



Habitat Goal Implementation Fall 2021 Meeting Minutes

November 09th – 10th, 2021

All Meeting Materials from both days can be found on the CBP Calendar ([LINK](#))

DAY 1: Tuesday, November 09, 2021; 13:00-16:30 ET

PARTICIPANTS: 56

Alan Weaver	Alison Santoro	Amanda Poskaitis	Andrew Howard
Angie Sowers	BeKura Shabazz	Bill Jenkins	Brooke Landry
Carl Friedrichs	Caroline Johnson	Chris Guy	Chris Moore
Cindy Johnson	Clint Morgeson	David Goerman	David O'Brien
Denise Clearwater	Doug Meyers	Elizabeth Zinecker	Emily Zollweg-Horan
Gina Hunt	Greg Allen	Iris Allen	Jeff Lerner
Jeff Trollinger	Josh Homyack	Julie Devers	Julie Reichert-Nguyen
Justin Shapiro	Karina Nunez	Katie Brownson	Katie Ombalski
Katlyn Fuentes	Kevin Du Bois	Kristin McCarthy	Kristin Saunders
Lydia Brinkley	Mark Hoffman	Mark Southerland	Mary Andrews
Megan Ossmann	Melissa Yearick	Mike Bednarski	Mitch Hartley
Nancy Nunn	Paige Hobaugh	Pamela Mason	Peter Tango
Rachael Peabody	Sandy Davis	Sarah Hilderbrand	Scott Phillips
Stephen Faulkner	Steve Saari	Todd Lutte	Will Brogan

MEETING NOTES:

13:00 – INTRODUCTIONS & ANNOUNCEMENTS

Habitat GIT Co-chairs, Bill Jenkins (EPA) and Gina Hunt (MD DNR)

PERSONNEL CHANGES:

- **Gina Hunt**, MD DNR – New Co-chair for the Habitat GIT
- **Katlyn Fuentes**, Chesapeake Research Consortium – New Staffer for Habitat GIT
- **Adam Ortiz**, EPA – New EPA Regional Administrator for EPA Region 3
- **Bryant Thomas**, VA DEQ – New Management Board Member for Virginia (replacing Anne Jennings)

A summary of Action and Follow-Up items can be found on the last page of this document.

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STRATEGIC REVIEW SYSTEM (SRS) UPDATES:

- The Brook Trout, Fish Passage, and Stream Health Workgroups – as part of the Healthy Watersheds Cohort – went through the SRS process in August. After the Quarterly Progress Meeting, workgroups such as the Brook Trout and Stream Health workgroups went to the Management Board for requests for assistance in achieving their Outcomes. The responses from these requests will be finalized in the next month and this SRS cycle will be completed in December 2021. The Brook Trout Workgroup requested an extension on the submission deadline and will be submitting their final management materials by the Aquatic Life Cohort deadline in 2022.
- As part of the Aquatic Life Cohort, the Submerged Aquatic Vegetation (SAV) Workgroup is now starting their SRS process.

GIT FUNDING UPDATES: Waiting for GIT Funding informational release

- The Brook Trout, Fish Passage, Stream Health, and Wetlands workgroups submitted GIT Funding proposals for the upcoming 2022 GIT Funding Cycle.
- Final reviewer scores on these proposals were submitted to the Chesapeake Bay Trust (CBT) on 11/10.
- Based on scoring the Brook Trout, Fish Passage, and Wetlands proposals are expected to be funded. The stream health proposal was subsequently scaled down in scope and cost and is now expected to be funded as well. This project was broken down into additional phases so as to utilize the 2022 funding. These results are preliminary.
- The official announcement on which projects will be funded are expected to be released early December.

13:20 – WORKGROUP UPDATES

WETLANDS WORKGROUP (Pam Mason, VIMS)

- The workgroup has created a Wetlands Fact Sheet to provide info on wetlands co-benefits.
- Will be collaborating with the Climate Resiliency Workgroup in Dec. 2021.
- **QUESTIONS/COMMENTS:**
 - **Gina Hunt:** How will the fact sheet be shared with local governments? Is this going to LGAC?
 - **Pam Mason:** The factsheets will be provided to the local wetland boards and state representatives - not sure about LGAC.
 - **Kristin Saunders:** The Local Leadership Workgroup met this morning and expressed that local elected officials appreciate Fact Sheets, and planners/local managers/technical staff prefer GIS tools and mapping. We should all be thinking about multiple ways to get important information to the right people.
 - **Doug Meyers:** MD has GIS data on saltwater intrusion into groundwater, which may be a good first start in identifying future tidal inundation - not just along the shoreline.
 - **Kristin Saunders:** Yes, this was discussed at length yesterday and will be again tomorrow with the CCP annual meeting participants.
 - **Kevin Du Bois:** One of the things the workgroup struggles with is coming up with metrics to determine what limitations exist. The workgroup is looking to document all the different communication pathways, to better evaluate this in the future. We need to keep track of these distribution outlets.

