

Habitat GIT Fall Meeting

11/30/2023

Discussion on Beyond 2025 & CESR

Attendees were separated into outcome-specific breakout groups, and asked to answer the following series of questions.

BROOK TROUT OUTCOME

1. How would you move to an outcome-based approach to meeting the TMDL? Is there a relationship between your outcome and the TMDL that could be modeled or measured?

Reducing stream access to livestock (i.e. fencing/exclusion)

Target Brook Trout Patches to achieve > 70% Forest cover (also riparian buffer outcome)

Science need: does AMD remediation also meaningfully reduce nutrients and sediment in addition to metals

Measuring Buffer planting progress relevant to gains in brook trout occupied habitat. GIT Funded tracking tool

Identify additional overlap with other WG/GITs (e.g. healthy watersheds, buffers, stream health etc...)

Reducing sediment/erosion runoff from dirt and gravel roads in BKT/headwater streams

Promoting soil health BMPs in MEB/BKT priority watersheds (e.g. soil infiltration, runoff reduction, carbon sequestration,)

Utilize MEB watersheds layer in conjunction with TU Brook Trout Portfolio mapping (stronghold and persistent patches). Utilize Fencing, crossings and Rip Buff BMPs

2. Given the findings of CESR what should your workgroups begin to focus on, or do differently? What limitations do you see that need to be addressed to change your approach and/or focus?

Full scale buffer and fencing in BKT strongholds with MEB priorities

CESR focuses on bay "proper", focus could be shifted towards Headwater streams and local communities

Starting at the top and working down to the bay is logical in that it produces continuous connected habitats instead of discrete points that are improved

Please communicate (and allocate funding) for headwaters work for its own benefit and not necessarily tied to TMDL - this helps pull in many people who we need buy-in from

FISH PASSAGE OUTCOME

1. How would you move to an outcome-based approach to meeting the TMDL? Is there a relationship between your outcome and the TMDL that could be modeled or measured?

I don't really see a connection here? If anything, dam removal is sometimes seen as negatively affecting TMDL goals.

James River used to be loaded with herring and shad. Non-tidal areas that support the diadromous fish aren't as affected by high nutrient loads.

Our workgroup provides direct habitat restoration to aquatic species. Removal of barriers through dam removal and improving stream crossings restores aquatic communities

join forces with other workgroups...stream restoration

2. Given the findings of CESR what should your workgroups begin to focus on, or do differently? What limitations do you see that need to be addressed to change your approach and/or focus?

I don't think the findings of CESR will change how we select or prioritize fish blockages.

We typically prioritize areas for fish passage that have better water quality. The better the water quality is for fish, the more likely our fish passage efforts will improve habitat for fish.

We need to make sure regulators don't inhibit our ability to remove blockages because of TMDLs. Blockages are not natural and sediment should be allowed to move downstream.

We should note that we consider the affects of passive sediment downstream before we do it. Bloede for example.

STREAM HEALTH OUTCOME

1. How would you move to an outcome-based approach to meeting the TMDL? Is there a relationship between your outcome and the TMDL that could be modeled or measured?

There are already metrics for stream health to meet other agreement goals. These could be equated to water quality.

Focus on land use changes/zoning/other policy as well since this impacts our overall outcomes

Policy linked to NPDES credits - nudge MS4s and others to use more habitat metrics (not just Bay Agreement other policies in state/local gov't)

[1 OF 2] WV DEP - what if we measured all streams that we take off 303d list (using own state resources to meet bio criteria) but not worried about the location of the...

Consider also credit for existing monitoring and findings that streams are still in fairly good condition

Pose this question to others (e.g., full stream health GIT; scientists esp those who authored CESR) to help us figure out what outcomes we should target...

Adding outcomes based on people (maybe acceptance or movement to action for behavior change) and/or economic outcomes (more \$ from fisheries).....

[2 OF 2] ...stream as it's related to triblets/T-zone streams - which ones are those, exactly? What actions do they need?

Out of the box actions that can improve stream health (e.g., stream culvert replacement).

2. Given the findings of CESR what should your workgroups begin to focus on, or do differently? What limitations do you see that need to be addressed to change your approach and/or focus?

Credit is only given for modeled nutrient and sediment reductions. Credits for improving habitat should be included.

[1 OF 2] For biology, we could dive into metrics within the BIBI and/or other functional measures, we do have a fish assessment from work with the FHAT...

[2 OF 2] ...and there is work in the USGS being done on "abiotic" indicators like geomorphology and specific conductance.

