Maintain Healthy Watersheds GIT Meeting
October 16, 2023
11:00 am-1:00 pm
Meeting Materials

Kaite Brownson, USFS
Jeff Lerner, EPA
Peter Claggett, USGS
Sarah McDonald, USGS
Alana Crowley, DNR
Alex Gunnerson, CRC
Angel Valdez, MDE
Ashley Hullinger, PA DEP
Bonnie Bick
Cassie Davis, NYDEC
Dan Murphy, USFWS
Debbie Herr Cornwell, MDP
Kara Kemmerer
Kristin Saunders, UMES
Kelly Maloney, USGS
Lori Maloney, EBTV
Michelle Katoski, USGS
Mindy Neil, WVDEP
Nancy Roth, Tetra Tech
Scott Stranko, MD DNR
Sean Emmons
Todd Janeski, VA

11:00 AM **Welcome–** *Jeff Lerner, HWGIT Chair, Acting Branch Chief, Partnerships and Accountability Branch*

11:10 AM **HWGIT Updates and Action Plan-** *Sophie Waterman, HWGIT Staffer, CRC*

Sophie provided updates and happenings relevant to the HWGIT. The full presentation can be found here. Sophie also reviewed the HWGIT Action Plan to help orient the group to the work we have been doing, and how all of our meeting topics for the last several months have been tied to actions the HWGIT agreed to during the last SRS cycle. The goal is to stay on track and tackle topics we set out to work on two years ago.

11:20 AM **Bay Program Updates-** *Jeff Lerner, HWGIT Chair, Acting Branch Chief, Partnerships and Accountability Branch*

Jeff gave some updates on the Beyond 2025 discussion, discussed the upcoming Executive Council meeting, gave a preview of the revised SRS process, and talked about some funding opportunities.

Executive Council (EC) Meeting: The topics at the EC meeting include.

- Accelerating investments
- Advancing monitoring- shallow waters tidal and non-tidal
- Social Science- incorporating social science into Bay Program work (particularly with landowners who will have to do the boots-on-the-ground portion of the work)
- Implantation of action plans such as WIPS and action plans from jurisdictions (for example the buffers and wetlands action plans that were created this past year)

Beyond 2025 (B25): All goal teams are on the B25 steering committee. An outside consult (ERG) is evaluating the structure of the program. The hope is that ERG will come and talk with our GIT to gain input. They are playing the role of 3rd party evaluators to assess how they are doing. The B25 steering committee is now identifying key topics to focus on. The upcoming October 26th meeting will be dedicated to finalizing the key topics. Jeff would like the HWGIT to participate in the proactive land conservation conversation. It connects with our outcomes along with other Bay Program outcomes. There is a need for proactive/strategic land conservation. Using the CHWA2.0 is a good way to start with identifying areas needing conservation.

In the chat, Kristin noted that "there are definitely opportunities to connect the protected lands workgroup and steering committee members on the Chesapeake Conservation Partnership (CCP) to the conservation of healthy watersheds.....we should pull the three groups together to scope out what we might present together to the Beyond 2025 Steering committee." It was also noted that protection should be a cornerstone of the next agreement per CCP. How can we work with protected lands and HWGIT to see if we can do long-term land conservation?"

ACTION: Bring CCP and Protected lands to a HWGIT meeting to discuss the connection of protected lands and HWGIT. Go deeper with land conservation: why is it important? How does it connect to healthy watersheds?

Revised Strategic Review System (SRS): The Bay Program is updating SRS to make it more efficient and effective. This newly revised system has been presented to the Management Board (MB). Some of the revisions include:

- Reduction of steps of SRS and making new steps more straightforward and collaborative
- Reduction of paperwork- one key document would be prepared to be used for discussion. Fewer documents will need to be updated. This new document would be short, concise, and useable.
- Update to the schedule and groupings- The orientation of the original groups is being changed. The new set of cohorts will start in December. The first one up is that "living resources" cohorts will have more outcomes that are better related. The Healthy Watershed outcome will be in a new cohort called "watersheds" that includes outcomes: Tree Canopy, Riparian Forest Buffers, Climate Adaptation and Resilience, Stream Health, Protected Lands, Land Use Methods and Metrics. The Watersheds SRS cohort will begin in June.
- Quarterly Progress Meetings will be longer. They will be from 10-4 to ensure that outcomes can talk to the MB. Outcomes have the opportunity to talk with the MB every year if they want.
- This new schedule will hopefully be efficient for everyone involved.