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- **Kristin Saunders:** Marsh migration is currently a “hot topic” – we need to take advantage of some of the new federal initiatives. The key is being ready with projects – need to be further along than just the ideas/concepts phase and instead have detailed projects plans. Once the money is available, it’s quickly going to be disseminated to those that are ready to “hit the ground” with these projects.

(Follow Up 1)

- **Angie Sowers:** The technical services teams were recently asked to provide a funding request for projects. We’re interested in continuing to build the portfolio of potential projects for partnering.

BLACK DUCK WORKGROUP (Megan Ossmann, CRC)

- The updates to the Decision Support Tool have been completed.
- Call for data in January 2022.
- Meeting with workgroup in late Spring 2022.

SAV WORKGROUP (Brooke Landry, MD DNR)

• **RECENTLY COMPLETED PROJECTS:**

- SAV Watcher Program – the volunteer monitoring program implemented in 2019 – is going well. There are currently 27 certified trainers that run 3-4 summer training events and up to 300 volunteers.
- Community based social marketing campaign helps answer questions and change behavior re: implementation of SAV conservation/restoration
- SAV Factsheets on data Dashboard and CAST
- STAC Workshop to explore satellite data integration into CB SAV Monitoring Program

• **CURRENT PROJECTS:**

- SAV Sentinel Site Monitoring Program → *Finishing protocol*
 - All three monitoring programs will be housed on this database
- Protocol and technical guidance manual for small-scale SAV restoration → *Current GIT Funded project 2020/2021*
- Modeling climate impacts on CB SAV → *GIT Funding 2021-2022*
 - Taking all long-term data and using it to determine how people in the CBW will be impacted by climate change
- Updating for 2022 SAV Work Plan and Management Strategy

• **UPCOMING PROJECTS:**

- SAV Sentinel Site Monitoring Program → *Implementation 2022*
 - Partners all over the bay that will be monitoring sentinel sites - some existing sites will be incorporated
- Community Based Social Marketing Campaign → *Looking for implementation funding*
- International Seagrass Biology Workshop and World Seagrass Conference → *UMCES and SAV WG hosting in Annapolis, MD Summer 2022*
- STAC Workshop: advanced monitoring, BMP Crediting, Rising Temps

• **QUESTIONS/COMMENTS:**

- **Kevin Du Bois:** The DOD has been working with Chesapeake Conservancy to provide high-resolution satellite imagery - this might affect monitoring work.
 - Resolution is 6 in (equivalent to 15.24 cm)

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- DOD might be able to provide more frequent imagery as well

BROOK TROUT WORKGROUP (Stephen Faulkner, USGS)

- Accomplished 22 of 28 action items but currently not on track to achieve Outcome.
- Challenges include the need for a more accurate system to track data. To address this issue, the workgroup is currently working with the CBP IT Team to develop a tracking tool and has also submitted a GIT Funding proposal for contractor support.
- Stream water temperature remains the best direct predictor of Brook Trout occurrence.
- **QUESTIONS/COMMENTS:**
 - **Bill Jenkins:** Regarding large-scale priority actions and the need for better private landowner engagement and land stewardship, each jurisdiction will have different approaches. Outside the Management Board process, other folks can connect the workgroup with collaborative opportunities/activities that would generate better engagement with landowners. There are local watershed organizations and land trusts in some of these watersheds – perhaps we can work to get the word out to them.
 - **Peter Tango:** While I understand the need for detailed census, survey statistics provides a tool for lower cost, resource-efficient assessment of population change compared to the full watershed census resource need. I am looking forward to the opportunity to have shorter term estimates of change in between the full census comparisons that may be 5-10 years apart.

