session worked so well. It was great to have these smaller diverse groups to talk about the Vision. The Vision is whatever the states want it to be, and it really shows when you get to discuss how other states are working on it. This was very successful.
- I thought the group size was perfect and the preparation for the breakout worked really well to focus the discussion. Great facilitation too. Would like to do more of these kinds of things in the future!
- I think we had some really good discussions in my group, but I only rate this as a 4 since it was mostly 3 people talking. Long awkward silences and prompting questions couldn't pull the others in. And with their webcams turned off (I know since they started on), I could only assume they weren't there. So it was a little bit of a bummer there, but the talkers really helped carry a productive conversation!
- Loved having the opportunity to talk in smaller rooms. It led to some insightful discussions.
- We had a good exchange.
- I am always impressed with the scribes' ability to summarize the meetings :).
- I did not attend, but what I heard is they were very helpful!
- Good conversation at the State level. Interested in learning more about "open windows".
- Smaller group and GoToMeeting format worked well. Pretty good discussion.
- Our conversation was robust and productive. No real dead time to speak of, and we had good interaction between EPA and states. It was tough to get people without webcams involved in the same way that people with webcams were for the simple fact of being able to see them. So important for small group discussions that cams worked.
- Good participation for being virtual.
- Went well. My group had a good discussion. Did feel like there were a lot of EPA people and fewer state agencies in my group-would have been better to have more state agency people in the group.
- Had some technical difficulties, but probably on my end.
- I liked the smaller group setting here - it was easier to discuss the Vision and get everyone involved in the conversation.

Implementable TMDLs: An Exercise in What Makes a TMDL Useful to Its Users
5 (10) **4** (14) **3** (6) **2** (1) **1** (0) **AVG: 4.26**

- The session was well organized, and I was particularly impressed and interested in Montana's program. Kristy and Montana are doing some very creative and innovative things to ensure TMDLs are implemented and there is stakeholder involvement. I plan to spend time investigating Montana's program and finding ways that Pennsylvania can utilize some of these novel programs.
- This was great - I will bring this information back to our TMDL staff.
- A good topic, but sometimes hard to carry what we hear back to affect change at the agency. This one also suffered a bit from the move to online, as the format was better geared to in-person activities, but it worked OK. (Attendees not really speaking much contributed to that...)
- KRISTY provided an excellent presentation. Like her encouragement about "just pressing the buttons" --- creating the story maps and other visuals --- just experiment. Good tool in using social media and visuals to communicate 303d projects with the public and stakeholders...
- This was good but the group was very large.
- The format didn't quite work in the digital format. Lots of people were able to talk and get their ideas out, but there was no real way to discuss those ideas or expand upon them. Facilitators and presenters did great.
- Great ideas, especially MT.
- Good presentation by Kristy Fortman of Montana on use of project effectiveness reviews, TMDL evaluation studies, and reassessments.
- It was a good session, but we ran out of time. Would have liked to have the benefit of the responses. I think it will be important to circle back with participants of this session.
- Excellent facilitation by Emma. Last presentation was a bit brutal, because missed opportunity to use polls.
- This is the session that I gained little to no information.
- I thought Montana's presentation was outstanding! Super insightful and very inspiring. I definitely pulled a lot of ideas and inspiration from it. The exercise in trying to make the virtual room more dialogue based was a good attempt, but I think it would've been done better with less people. That said, some of the ideas shared in that session, I literally put into practice at 5pm on a call with some watershed group members. So I still definitely took something from it!

Assessment Methods for Aquatic Life Use
5 (6) **4** (11) **3** (0) **2** (0) **1** (0) **AVG: 4.35**

- I especially like the talks on large rivers and eDNA. Need to allow more time for questions.
- I found all of the presentations relevant and interesting. I just wish there was a little more time given to Amy's discussion because it was very technical.

- I appreciated the Biological Condition Gradient presentation by Susan Jackson.
- It would have been nice to have some examples from a mountain state in this presentation.
- Ohio had some good examples of Aquatic Life Use, and it was interesting to hear how eDNA was being used to complement other field survey data. It will be interesting to see what the future of eDNA is with regards to water quality standards and UAAs.