Funding: Jeff discussed the discontinued Healthy Watersheds Consortium Grants (HWCG) and wanted to get input from the HWGIT to see there is an interest in re introducing the grant. HWGG in EPA region 3. Funded 1 million dollars of land protection including Trout Unlimited, Lower Shore Land Trust, Cacapon & Lost Rivers Land Trust, AKRF, VA DOF, Morgantown utility board, and PA dept. Of Conservation and Natural Resources. EPA is looking at making this funding happen again. The idea is that funding would come from CBP and HWCG to help fund capacity building and watersheds. Headquarters is looking for

an alignment of the national program and our regional program to help fund more acres and miles of protection.

Kristin Saunders stated that it is a cool idea and asked if this kind of funding source could be used to analyze healthy watersheds that are protected/unprotected. Who can apply?

Jeff said that States, NGOs, and for-profits can apply. It would be a broad application pool. There has been interest from local governments. There would be an open call for someone to manage this program at the national level, and then a cooperative agreement would be created. Jeff noted that if the Bay program provided money, that money would have to stay at the Bay level. However, there is a potential connection to other watershed initiatives.

It was asked if there would be a single RFP for both programs (a Bay Program grant and then an outside Bay Program Grant) or two different RFPs. Who would administer it?

The Bay program could manage it on its own, but starting with a national program would be beneficial to help with capacity building.

The timing of this grant would be sometime in 2024. An RFA to find someone to administer the program would need to go out, and an RFP for awards would probably show up in 2024.

11:45 AM **Land Use Change in Healthy Watersheds-** *Peter Claggett, HWGIT Coordinator, USGS*

(Workplan Actions: 1.1 Continue gathering inventory of healthy watersheds, 1.2 Develop vulnerability information,1.4 Maintain and expand assessment activities and information, 4.3 Promote the science)

Peter presented the preliminary land use change statistics for state-identified healthy watersheds.

Using the 1m resolution LULC change data (2013/14-2017/18) we can map 205 county regions. Within those 205 counties, we have subsects of land that are "state-designated healthy watersheds" or SDHW. Peter showed the HWGIT what is happening to the SDHW between the 2013/14-2017/18 time period. Below are some of the results of the analysis Peter did:

- The rate of development in SDHW is lower than in the region. The natural and ag conversion conversation ratio is 4.4 for the region and 2.5 in SDHW.
- Natural and ag conversion were highest in VA and lowest in NY.
- Healthy Watersheds in the I-95 corridor tend to have higher amounts of development. Suburban areas are where we see the most change. In the Bay region, you are not going to see a lot of brand-new subdivisions, but you are going to see an expansion of current subdivisions.
- When it comes to land protection, we see a greater percentage of lands within SDHW are protected compared to all other lands. Currently waiting on protected lands change data to see the rate of protected lands change.

We have a communications challenge on our hands. How do we communicate this analysis? SDHW have varying definitions that need to be explained. When discussing health, we have a land versus a stream perspective. What is the metric of health?

Discussion

When states have more liberal definitions for defining a healthy watershed do we see more protection? Or are there too many differences between each state?

The stricter the definition, the easier it is to see those SDHWs stay protected. The broader the definition, we see that there is a lot more land use change to development. Questions for the group: What is being done differently in an SDHW? Is there more grant money to help with protection and health? Is grant money being focused on protecting SDHW? Are localities provided with support to help maintain SDHW?

12:00 PM **CHWA 2.0-** *Peter Claggett, HWGIT Coordinator, USGS*

(Workplan Actions: 1.1 Continue gathering inventory of healthy watersheds, 1.2 Develop vulnerability information,1.4 Maintain and expand assessment activities and information, 4.3 Promote the science)

Peter and Sophie presented the new CHWA2.0 application, highlighting the use of the tool to explore the condition of state-identified healthy watersheds.

The tool is helpful when exploring data and landscape conditions. A data exploration- the CHWA 2.0 can potentially add additional areas designated as SHWD. There is a need to build out use cases to help demonstrate how the tool can be used in the real world. We will need jurisdictional help.

Sophie ran through some example use cases on how one might use the new tool, highlighting different features of the tool. The CHWA2.0 is in its final stages of development, and some bugs still need to be worked on. Once the tool is officially released, the HGWIT leadership team will meet with jurisdictions to talk about CHWA2.0, among other things.