STREAM HEALTH WORKGROUP (Alison Santoro, MD DNR)

- ICPRB and USGS are working on finalizing model runs for outcome status updates and will hopefully be done by April 2022, after which it will be published.
- Modeled predictions of the Chessie BIBI index for unsampled catchments will fill in monitoring gaps, and the overall percentage of healthy Chesapeake streams for the 2008 baseline period (2006-2011) and the next interval (2012-2017) will be determined from the merged monitoring and modeling results.
- **2022-2023 WORKPLAN:** Changes made to the document include:
 - Restarting the Stream Restoration Permitting Committee. There's interest on better communication and how to easily get restoration projects through the permitting process.
 - DEIJ work with underrepresented and underserved communities to determine how they define stream health and identify current stream-health-related needs in their communities.
 - Continued collaboration with USGS on a 3-phase plan to develop new stream health indicator metrics to complement the macroinvertebrate Chessie BIBI index.
 - **Phase 1:** USGS conducted an independent study on stressors affecting stream health in the Bay is currently finishing the report, which will then be sent out to the membership as soon as it becomes available.
 - **Phase 2:** Literature review, funded through 2020 GIT Funding. Management BMPs are evaluated to determine how they affect the major stressors that have been identified (other than nutrients, sediments, etc.). Currently, there's no consolidated information on other stressors like oxygen, toxics, etc. The Center for Watershed Protection is working on this datamining. The draft is expected to be complete by end of 2021 and finalized in spring 2022.

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- **Phase 3:** Looking at stressors and the parameters that are indicative of stream health and evaluating what would be the best indicators moving forward. These will be incorporated into a suite of stream health indicators which includes the Chessie BIBI. The additional indicators will be reported between Chessie BIBI reports, which occur every six years. *This phase was recently submitted as a GIT Funding Proposal and is expected to be underway in 2022/2023.*
- 2022 STAC Workshop on the state of science for stream restoration and impacts to stream health. MD Water Monitoring Council is interested in participating. The exact details of this workshop are still TBD.
- A Membership Survey was conducted a couple months ago to identify barriers preventing workgroup participation.
 - 50% of survey participants noted that they experience barriers preventing full-participation and most identified “lack of time” as the major barrier.
 - To overcome this issue, the workgroup asked Management Board members to speak with voting representatives to gauge workgroup engagement and emphasize participation.
- **QUESTIONS/COMMENTS:**
 - **Gina Hunt:** How will the workgroup make connections with the underserved communities? How will they be identified? Is it local government or community organization contacts?
 - **Alison Santoro:** The workgroup is still working on this. The EPA has a Screening Tool the workgroup can use, and the Diversity WG also has a tool that can overlay communities from the EJ screening tool over Chessie BiBi scores to see where they intersect. The workgroup will be reaching out to community leaders and the Diversity WG to network and get project implementation ideas.
 - **Kristin Saunders:** The DEIJ implementation plan and the tool John Wolf created specific to Chesapeake EJ screen will be very helpful to these efforts
 - **Elizabeth Zinecker:** Are woody debris or dissolved organic carbon being considered in the literature review?
 - **Alison Santoro:** Organic carbon and woody debris were on list of stressors but were not considered “major stressors” in the watershed.
 - **Kristin Saunders:** This is the beta-version of the Diversity Dashboard (EJ Screen Chesapeake map layers) → <https://gis.chesapeakebay.net/diversity/dashboard/>
 - **Denise Clearwater:** The STAC workshop described by Pam for the Wetlands Workgroup will have a session on various effects of stream restoration, as part of the systems approach to crediting.

FISH PASSAGE WORKGROUP (Mary Andrews, NOAA)

- Looking for new Workgroup Chair (**Follow Up 2**)
- The workgroup’s outcome progress is currently exceeding the annual goal on stream miles opened.
- The workgroup submitted a GIT Funding proposal to update the Chesapeake Bay Fish Passage Prioritization Tool – Chesapeake Progress. This tool is used to prioritize fish passage projects as well as account for stream miles opened (outcome progress).
- The biggest challenge the workgroup is facing is willingness from dam owners to remove structures. Currently, workgroup partners are looking into cash-incentives.
- **POTENTIAL FUNDING OPPORTUNITIES:**

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- NOAA is anticipating receiving \$491M in ecosystem restoration funds (tidal communities)
- Federal Infrastructure Bill

15:00 – CROSS-WORKGROUP/GIT DISCUSSION: DEVELOPMENT OF DRAFT WORKPLANS AND OPPORTUNITIES TO COLLABORATE (Kristin Saunders, UMCES)