Communication Tools
        5 (6)   **4** (2)   **3** (0)   **2** (0)   **1** (0)   **AVG: 4.75**

- Excellent insight on things to consider when preparing communication materials. I really appreciated Traci Iott providing example resources for creating infographics.

ATTAINS for the Casual User
        5 (5)   **4** (2)   **3** (1)   **2** (1)   **1** (0)   **AVG: 4.22**

- No enthusiasm, the presenter almost read directly from the slides.

ATTAINS Secret Sauce Training – Tips and Tricks
        5 (7)   **4** (9)   **3** (1)   **2** (0)   **1** (0)   **AVG: 4.35**

- I finally learned how to split a site and create a new assessment unit ID. It would be great if EPA could create a detailed ATTAINS user guide and FAQ.
- Great handouts provided. Packed with good information. The only thing missing was time for questions at the end. Speakers used the 90 min, which was fine, but it would have been nice to offer folks to stay after class if they has questions or go through something again.
- This training will make entering and reviewing assessments in ATTAINS so much better. Thanks!
- The ATTAINS presenters did an excellent job, very nice work!!
- Helpful!
- Good tips!
- While the ability to chat is great on this platform, I would still have liked to have had time for Q&A and some discussion among participants. The content of the session was great but the pace was a little too fast to absorb during the training. I'm glad that the sessions were recorded and will be available after the meeting!
- I still need to do some follow up with ATTAINS folks on our particular issues but the short cuts were very useful. I was actually logged into ATTAINS during the session and was doing things in real time. I would recommend this for future participants.
- The session had some great tips. My only issue with it is that so much information was covered in a short period of time that it was sometimes hard to keep up. I think someone has suggested having an ATTAINS user guide. A guide would be helpful.
- Helpful - thank you!

- I think a more hands on approach would be more helpful, for me anyway.

Session #6: Concurrent Trainings II

Permitting and the CWA 303(d) Program
5 (4)   **4** (8)   **3** (1)   **2** (2)   **1** (0)   **AVG: 3.93**

- I enjoyed this session. It motivated me to meet with permit writer and TMDL staff together to find better ways to communicate.
- Very informative from different perspectives.
- Complex but doable with communication. WLA is a significant factor. Good presentation.
- Was interesting to hear different perspectives on permitting and TMDLs. It seems there are more flexibilities applied in different Regions. Don't know why there is more rigidity in other Regions (i.e., TMDL Vision approach should be embraced by all Regional Permits Offices also).
- It would have been interesting to also hear from a state that has very engaged and vocal NGOs, to get their perspective on permitting relative to 303(d), but there is always another perspective to learn from.

CWA 303(d) List and TMDL Litigation
5 (8)   **4** (8)   **3** (3)   **2** (0)   **1** (0)   **AVG: 4.26**

- This was an excellent session despite some technological hurdles at the beginning. Jim Curtain provided a fantastic and easily understood explanation of summary judgement for those that didn't have much background on this legal practice. The legal overview from listing through TMDL litigation was very well organized and each lawyer did an excellent job of highlighting the important actions, rulings and broad take home messages for 303(d) state programs.
- This is a critical session, IMO. It's probably intimidating (or boring) to most folks, but it's so fundamental. I'd like to see this as a webinar/recording.
- Super helpful.
- Had lots of technical issues at the beginning, but the attorneys managed to deliver a solid presentation and allow time for questions.
- I attended the presentation last year and was happy to get updates. Much of the same material covered, which is understandable. Less than stellar rating is because the session ran several minutes long. I eventually had to drop off when it was 20 minutes over. Not a lot to be done when you have a presenter that was unclear how long he had to contribute.
- Some technical difficulties early on, but that's to be expected. Always very interesting. Wasn't much time to ask questions or have discussions.
- Appreciate the ability to have all the information in the slides, but couldn't really see/read the slides because the font was so small.
- For all our efforts at getting the technology to run smoothly, it took a roomful of lawyers at least 25 minutes to get the presentations to work. That made the session run long,

obviously. The content was appropriate, and it was interesting to hear how EPA argued some of the cases despite the fact that they weren't really consistent with historical TMDL work. I liked learning that constructive submission is now "doctrine."

- Technical difficulty delayed the start over 15 minutes. Slide presentations were not engaging.

