

Looking Back: Learning from the Last Two Years

How to Participate:

Use sticky notes to add your feedback. Please note there is a character limit. The sticky note function is located in the toolbar on the left side of the screen.

Each slide represents one Factor and it's associated Actions.
Ex. Factor 1: Action 1 & 2

Each Action was already pre-designated with a color (green, yellow, red). If you disagree with the color coding, select a sticky in the color you think it should be and enter your affiliation and why you disagree.

Data Dashboard training is still a priority, work on developing training modules and technical guide documents should begin this fall-

If you agree with the Action's designated color. Match the sticky to that color and provide your affiliation.

Data Dashboard training is still a priority, work on developing training modules and technical guide documents should begin this fall-

Data Dashboard training is still a priority, work on developing training modules and technical guide documents should begin this fall-

Data Dashboard training is still a priority, work on developing training modules and technical guide documents should begin this fall-

We are also looking for lessons learned. Select the color you believe the action to be, then enter your affiliation and any feedback on lessons learned over the last two years.

Factor 1: Best Management Practice Implementation

Action 1: Provide more “boots on the ground” support to address identified technical assistance needs expressed by the state and local jurisdictions / Consider expanding circuit rider type programs to deliver technical assistance / Develop BMP verification and Data Dashboard

Responsible Party = Jurisdictions / WQGIT

Color = RED

CBC continues to advocate for increased USDA-NRCS CTA appropriations, as well as expansion of the newly-created C-SPI within NRCS.

PA - BMP Verification remains a significant challenge, as identified in the Phase 3 WIP and as documented in BMP Verification Ad Hoc Committee.

Conservation & Stewardship Certificate program to prepare students to service as TA providers at graduation, with a goal of growing the potential workforce and reducing training burdens for conservation districts

PA DEP developed a Community Clean Water Coordinator block grant program to fund 10 additional contractors/staff to support local action.

PA DEP provided \$30k per county in December 2021 for expanded BMP Verification; followed up with \$10k per county in July 2022.

Maryland is participating in and effort to maintain a watershed specific organizational "circuit rider" in the Choptank River watershed to focus on under served communities. We're hoping this model may be expanded in the future.

Technical Service Providers to work with Maryland farmers. MD also initiated the Capacity Building Organization-Capacity Building Initiative to provide technical assistance to historically under engaged

DE - Verification is a continued challenge.

DNREC - continues to fund Conservation District staff to conduct verification.

Please see the LGAC webpage 2018 Local Government Forum report on filling the gap for WIP implementation report and appendices for recommendations on technical assistance and local support.

PA DEP and SCC continues to fund conservation district agricultural staff. Recent FY22-23 budget includes a \$22 million investment in the Nutrient Management Fund.

PA: Overall, maybe color is red b/c of volume of work that is trying to be accomplished. Action is being prioritized and there are specific things that we are doing towards this in PA, which are yellow (see other comments from PA).

Data Dashboard training is still a priority, work on developing training modules and technical guide documents should begin this fall -

PA DEP recently applied for a NFWF America The Beautiful Challenge grant to develop a circuit rider program to supplement and expand agricultural technical assistance.

Mike L (WQGIT): An expansion of TSPs has been observed on the ground, but the expansion needs to continue. That said, a hurdle brewing is getting everyone aligned on BMP verification processes

Funding/staff time for verification often comes at the expense of new implementation, as the same people are relied on for both

capacity contract with the Upper Susquehanna Coalition (USC) in 2022 to support technical assistance to farmers/private landowners/municipalities. Also provides support for BMP reporting and

NY established a new capacity contract with the Upper Susquehanna Coalition (USC) that supports technical assistance, BMP tracking and verification

BMP verification is a big challenge.