- The Habitat GIT Steering Committee (Co-chairs, Coordinator, and Staffers) will be revisiting the HGIT Management Strategy, to incorporate feedback received during this and tomorrow's meetings.
- **QUESTIONS/COMMENTS:**
 - **Stephen Faulkner:** Regarding the following quote in the slide, "*indirect priorities – qualitative, inclusive, consider human element*", what is the definition of indirect? Does this mean not directly involved with the outcome?
 - **Chris Guy:** Direct means on-the-ground work that the Workgroups are doing. Indirect indicates things that are being considered while completing these projects.
 - **Rachel Peabody** will be meeting with Pam Mason next week regarding current efforts to start a habitat restoration program at VMRC. She is looking for a GIS map that shows several relevant layers that they can use to make decisions on priority projects.
 - **ACTION 1: Kristin Saunders will send information containing links of GIS layers to Rachael Peabody.**
 - The slides from Kristin's May 2021 presentation can be viewed at the CBP webpage at [this link](#).
 - **OPEN DATA PORTAL:** <https://data-chesbay.opendata.arcgis.com/>
 - **Kevin Du Bois:** The Virginia Climate Resilience Master Plan has a viewer to look at impact areas, DEIJ communities, etc. It should be launched by end of November 2021.
 - **Justin Shapiro:** Action Items were added to the Fish Habitat Action Plan about further exploring highlighting these spawning areas. Chris Moore and team will reach out soon to discuss VMRC needs in more detail.
 - **Peter Tango:** I hope the Riparian Zone Outcome folks are coordinating with all of HGIT – every outcome discussed can benefit from riparian zone integrity. Complexity and/or width of impact zones associated with riparian habitat may differ per outcome, but all outcomes would benefit from riparian zone integrity.
 - **Mary Andrews:** information on fish passage priorities (also has presence/absence layers for specific fish species) → <https://maps.freshwaternetwork.org/chesapeake/>
 - **Stephen Faulkner:** We need to have recommendations for culverts, etc., ready for when the funding is available.
 - **Julie Reichert Nguyen:** The Climate Resiliency Workgroup (CRWG) has expertise around marsh migration and are beginning to coordinate with HGIT more. CRWG and the Wetland Workgroup will be having a joint meeting on December 13 and 14th. The meeting will focus on living shoreline and marsh migration and adaptation efforts. ([Click here for more info](#))
 - **Brooke Landry:** I just got funding for a living shoreline/SAV compatibility study on how living shorelines (LS) directly affect SAV and if SAV restoration is a feasible option to consider in LS designs. This might be relevant to the December meeting.
 - **Brooke Landry:** Have there been studies to determine how long it takes for submerged wetlands to convert to SAV habitat? Some data suggests that SAV and wetlands are negatively correlated, and the peaty substrate associated with marshes

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isn't conducive to SAV growth. That's to say: wetlands will eventually convert but it may take a while, so a time lag should be incorporated into the model.