Hydrologic Alterations and Water Quality: Opportunities and Challenges
5 (10) **4** (7) **3** (0) **2** (0) **1** (0) **AVG: 4.59**

- This was a really well done, comprehensive review of the problem. I will say it skewed to certain kinds of hydrologic alterations (e.g., dams and impediments), but with so much to cover, it was actually interesting to hear other examples than the topics I'm used to dealing with (stormwater and channelization/dredge-fill). I also liked the emphasis on listing and TMDLs and the roles they can play.
- This one was my favorite by far! Very engaging and relevant.
- Please share the presentation. This topic is really important to me.
- Excellent session...lots of progress to be made when we recognize the importance of this issue!
- This started me thinking about projects past and present, how they effected my state's wetlands.
- Really wish this had been in person - we would have had some great discussions that were not really possible ZOOMING.

State-Tribal Partnerships on TMDLs and Impaired Waters Listings
5 (3) **4** (2) **3** (1) **2** (0) **1** (0) **AVG: 4.33**

- Great examples - very useful for understanding how partnerships can work. More examples in general would have helped visualize the concepts in other presentations.
- Totally biased rating as I was a presenter in this one ;) It felt like a good use of my time, and I could tell this brought EPA and state folks to a better understanding.
- I expected more discussion with this session, and that could have been my misunderstanding. GoToMeeting worked well, but the session ran long and discussion was not great. I think part of the reason for this is the first of the two presentations was long at almost an hour; too much time was spent on the technical details of the project, which showed good science but not necessary to the topic of partnerships.

Modeling Showcase
5 (4) **4** (4) **3** (1) **2** (0) **1** (0) **AVG: 4.33**

- It was interesting to see how different states for different regions throughout the country model different parameters.
- Very good with multiple speakers, some was a little over my head, but that's ok.

- I think there were probably two too many presentations in the session. More time for questions would have been good
- This was a good try, but too many presenters doing lightning talks. It would have been nice to have a panel discussion after an intro summarizing different types of models and how they have been used, then the panel could answer questions using their expertise or unique applications.

The Water Quality Portal
5 (6)   **4** (5)   **3** (2)   **2** (0)   **1** (0)   **AVG: 4.31**

- I gained some great tips from this webinar. The Water Quality Portal tips were great, the presentation on using R was extremely interesting and inspired me to look into using R for some of my future projects, and I also loved seeing the demo of the "How's My Waterway" application. Things are really looking great, and I can't wait to see how "How's My Waterway" and the Water Quality Portal evolve moving forward.
- Great demo of the Water Quality Portal. Jason Jones also provided a great example of how to use the portal when making assessments for the IR.

Session #7 Report-Back and Discussion of Vision Analysis
5 (21) **4** (38) **3** (6)   **2** (0)   **1** (0)   **AVG: 4.23**

- The summary of the week's sessions was very well organized and seemed to capture the important takeaways. It is encouraging to hear the discussion and focus on maintaining some level of flexibility on choosing the best tool for water quality restoration, either a TMDL or some alternative restoration approach is important from the state perspective. The acknowledgement for having open windows to adjust priorities is very encouraging, and, as was stated by Will Isenberg, it would be very helpful if there is a regular interval for open windows so states, tribes and territories can better plan priorities and make thoughtful adjustments.
- Great job distilling all the various groups' thoughts into a single presentation. I definitely heard some of the themes that were discussed in my session.
- I think this was a good way to handle the report-backs so that it was organized and easy to follow. I also really liked the time given to discussion since that's truly one of the best parts about this conference. I got a lot out of this session!
- I thought the session was well-structured. Still, the discussion seemed to narrowly focus on a handful of topics. The discussion about timeframes is a good one to work on as follow up.
- Great summary of discussions, interesting presentations, and thoughtful discussion.
- Not super useful. Folks seemed to be repeating each other.
- I think, for a virtual session, things went well. The How's My Waterway site is really interesting.
- Panel was very experienced. Interested in ACWA newsletters and info about its regular meetings.

- Panel members and facilitation were great. Q&A went as well as expected, maybe better considering the size of the group.
- Well summarized and a lot of work to put together something like that virtually.
- Great job distilling a lot of discussions quickly.
- Great summary.
- Good wrap up.
- Given the circumstances, it was good.
- The open format for questions and discussion was appropriate and was an outstanding way to sum up the week and send us on our way for another year.