VA has a robust state budget this biennium, which includes record cost-share and TA amounts. Focused on hiring additional SWCD staff and inspecting out of date BMPs

PA Dept of Ag is working with PA NRCS to provide 25% of the cost of 5 additional engineers (75% funded by NRCS)

Factor 1: Best Management Practice Implementation

Action 2: Continue to update implementation costs on a regular basis

Responsible
Party =
Jurisdictions/
CBPO

Color =
GREEN

perhaps
not a
green

PA - Identification of how inflation and construction costs play a role in the estimate of implementation costs? Ex: \$22/fence post vs. \$8/fence post

Maryland last did an update to BMP costs within our jurisdiction around 3 years ago utilizing University of Maryland economists, but that is likely outdated with recent inflation.

Current attempts to keep up with inflation, rising material and labor costs, etc. are near impossible. Conversely, two year updates do not reflect current conditions.

Mike L: No other way to put it, costs are all over the place. That said, maintenance costs are a consideration that can best be described as fuzzy. We are trying to grapple with level maintenance funding that may be needed.

costs were updated for CAST-19 and now in 2018\$ (Ruth). Need clarity about what we mean by "regular basis" (Jill). Green doesn't necessarily mean it's done, needs continued work.

You can edit cost profiles in CAST at any time when you're creating/editing your scenarios

Factor 2: Funding for implementation

Action 2: Identify and discuss dedicated funding streams and technical assistance providers

PA's new Clean Streams Fund includes \$22 million for Nutrient Management Fund, but CSF has been funded with ARPA money. A post-ARPA source of funding will be needed to keep it going in the future.

Responsible Party = WQGIT and Budget and Finance Workgroup

Color = YELLOW

If the DoD CBP is considered a technical service provider (to its watershed installations), our level of funding is not guaranteed or set at a minimal amount. As a result, our level of support may possibly vary from year to year.

PA - FY22-23 budget included a \$6.8 million increase in state funding to conservation districts (CDFAP and ACT)

PA - continue to fund conservation district Nutrient Management Technicians in 30+ counties, Chesapeake Bay Techs/Engineering staff in 25+ counties

PA - FY22-23 increased funding per full time equivalent (FTE) for conservation district technicians and engineering staff.

There seems to be historic levels of implementation funding, but funding for TSPs has not kept pace.

Unaware of efforts by the WQGIT and Budget/Finance WG to identify and discuss dedicated funding streams outside of CBRAP and CBIG.

PA - states provide CBARA cross-cut reports to EPA annually that identifies how funds are spent in the watershed.

Investigate coordination with DOT for targeted actions in right of ways, fish/wildlife friendly bridge crossing engineering (culvert designs)

Major priority for local governments! Again, LGAC developed recommendations in 2018 during its local government forum.

NY utilizes CBIG/state Environmental Protection Fund to support technical assistance providers.

DE uses CBIG and CBRAP to support TSP as well.

Through its Trust Fund, Maryland supports 53 agricultural technical service providers, restoration specialists who work with local partners, permit reviewers

Trust Fund also supporting Tree Solutions Now Coordinator & Regional Foresters

Factor 5: Water quality monitoring: sustain and enhance monitoring and interpretation of results to help understand water quality response to management actions.

Color =
NOT
SELECTED

Action 2: Incorporate more monitoring trends and loads data into assessment and management outcome (e.g., Bay Barometer)

USGS is updating the nontidal trends summer 2022, expected output by end of August

Why maybe green: numerous USGS fact sheets and presentations on the current trends and explanations of those trends - with several other products in the pipeline for FY2022.

Collaborations with STAR team are generating a new TMDL Load Indicator that will be presented in 2022

Why maybe yellow: Inflation costs are still causing concerns for the maintenance of the networks for the next several years.

Incorporate states' biennial Integrated Water Quality Report (IWQR) data into the assessment of Chesapeake Bay trends.

PA - moving forward with a "super gage" below York Haven dam. This will allow for better identification of water quality trends north of Conowingo Dam

Nontidal trends only available through 2018 for most of the NTN stations

DE - use of Citizen Monitoring data trends as well should be considered

Responsible Party = EPA, USGS, and Jurisdictions

Need to incorporate social sciences, and their connection to water quality, i.e. homeowner fertilizer application, etc.

New NTN results thru 2022 will be out this summer/early fall

Even as more monitoring analysis is incorporated, more monitoring (more locations) generally is needed to better identify trend drivers.