- **Pam Mason:** Yes. It may be that the peat isn't conducive, but some systems that have sand may be more conducive and the sand will cover the peat. The Dyke Marsh Project will provide some context.
- **ACTION 2: Brooke Landry, Pam Mason, and Julie Reichert-Nguyen will meet soon to discuss more about the living shoreline/SAV compatibility study.**
- **Katie Ombalski:** Has there been any mapping to locate completed or priority aquatic organism passage (AOP) projects (dam removals or culvert replacements) with Eastern Brook Trout patches?
- **Peter Tango:** Cross-cutting interest by Sustainable Fisheries should connect to everyone here. Headwater streams need to be accessed by catadromous American Eels that need fish passage to access the waterways. Waterway integrity is represented by SAV and wetland integrity which benefit ducks. The habitats from ocean to headwaters fulfill diverse benefits of migratory and resident species of interest. Some research obviously links the quality of each of those elements, but it may be valuable to map that out. **(Follow Up 3)**
- **Katie Brownson:** Re: climate change, it seems like there could be some opportunities to better quantify the flood mitigation benefits of habitat restoration (e.g., riparian habitat restoration, fish passage work) to support hazard mitigation planning and improve access to FEMA funds. **(Follow Up 4)**
- **Julie Reichert-Nguyen: Stephen Faulkner,** the rising water STAC workshop will be focusing on identifying management responses related to temperature impacts to habitat and living resources and looking at resilient landscape characteristics. I could see the workshop resulting in recommendations on what is needed for decision-making, which could involve mapping and targeting restoration. I believe the workshop will not be actually developing these at this point and follow-up efforts will be needed. **Chris Guy,** there are CBP fact sheets on benefits between Water Quality practices and their potential benefits to about other 12 outcomes (including several Habitat GIT outcomes). **Rachel Felver** should have quick access to these.
- **Greg Allen:** Contaminated sediments are the major pathway for bioaccumulative pollutants to enter the food web, ultimately resulting in fish consumption advisories for recreational and commercial fishes. Join us in trying to reduce PCBs and other pollutants loading into the system!
- **Peter Tango:** I think it's exciting to hear about work done on urban canopy planting work, but the news was juxtaposed to information that the loss of canopy outpaced the gain by a significant margin. That type of contrast is a challenge in multiple goals. For example, MD highlights likely brook trout population losses outpacing gains in the central part of the state. "Creating" efforts seem to need to think about not just creating but going above a goal to compensate for loss rates. Respectfully, I don't think that we often account for that added challenge in the equation of our work toward trying to get ahead. I think that phenomenon is a lesson learned to the challenge of our work efforts. **(Follow Up 5)**
 - **Katie Brownson:** Great point, Peter. You are right, the version 1 land use change data show a net loss of over 31,000 acres of tree canopy on developed/developing lands between the 2013/2014 and 2017/2018 time periods (with 5500 acres of planting). **(Follow Up 6)**

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- **Rachel Peabody:** Here is a map produced through CCRM and Elizabeth River Project that looks at urban restoration <https://cmap2.vims.edu/EREJTool/>
- **Alison Santoro:** I'd like to see ecosystem service analyses to show cost benefits of ecological restoration in urban areas. A lot of our projects for the Bay TMDL (N, P, and sediment), are driven by cost effectiveness of pounds reduced. That pushes the money and projects towards rural areas because it is much less complicated and therefore cheaper.
- **Greg Allen:** Regarding work in urban areas, the Toxic Contaminants WG did a GIT Funding project a couple years ago, in collaboration with the Stewardship GIT looking at the question: *where are the massive PCBs that are still in service?* There's a giant mass in fluorescent light ballasts (built before 1980) – PCBs are contaminated in very high concentrations. This causes the ballasts to fail and leak, and it's very harmful to the environment. There's great concern in disposing of them properly. This project focused on working with the Education Group and starting a Bay Backpack opportunity.
- **Denise Clearwater:** Stream restoration is very common BMP in urban jurisdictions, but tradeoff debates are increasing (loss of trees).
 - **Alison Santoro:** Yes, and urban areas may be better served by a runoff treatment train approach, but that is expensive
- **Pamela Mason:** Restoration Target Mapper. (Go to the protection/restoration tab and click to open restoration opportunities)
 - http://cmap2.vims.edu/AdaptVA/adaptVA_viewer.html
- **Julie Reichert-Nguyen:** the urban stormwater workgroup has been looking at culverts from a climate resilience standpoint related to increased precipitation. I wonder if recommendations around the culverts from them are also considering fish passage. **(Follow Up 7)**

16:30 – MEETING ADJOURNED.

DAY 2: Wednesday, November 10, 2021 09:00-12:30 ET

PARTICIPANTS: 52

Alan Weaver	Alex Gunnerson	Alison Santoro	Amy Goldfischer
Amy Handen	Angie Sowers	Bill Jenkins	Bo Williams
Briana Yancy	Brooke Landry	Bruce Vogt	Carl Friedrichs
Chris Guy	Clint Morgeson	Chris Moore	David Goerman
Denise Clearwater	Elizabeth Zinecker	Gina Hunt	Jake McPherson
Julie Reichert-Nguyen	Justin Shapiro	Karinna Nunez	Katie Ombalski
Katlyn Fuentes	Katrina Jones	Kevin Du Bois	Kristin Saunders
Laura Cattell Noll	Mark Hoffman	Mark Southerland	Martha Shimkin
Mary Andrews	Megan Ossmann	Melissa Yearick	Mike Bednarski
Mike Naylor	Mitch Hartley	Nancy Nunn	Paige Hobaugh
Peter Tango	Rachael Peabody	Robert Isdell	Sally Claggett
Sandy Davis	Scott Phillips	Sean Corson	Sophie Waterman
Stephen Faulkner	Steve Saari	Todd Lutte	Will Brogan