Send Off

5 (41) **4** (17) **3** (5) **2** (2) **1** (0) **AVG: 4.49**

- The video was great!!
- LOVE!!!!!!!!!!!!!!!!!!
- I appreciated the clever poems and haikus.
- I loved ending with music and poems!
- Beautiful, inspiring, and heart warming! You all have a good act for setting tone in creative ways. I can normally laugh something like that off, but every year it's set a positive forward-looking tone in me, and this year didn't fall short.
- Great video. Thank you to all the musicians! My only complaint is that we should have closed the workshop with it. It was hard to focus on the last speaker after all the fun pieces.
- That was fun.
- A for effort. [Redacted] for execution... haha! It was fun.
- The song video should have been last!
- I loved the song. Please share it.
- Nice song!
- The song video was great! Very inspiring and reminded me why we are all doing what we do, as well as made me feel more a part of a community of people that work to protect the environment.
- Looking forward to participating in the 2021 303d training in Shepherdstown!
- Great job making this training virtual!
- Didn't really feel a call to action or how we can effect change for the better in our programs.
- Despite being so separated from everyone, the Shepherdstown to Cybertown video really helped to capture the spirit that we feel when we are all there in person.
- I'm not sure that there will ever be a better effort for a sendoff than recording and splicing together an original song with talented musicians. Incredible.
- I appreciated the effort to add fun and a sense of community by doing little things like the scavenger hunt, poems, and the video. The video was incredibly touching.
- Should have read more poems. They were pretty neat.
- The virtual song by Jim Havard and others was excellent! Great to see Tom Wall (I think it was) join.

- We should put the musicians on the hook to write a song every year- in person on not.
- Loved the collaborative music video. :)
- Excellent video with great music, lyrics, and performance (cool sax solo). Perfect fit for the 303(d) workshop and the COVID circumstances.

Other Comments or Suggestions

- It would be helpful if session participants could see the chat comments; it was frustrating not to be able to see them.
- Please make at least portions of the meeting a video conference every year!
- The workshop was outstanding, and the only downside was the lack of this group coming together at NCTC. Discussion and information exchange was reduced due to the remote process, but that reduction was minimal.
- Adam, Sam and the staff at ELI did an outstanding job organizing and managing the workshop, and I want to offer my thanks to them and a pat on the back for a job well done! I also want to thank all of the panelists and presenters for their time and the excellent presentations from each.
- For future meetings when we can return to NCTC or some location where we are there in person, I recommend that there be some webinar offering for the staff that can't be there in person. This format allowed four additional staff from PA's Water Quality Division and the program legal counsel to attend. That has been an important opportunity for my staff to learn and be inspired by our national colleagues and for my program counsel to have a better understanding of the national program position and the vision.
- Missed seeing and interacting with everyone in person. Looking forward to next year!!
- Thank you to all who planned and presented!
- Well done all around! Challenges for sure, but with the circumstance we were given, this was a solidly run virtual conference! I'm definitely taking pointers for running virtual events in my future!
- This was my first Shepherdstown workshop., and while I'm disappointed it had to be the year of the pandemic, I am so thankful to have had the opportunity to learn as much as I did. Thank you so much for putting this together and not just giving up on it. I think it went as well as it possibly could have, and I'm actually sad it's over!
- Adam and Sam, you did an amazing job pulling this together. Thanks for your great work! It was great to see all the collaboration across partners and the planning committee. I'm very proud of all that was accomplished this week!
- Next time end with Jim's send off, the last part was sort of out of order.
- One thing I might suggest for future digital formats is having some kind of question and answer board associated with each session that gives participants the option to post questions (that weren't answered during the actual session) and receive feedback once the session has ended. This could potentially help to further the conversation about a particular topic in lieu of being in person. I'm not sure what the best format would be for something like this, but one possibility to consider would be Trello (https://trello.com/en-US). Overall, I thoroughly enjoyed this digital workshop. Everyone involved did a wonderful job, and I was able to gain some excellent insight from all the presentations. Thank you for all the hard work and effort; it really showed!