A large gap that is not currently filled is understanding behavior response rather than water quality response. Our management actions first look to alter behavior.

MDE is monitoring continuous stream and air temperature, and turbidity in local streams

MDE is coordinating continuous water quality monitoring in Fishing Bay

DE -concur with incorporating the biennial IR.

Building a bay nutrient model for evaluating progress and understanding water quality responses to management are distinct goals.

PA - agree with DE - citizen monitoring data trends and information submitted to the Water Quality Portal

Mike L: Sorry, will be a few notes...I have to go with what I see on the ground and will use home base (Lititz Run as an example). It has a self-sustaining fish population, nitrates consistently below 10 mg/L, very little TSS found during...

rain events. The system is healthy. This does not mean more work is not needed, but it is healthy. However, all models and similar call out high sediment loadings, nutrients, etc. We just do not see it on the ground here...

2022 the water quality standards indicator has been updated through 2020 by STAR analysts

New publications (e.g., Zhang et al. 2020, Murphy et al. 2021, Frankel et al. 2022) that help tell the story of change/progress with water quality, habitat conditions

PSC requested monitoring program review, results are generating new partnerships, new investment in monitoring to address gaps (2021-22 process, report in final approval for release this summer 2022, expected in August.)

A new publication, developed from STAR+ partner support, is under development in 2022 on changes in nutrient limitation in select tidal tributaries

Factor 5: Water quality monitoring: sustain and enhance monitoring and interpretation of results to help understand water quality response to management actions.

Action 2: Use monitoring data to target practices demonstrate success

PA - using IBI scores and other water quality data to identify restorable catchments. Including the use of EPA Recovery Potential Screening (RPS).

PA - Section 319 NPS Management Program implements local Watershed Based Plans (WBPs/WIPs) based on existing monitoring/modeling.

Virginia has interest in 4D interpolator monitoring that can more accurately capture deep water DO and other data from the mainstem of the Bay

Seems yellow. USGS still working to develop improved targeting tools to help inform both targeting locations and for management decisions, as well as achieving benefits for multiple outcomes.

USGS Stream health factors affecting stream health analysis and reporting has provided presentations. Publications should soon provide referenceable support on BMP to affect change based on factors

Color =
NOT
SELECTED

Responsible
Party =
Jurisdictions

are we
missing
responsible
parties
(USGS)?

Monitoring data used to select watersheds for NWQI program in NY

using high-res map data and local impairment information to identify stream reaches that can show a quick and cost-effective move off the 303(d) list. Generates an implementation focus and local stakeholder

Mike L: when considering "response", it would be great if baseline data and post-implementation data looks at both wet weather and ambient conditions.

PA - provide training to local partners on RPS and other screening tools that include monitoring data.

PA - developed story-map standard for IWQR so that local stakeholders can easily use the report for identification of areas to implement BMPs.

PA - work with NRCS and SRBC on source water protection and NWQI watersheds.

Targeting cost effective implementation should still be red -but policy, and crediting specifically seem to be the limiting factor, not monitoring data.

PA - Monitoring efforts takes resources and so the challenge is where baseline data is nonexistent or out of date.

DE together with stakeholders, we struggle to detangle differing long and short term trends in monitoring. Landuse influences are of interest too!

Factor 7: Climate change tracking

Action 1: Integrate the "STAC" technical synthesis on climate resilient and adapted BMPs and management actions into communications to jurisdictions for meaningful decision-making

Note: the synthesis report was not actually a STAC document, so the revised LAP will be corrected

Responsible
Party = STAC
and
Jurisdictions

Color =
YELLOW

that are directed towards 1) assessment & implementation of climate ready BMPs for stormwater management and 2) assessment & implementation of climate ready BMPs on ag and natural lands. By next year

Where can we find the STAC technical synthesis? Aren't we waiting for the Center for Watershed Protection's final assessment of BMP climate resilience?