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MEETING NOTES:

09:00 WELCOME BACK & RECAP OF DAY 1 DISCUSSIONS

09:10 EFFORT TO IMPROVE CBP MONITORING NETWORKS

Peter Tango (USGS)

- **HOW CAN HABITAT GIT HELP? ACTION 3: Please send input on which outcomes you want reflected in these to Peter Tango by COB January 6th, 2022:**
 - Table of monitoring needs – most general
 - Goal statement of monitoring needs – 3-4 sentences. (Application and other details coming soon.)
 - Detailed data need (what, where, when, how, why) with background and costs.
- *This report will be delivered to the Management Board and Principal Staff Committee in February.*
- **QUESTIONS/COMMENTS:**
 - **Scott Phillips:** One challenge is that the existing networks were set up for water quality – we need to identify other needs that these networks could address.
 - **Stephen Faulkner:** There are different levels of monitoring and sampling designs that can be used to reach the end goal. The states already have a long-term database system and as such they're not open to changing this methodology. How do you see us moving forward in this process to get better traction on a sampling design?
 - **Peter Tango:** That's the balance between the census approach that the states have – if they don't have to do it, would they be amenable to a different indicator approach that has a different sampling design? Perhaps this isn't asking them to invest more work, but instead asking if they would be open to the opportunity to look at something different. Ask for their willingness to support the concept. If it was someone else doing the work would they be accepting of it?
 - **Stephen Faulkner:** They would say yes, but they'd only commit if they could see all of the details. Most state members are supportive of better information. WV and MD know where the existing brook trout habitat is, but we're not capturing the restoration actions. In PA, this would help determine where the existing populations are and how we can help.
 - **Gina Hunt:** Do the states have any monitoring needs that they don't capture the data? Is there anything we can add to their data sets?
 - **Stephen Faulkner:** Generally, states feel like they have what they need for their objectives. That doesn't necessarily align with CBP outcome. We will have to follow-up with each state.
 - **Scott Phillips:** The Toxic Contaminants WG wrote a discussion paper on what they used to do and how it could change (8-10 pp). The plan is to take the

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information from this discussion paper and present it at the PSC meeting. For the PSC report, workgroups don't need to have finalized plans, in-progress is fine.

- **Kevin Du Bois:** **Peter Tango**, the WWG needs a review of the satellite imagery to characterize wetland gains and losses. I suspect there are a lot of losses that aren't factored into our perception of the wetland outcome progress. I suspect the same is true for forest cover.
 - **Martha Shimkin:** I'm interested in the same and the eventual cost implications of satellite vs. flyover data for SAV monitoring. Also interested in talking with federal agencies about infrastructure act funding and how monitoring may be supported. Federal agencies can talk about that more specifically.
 - **ACTION 4: Brook Landry, Peter Tango, and Martha Shimkin will connect to discuss the question re: addressing cost implications of satellite vs. plane imagery capture for SAV Monitoring.**
 - **Peter Tango:** This item was not covered specifically - but I would welcome that sort of discussion so we can direct guidance and assistance. I am aware of evolving work with satellite interpretation related to wetland classification, but I am uncertain how any of those may be affecting WWG. If you can direct me to some homework on what is being done then I can prepare for a call where we could discuss it better. [\(Follow Up 8\)](#)
 - **Kevin Du Bois:** DoD will be providing MAXAR satellite imagery to the Chesapeake Conservancy for free.
 - **Brooke Landry:** What can be used for wetland detection can't necessarily be used for SAV detection. Based on everything we learned during the STAC SAV/Satellite workshop, the WorldView (MAXAR) imagery would be very helpful for wetland delineation. Timing is everything for SAV detection, so it's trickier. Lots of potential though with both the WorldView and the Dove (Planet) satellite constellations.
 - **Peter Tango:** This is what I am wondering about for the Wetlands WG. There was reference to the possibility of wetland tracking with the satellite-based info during our workshop, and a recent PhD student (now working with USGS) showed wetland species delineation for places like Jug Bay. I don't know if WWG has explored such opportunities to assist in assessing status and change or if they are already using these tools. It feels like we have a topic here and a few people needing to converge in presenting on the leading if not bleeding edge of opportunities in play now.