- Cannot say enough good things about facilitation. Whether in person or virtually, Adam, Sam, and the rest of the ELI team is second to none!
- I appreciate having this meeting proceed in the face of dealing with the pandemic. Hopefully, next year will be in person.
- Even though the workshop was virtual, my supervisor pinged/distracted me, which cut into my participation. Very frustrating, and fuels a desire to be at the WV NCTC next year (hopefully)! I really hate to leave my family and fly (United, ugh), but could be worth not being interrupted/distracted. Thank you for your flexibility in producing the workshop. I know it took a lot of energy, but if I hadn't known the previous plan was in-person at WV, I wouldn't have known this is the first time you presented virtually! Great job!
- Thank you EMMA & SAM!
- I really missed the face-to-face meeting at Shepherdstown. The facility is wonderful, great location, great food and plenty of opportunity to interact with others during breaks, during meals and off times. But great job in moving this to a virtual setting in such a short timeframe!
- I know that it is challenging to host a virtual meeting and make it engaging. I did not attend any of the more interactive sessions, but the training sessions I attended were very good. Thank you for your efforts.
- Thank you for adjusting to the situation and allowing for more participation. I know it was a tremendous amount of effort to switch gears like that, but it is appreciated. Not all of us get to go each year, but it is a good conference with a lot of information.
- Thank you for posting recorded sessions. I'm enjoying some of the information I missed in the other sessions.
- Miss seeing everyone, miss the food, miss the campus. But much thanks for making this year's workshop happen!
- The food was simply not up to the standards we're used to. There were zero pieces of pie or cake available, and I can't believe I didn't see an omelet bar or a Bison burger during the week. This must improve in the future :)
- Thank you all for your hard work and for not letting a pandemic stop this group from gathering and learning from each other.
- Very will run under the circumstances with minimal tech issues. Hoping for an in-person conference in 2021!
- Thanks for the virtual Workshop! I was not planning to attend Shepherdstown this year, but this virtual workshop allowed me to listen to several pertinent topics! Perhaps there will be a way to incorporate this technology into future Workshops.
- In this pandemic situation, I am grateful the team has arranged this training from home. I am glad I was the participant and learned a lot.
- I was not able to sign up for session 2 at all, and I am curious why that was. As a NPS staffer, the TMDL-alt talk would have been very informational, I believe. So, not sure if it was a technical glitch, but I was not offered to sign up for two of the sessions on the registration worksheet (2 and 7?).
- I liked that there were recordings available after the sessions so you could go back to other sessions that may have been happening concurrently and were also useful to hear.
- Thank you ELI for organizing this event.

- I think the last presentation that Kristy gave should have gone a little sooner in the process. It seemed to be thrown in after-the-fact.
- Can't wait until we can get back to meeting in person. The planners and ELI did a great job given the circumstances. I liked that they didn't try to jam in everything that we would have done if it was in person. Good presentations and the technology side went pretty well.
- Way to make lemonade out of lemons, great job!
- Great job - hope to "see you" next year.
- Some of the breakout sessions had multiple topics that I would have liked to have attended. Since not all the topics were recorded, it would have been helpful to know in advance which topics would be recorded in order take advantage of the option to choose the topic that was not recorded and see the recording of the topic missed afterwards.
- You all did a great job, so glad the meeting was not cancelled!!!
- Thanks for all your hard work putting this together so we could still have our annual conference!
- Great job under difficult circumstances. Thanks to all!
- You guys did an amazing job of pulling all this together and providing the large number of participants a great learning experience. The facilitation and use of technology went very well and taught the rest of us how we may be able to use this as we try to continue to move projects forward during this time of COVID. I have heard nothing but positive comments about the conference and the material presented. Thank you!!

APPENDIX 3:
TRAINING WORKSHOP WEB PORTAL &
ELI'S *CWA 303(d) PROGRAM RESOURCE CENTER*

ELI continues to maintain and make publicly available a companion website for this training workshop and past training workshops. Materials and presentations from the 2020 training workshop are available at http://www.eli.org/freshwater-ocean/cwa-303d-training-workshops.

Other resources that are relevant to the mission and work of state and territorial CWA 303(d) programs and tribal water quality programs are available at the Institute's *CWA 303(d) Program Resource Center*, at http://www.eli.org/freshwater-ocean/state-tmdl-program-resource-center.