Expand restoration database, analyses, and report to include projects beyond TMDL focused. It missed things like AMD restoration

Mapping effort or new conversation for areas on the borders of fresh/saltwater.... since CESR mentions the inputs at estuary boundary

Soil sampling to prioritize sites (more P/N etc., here so we can prioritize restoration here).

SUBMERGED AQUATIC VEGETATION (SAV) OUTCOME

1. How would you move to an outcome-based approach to meeting the TMDL? Is there a relationship between your outcome and the TMDL that could be modeled or measured?

SAV is already an outcome based approach to meeting the TMDL. We're a clearly visible indicator of WQ improvements.

Improving the shallow water model to reflect the linkage between water quality/TMDL/nutrient reductions and SAV abundance and distribution.

2. Given the findings of CESR what should your workgroups begin to focus on, or do differently? What limitations do you see that need to be addressed to change your approach and/or focus?

Expand direct SAV restoration

Break down the smokestacks in the HGIT; to me, CESR response will require integration, so the current structure of this GIT is not conducive to effective response

Continue to focus on expanding shallow water monitoring at all scales/tiers

Also need data on unvegetated areas to inform models and compare to SAV habitat functions

Holistic monitoring of the shallows

Limitation - Long-term sustainable funding!!!

WETLANDS & BLACK DUCK OUTCOMES

1. How would you move to an outcome-based approach to meeting the TMDL? Is there a relationship between your outcome and the TMDL that could be modeled or measured?

I would stop focusing on the TMDL credits and instead focus on water quality outcome targets which should include buffer zones and utilization of proven standards.

An ecosystem based modeling approach that links the water quality, aquatic life, and other ecosystem services that wetlands provide.

PA has found that historic alterations of our watersheds are the dominant constraint on resource recovery. TMDL has no real bearing on these constraints.

What happens if we establish a local wetland loss TMDL?

Historic alterations are the driving constraint on wetland recovery/reestablishment, the alterations contribute to the TMDL but the focus is on treating the symptoms not source.

Citizen/community science monitoring could bring more attention to WQ hot spots and link to establishing local champions too

Consistent water quality testing within communities and targeting hot spots for pollution might be a good way to evaluate and solve water quality issues along tributaries.

NWI could summarize the existing wetland data in the watershed by type (emergent, forested, scrub) and acreage. The data is old in many parts of the bay but the best there is.

Taking a tiered approach to TMDL, local TMDL sets priority and by addressing it the larger Bay TMDL goals should receive credit.

Care needs to be taken when trying to improve degraded wetlands and understanding broader historic alterations that control the degraded environment.

Need the science to quantify wetland contribution to nutrient/other TMDLs reduction

PA wetland program sees the only way to begin closing the gap on the wetlands goal is to couple it with other living resources such as stream health.

~50% of federal threatened and endangered species are wetland dependent. Tying wetland to T&E responsibilities might allow tapping into federal funds

2. Given the findings of CESR what should your workgroups begin to focus on, or do differently? What limitations do you see that need to be addressed to change your approach and/or focus?

Value should be attributed to habitat improvements in addition to modeled nutrient and sediment reductions.

More incentive like a crediting system would bring more results and voluntary action.

Identification of wetlands and working on improving wetland habitats through grant funding and protection would be good priorities.

Stop using the term maximize living resources for TMDL targets, ecosystem restoration approach allows optimal gains to be made without compromising ecosystem benefits.

CESR provides a justification for focusing more on habitat and living resources. Wetlands are considered the ultimate biodiversity hotspot (IUCN and peer review)

There would be value in creating a waterbird/fowl community composition index that overlays wetland restoration priority areas as a reflection of habitat functionality

Establishing local champions is critical for sustainability of projects already in place. This is where the public education comes into play. A wetland PR campaign would also be good.

Creating and supporting Public, private, non-profit partnerships at smaller scales that focus on targeting & implementation of projects based on science and modeling.

Setting some wetland conservation standards to follow and enforcement would also be good similar to the FCA in MD.

Reevaluating watershed plans in the standards of the EPA 9 minimum elements is a good foundation for establishing guidelines in communities.

How to overcome the implementation gap that exists. there isn't sufficient incentives for adoption of wetland practices for smaller landowners

Reference recommendations from STAC wetland crediting workshop...

More emphasis/research is needed on targeting where we get the habitat and optimize the TMDL benefit.

Data on wetland migration corridors to limit development would be a priority for me.