The document can be found here:
https://www.chesapeakebay.net/documents/A_Systematic_Review_of_Chesapeake_Bay_Climate_Change_Impacts_and_Uncertainty__Watershed_Processes,_Pollutant_Delivery,_and_BMP_Performance_Final_14Feb2022.pdf

Awaiting state administration guidance on how/if to advance climate change efforts

Maryland has begun an effort called Advancing Stormwater Resiliency in Maryland (A-STORM). It's looking to integrate the new IDF curves, among other information, to set new design standards for urban BMPs.

Communications tools (Fact sheets, splashy two-page hand-outs) should be developed for the jurisdictions.

PA - developed and published Climate Impacts Assessment in 2020 that focuses on agricultural and watershed restoration BMP implementation and effects of climate on those.

Mike L: just a sidenote for consideration...on the ground, seeing a lot of local jurisdictions tackling or addressing climate change, resiliency, etc. in a variety of ways and some creative). Perhaps efforts to capture...

...what is occurring locally to help build a more comprehensive guide for approaches?

What about federal agency BMP implementation? Is that implied in your Action with regard to jurisdictions?

Yes, that's right. Federal agencies in the CB watershed should be applying climate adapted BMPs just as with all the other CBP partners.

Collaboratively Responding

How to Participate:

We are asking for feedback on 3 different questions. Because of time constraints, we will only be focusing our collaborative discussion on 1 or 2 of these.

The Jamboard will remain open after the meeting to give participants time to add their feedback. Please input all comments to the Jamboard by COB Wednesday.

Looking back over the last two or more years, describe any scientific (including the impacts of climate change), fiscal, and policy-related developments that impacted your progress or may influence your work over the next two years. Have these resulted in revised needs (e.g., less, more) to achieve the goals?

Two-year model updates have (negatively) impacted communications and messaging to our stakeholders and the greater public about our collective accomplishments.

BMP Verification Framework Guide (released in 2014) has been identified as a hindrance to demonstration of water quality improvements through modeling.

New workgroups have formed to tackle new needs of the community - the 4D Workgroup (BORG) and the Hypoxia Collaborative with NOAA co-chair

2021-22 PSC monitoring review provided investment options for sustaining and improving monitoring capacity

Lack of consensus within the partnership workgroups and decisions has also created challenges and delays

Conowingo WIP is an innovative strategy for meeting water quality goals and outcomes.

The PSC approved policy to report annual numeric and programmatic progress as well as two-year milestone commitments has required additional staff time for reporting outputs and outcomes.

EPA has supported investment of the 4D interpolator for improved assessment of water quality standards attainment. Tool development is starting Year 2.

SPURR thought model, i.e., Specific and actionable, Programmatic partner, Urgency of the needed action, Risk of not acting, Resources required

New science has supported direction on development of 4D analyses (e.g., Gulf of Mexico dissolved oxygen assessments)

Integrated technical service provider curriculum development that would support progress in our outcomes across the program so implementation and landowner outreach is no delivered in silos

Seeing all these notes and covering a variety of thoughts, topics, etc. Are we over-thinking what we are trying to achieve? Are we creating too many barriers to what we want to achieve?

Historic and recent identification of fertilizer sales data not meeting scientific muster has impacted our demonstration of achievements through modeling and will continue to impact moving forward.

I understand the need to address new science, but transitions from one CAST version to the next seems to keep moving us further away from the goalpost and that is demoralizing. Increased needs

In the next two years, more intentional engagement on land use/land cover and the impacts of continued development - targeted engagement in areas of serious vulnerability

MEB funds and CB IJA funding (and the waiver of match for the initial year) have positively impacted our investments in on-the-ground implementation.

outcome attainability analysis showed us we are really behind on forest buffers and wetlands, two outcomes that are also important BMPs for multiple outcomes so our next work should connect more strongly to supporting those outcomes

CAST updates relying on weak data sources for fertilizer have created challenges.

Fiscal limitations - particularly for BMP inspection and maintenance to ensure long term credit.