Discussion

Kristin Saunders noted that other outcomes could hone their work using the healthy watershed assessment. The HWGIT might want to intentionally connect to other workgroups to see how they might use the tool.

Sarah McDonald noted that the tool includes bivariate maps, with 5 directly applicable to outcomes. Fish passage, forest buffers, brook trout, fish habitat, and protected lands. These were pulled from the story map here: https://gis.chesapeakebay.net/healthywatersheds/collection/

Getting down to the parcel level is needed for decision-making. Does our data help with those decisions?

We have catchment boundaries, which is a really fine level of detail. Working on additional parcel data.

Katie Brownson asked if the LU change data was integrated into the CHWA. Sarah McDonald responded that yes, we incorporated the high-res land use and land use change into the application and to the model predicting BIBI scores.

Angel Valdez noted that the scale can be very helpful when helping to value various mitigation opportunities within MD's Tier II waters. It will certainly help when directing individual applicants and even on a broader scale, Counties, in which activities are more critical, especially when there aren't a lot of opportunities for restoration.

12:30 PM **Indicator Development**- *Sarah McDonald, LUWG Coordinator, USGS*

(Workplan Actions:1.4 Maintain and expand assessment activities and information, 4.3 Promote the science)

Sarah shared the status of the Healthy Watershed Indicator(s) and solicited feedback on outstanding questions and issues. She reviewed where we are in the indicator process and the questions the indicator team has been asking. The development team has decided that the indicator will be broken out into three sub-indicators: status, influencing factors, and vulnerability.

What is a healthy watershed has been the biggest question that the team has been grappling with. Reviewing the definitions that are out there from the states and EPA, the Indicator Action team has come back to the question, "Is watershed health stream health?" as most jurisdictions use stream health to determine watershed health.

It is important to consider stream health as in-stream and riparian while watershed health is landscape. What is stream health not monitoring that we should be monitoring?

There is a need to collaborate with the stream health workgroup, as there is a clear relationship between the watershed and stream health.

Sarah then showed some examples of what monitoring the landscape could look like.

Discussion

One indicator will not summarize it all. We can't look at the landscape or just look at the water. The forest service has a watershed framework- 12 indicator model evaluating forests. USFS Watershed condition framework:
https://www.fs.usda.gov/naturalresources/watershed/condition_framework.shtml

Kristin Saunders in the chat wrote: Thank you Sarah for walking through all this complex consideration....really good thinking has been put toward this. Pulling a thread from the CESR report, I am wondering if a piece of the indicator development should deploy the idea of tipping points? I remember CESR talking about tipping points that can accelerate decline but also with intensive restoration and protection, tipping points can be achieved to accelerate improvement especially in the shallow water areas (land/water interface in both tidal and non-tidal areas)

Tipping points were brought up: How do you know when a watershed is tipping over into an unhealthy watershed?

An early warning system- will hopefully be captured in the vulnerability aspect of the indicator. Thresholds can be hard to define as we see changing infrastructure on the ground.

Bibi metric might not be the best metric used to understand tipping points. Additional metrics that are more sensitive are going to be needed to track tipping points.

Other healthy watershed indicators were discussed:

The state of Minnesota has a watershed health assessment framework.

Nancy Roth brought up that there is a need to understand physical factors and indicators that go beyond the biology of a stream. Framework for stream health workgroup was created as a GIT funding project. Nancy will send it to Sarah.

Landscape metrics- forest health goes beyond just trees. What species are they invasive? What pests?

Are there any human-use factors considered? Such as recreation (viewsheds, trails, various kinds of access), working lands, and even history/identity).

Source water protection!

Kelly Maloney put in the chat: USGS is working on 1:24k assessments with both macroinverts and fish using not only the IBIs but also metrics based on function and diversity as well as key species of interest (e.g., brook tout). We are also looking at other indicators including hydromorphology, specific conductance, and flow. We have compiled much of the data for the watershed and models for several of these endpoints. For example, A USGS effort under Matt Cashman has predicted hydromorphic condition, specifically of rapid physical habitat assessment metrics for all stream reaches, in the Chesapeake Watershed for the 1:100k NHDPlus v2.1 stream network. This is based off multi-juridisctional datasets, similar to the effort for ChessieBIBI. It is not yet published but work is complete and the report going into review in the immediate future. This would be something to consider for instream habitat in the Healthy Watersheds Assessment