Decisions on new BMPs and delays in approving expert panel reports have impacted implementation

New Bipartisan infrastructure law funding is generating investments in monitoring capacity identified in the PSC monitoring review report

Our current form of reporting has become very burdensome relative to other metrics that are newly available (imagery)

Assessment) have provided science and research updates on the potential for operationalizing satellite-based monitoring assessments support. Multi-agency investments are supporting work

The length of time to make partnership-decisions has (negatively) impacted our ability to demonstrate achievements in BMP implementation via modeling.

converting turfgrass to trees and minimizing fertilizer application is largely viewed as one of the most effective things we can do for WQ and yet we've not made significant progress

Cover crops from space (USDA, others)-represents an amazing opportunity to reduce TA staff burden, incorporate voluntary practices, and shift funding to long term practices

costshare eligibility is limited so that agronomic BMPs are prioritized over conservation. even with 100% costshare for conservation we are limited b/c of the limit

STAC Rising temperature workshop report is being finalized, expected to provide some guidance to further monitoring investments needed to provide decision-support.

BMPs put on land in the transition shallow water areas - the selection of the tributaries for shallow water modeling should be based strongly on criteria that include emphasis from our living resource and habitat outcomes so we are at

It seems important to ask whether our investments in non point have effectively moved the needle as we expected per \$- and if not - why not?

Actual BMP performance/efficiencies continue to be a challenge.

Based on what you have learned through this process and any new developments or considerations described in response to [the previous], how will your work change over the next two years? If we need to accelerate progress, what steps are needed and, in particular, what specific actions are needed? What is the ability of your group to meet and, therefore, you need to achieve?

Information overload is a real issue. It takes time to develop and review reports, provide feedback to federal and local partners, and make informed decisions.

we may learn that focusing on the deep trench is not in our best interest - this may be something the Management Board may need to get engaged on (depending on whether it shows up in cesr)

Creating technical publications (Criteria Assessment Protocol WG in particular) to document new protocols on new monitoring capacities including for the hypoxia collaborative, any satellite-based operations, and the 4D interpolator

This recent paper highlights many problems with our current approach that deserve our attention. <https://onlinelibrary.wiley.com/doi/full/10.1111/1752-1688.13010>

Better and more timely communication tools for stakeholders are needed. Continued stakeholder and landowner engagement is needed to meet our collective goals.

Recommend reviewing jurisdictions' two-year milestone commitments to glean what actions will be taken.

Bay Oxygen Research Group will be evolving its detail with increased examples during development on application for addressing water quality standards attainment assessments

We need all hands on deck in VA and among the federal family to achieve the Virginia Security Corridors Sentinel Landscape designation.

We are overly invested in efforts of which we are certain of outcomes; and under invest in efforts that may influence behavior but are impossible to track.

New investments will sustain existing product development from monitoring program outputs (e.g. bay and watershed-wide status and trends, indicator support)

WQGIT needs to Focus on approval of new BMPs and encourage streamlining process for getting practices approved and credited in the model

Let's talk about what the pace of improvement shows in the monitoring data for the bay - what is an expected time to achieving WQ stds and can we cut the probable time in half? What might it take?

Comprehensive Evaluation of System Response (CESR) from STAC yet but it will highlight opportunities to build new considerations into our next cycle workplan - we should make sure to connect the recommendations

with the relative small number of folks and industries in the world that could change the way society functions - e.g., single use plastics to life cycle materials, renewable energy versus fossil fuel and its continued impacts on climate,

We need to invest in new ways to actively track the 'watershed population' rather than relying upon 'free and available' data sources.

We need to focus on finding ways to pay for outcomes rather than practices.

Don't lose sight of the great progress made, embrace that we are attempting to accelerate it :-)

We need to refocus and recalibrate to consolidate and prioritize in order to accelerate to meet our end goals.

PA's revised amended Phase 3 WIP includes a Federal Coordination section that outlines needs from our federal partners and the partnership to ensure successful implementation.

Closer align how we spend time at the WQGIT with our outcome--installing practices and controls to achieve water quality standards.

Create space in our agendas for jurisdictions and other partners to talk about opportunities to increase implementation efforts to achieve water quality standards.

We need to have spaces at the WQGIT for 'big ideas' with long timelines; rather than simply sticking to procedural needs. the wqgit is full of expertise and ideas

PSC is providing staff recommendations to assist with implementing recommendations of the monitoring report in a partnership approach. Kickoff meeting projected for autumn 2022

The WQGIT should consider a focus on cost-effectiveness analysis to understand how we could decrease costs.

integrated technical service provider curriculum development that would support progress in our outcomes across the program so implementation and landowner outreach is no delivered in silos

tributaries selected for shallow water modeling should reflect citing criteria important to living resources and habitat goal teams especially where investments in restoration/conservation are being made in certain tributaries

credible is hindering new ideas and enthusiasm for new implementation. Accountability is important, but things seem to be out-of-balance, both in how we approach the model and the balance between

New monitoring capacity will mean greater partnership coordination from infrastructure acquisition, operation and management and the data analysis and reporting

raise the costshare eligibility limit, or remove the limit for all codes that are for conservation/water quality and not agronomic

broader use of SRF funds to achieve multiple outcomes, especially nature based features

to accelerate the outcomes we are currently falling short, we need to engage the states in creative use of SRF funds to pay for the restoration work in service to water quality, habitat and living resources practices (forest buffers, wetlands)

guided by the logic and action plan for the next cycle rather than driving their own areas of focus, so that there is continuity and alignment between workgroups and the goal team in terms of all working in areas that our adaptive management analysis

We need to super-charge tree planting efforts for WQ and Climate Resilience!

What steps are you taking, or do you recommend, to ensure your actions and work will be equitably distributed and focused in geographic areas and communities that have been underserved in the past?

target our work to align with other goal teams implementation on multiple benefits, and put people at the center of those targeted actions using Chesapeake EJ screen as a guide

PA has been providing additional preference toward EJ and underserved communities in competitive grant programs.

PA provides additional outreach to EJ and underserved areas for our grant programs through the DEP Office of Environmental Justice.

CB MEB IJJA/BIL funds are to be used in a way that provides preference toward positively impacting underserved areas.

EPA MEB EJ communities map - Multi-million dollar grant programs are being developed around these maps. They should remain unchanged through grant period.

DEP has active DEI/J workgroups, in which two DEP Chesapeake Bay Office staff participate.

EPA CBPO should discuss with EPA Water Division, State Partnerships Branch on how Region 3 states are providing grants and NPS Management focus on EJ areas.

We struggled to make progress on equity related actions and are unsure of how to implement them. Perhaps training/guidance across all GITs, including WQGIT, can help increase implementation.

EPA should consider the impact of additional reporting requirements for IJJA funds on underserved communities.

The PSC monitoring report recommendations have line items for small watershed monitoring interests that are To Be Determined with locations. Input on those locations will consider such distribution concerns

Can we somehow evaluate the impact of the MEB disadvantaged communities work?

NY Environmental Justice Grant Program and priority scoring for EJ communities in a variety of funding opportunities

MDs Trust Fund now prioritizes environmental justice benefits as a co-benefit and will be using this metric when awarding implementation grants.

EPA defined MEBs include this as a factor, but when combined with effectiveness ratios in VA are very restricting. Leaves out significant low income and DEI/J areas

Provide opportunity for dialogue about targeting

tap into DEI/J contractor support when hired

The Chesapeake Monitoring Cooperative is using its planning time for designing monitoring support in the watershed to consider work targeted in part to underserved communities

Mentoring at universities involved in opportunities for scientist development through programs focused on working with underserved communities

The Nontidal Network WG is conducting a prioritization process that is creating a plan for when funding levels may not support all stations. Filters, such as geography and community representation, are being considered

invite the diversity workgroup members to work with us on project citing criteria that helps us focus in EJ areas where we would benefit communities

Additional Notes

At times I believe we should rename "progress" reports to "management" reports". The model appears to be a good tool for "what if" where WQ data is the "what is". I make this comment after seeing all the great input..

...and can't help think we concentrate a lot on forcing the "what if" to be the "what is". Just a general thought when we think about the next few years, our focus, etc.

Action Items

Parking Lot Items