09:30 OUTCOME ATTAINABILITY UPDATE

Sean Corson (NOAA CBPO)

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- There are several outcomes that are behind on outcome progress.
- **QUESTIONS/COMMENTS:**
 - **Sally Claggett:** Tree Canopy should be included in the “red” group.
 - **Sean Corson:** Rachel Felver will be posting these outcome attainability materials later today, so we will have a better idea how these WGs are meeting (or are not meeting) progress towards their outcomes.
 - **Brooke Landry:** SAV was on track but fell behind on progress the last couple years.
 - **Denise Clearwater:** There is increasing concern that stream restoration is resulting in loss of riparian forest.
 - **Stephen Faulkner:** The key word in the presentation description of forest buffers and brook trout was “conceivably”. It is unlikely that any forest buffer put in now will have any impact on brook trout and certainly not at the scale necessary to move the brook trout needle. I’m a little confused why brook trout are not documented in the OAT report/presentation to the same degree as buffers/wetlands.
 - **Bill Jenkins:** To pick up on the comment Stephen just made, I suggest that the Watershed Agreement Outcomes slides showing the 6 columns be modified to pull Brook Trout and Black Duck out from under Stream Health and Wetlands respectively. It could give the impression that they are "under" the Stream Health and Wetlands outcomes when they aren't.
 - **Peter Tango: Stephen Faulkner,** that is an excellent point about State needs and sense of information needed compared to CBP sense of resource status and change assessment. Earlier conversations anticipated a regular watershed-wide 5-year update but then looked for the best way to fill in the years in between. That perspective could help bridge the gap between State specific needs and CBP agreement text vision.
 - **Peter Tango:** Regarding **Stephen’s** points on Brook Trout heading far off from goal direction, that is part of the impetus behind annual assessment compared with a once-a-decade sense where we suddenly find that over a decade has passed and trends are fundamentally off expectations when we could have been targeting work to address those areas most at risk of loss/conserved best areas. The 2008 Assessment (*Hudy et al.*) showed range-wide Brook Trout status. We have waited for an assessment of change to inform progress. It appears from piecemeal information that population distribution is being lost (see recent MD report for example). A watershed-wide understanding is what the annual indicator assessment would inform for management while we wait. It will be helpful to consider the opportunity and need for information in a future BTWG meeting.
 - **Sally Claggett:** Perhaps those 3 workshops should be hosted by the Management Board and not the workgroups? That way this feels like a novel project.

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- **Kristin Saunders:** I agree! MB definitely sent ownership of this effort back to the subject matter experts in the workgroups but there is no reason why we can't frame the invite from them.
- **Kevin DuBois:** For the outcome attainability workshops mentioned in the presentation, at least for the DoD, we will need to identify participants way up the chain of command (above the PSC) to identify personnel with control over policy and budgets. To **Sally's** comment, would it be more appropriate that the buy-in comes at the EC level (as opposed to the MB)?
- **UPDATE: This was addressed at the 12/09/2021 Management Board Meeting. (link for more information)**

09:50 DEIJ IMPLEMENTATION PLAN

Briana Yancy (CRC) and Bo Williams (EPA)

- **AVAILABLE RESOURCES:**

- DEIJ Resources can be found on the [CBP Diversity Workgroup webpage](#)
- [Environmental justice & equity dashboard](#)

- **DISCUSSION:** Rock Creek Park has some of the worst water quality in DC. Low-income communities who don't have access to pools will often cool off in the water during hot summer months, as they're unaware of the poor water quality.

- **QUESTIONS/COMMENTS:**

- **Martha Shimkin:** I think it is helpful to have proposed language additions to show teams how they could incorporate DEIJ.
- **Kevin Du Bois:** It would be great if we could get a tribal entity to build and run a native plant nursery to support habitat restoration needs.
 - **UPDATE: → Bill Jenkins:** Presently, there is work being done re: reaching out to Tribes to have them more active in the CBP. I believe each federal agency is active in this, so maybe start with federal agencies, Federal Office Directors (FOD) and the Diversity Workgroup? The CBP will engage with local Tribes in February of next year.
- **Alison Santoro:** I often see people fishing in areas with high toxics – public health and safety should be a higher priority. The Stream Health Workplan for 2022-2023 will be focusing on connecting with communities to address their interests and needs. Not sure how the WG itself can push certain projects, due to limited time and limitations on directly implementing monitoring/restoration work. Would appreciate suggestions on how to support this platform on connecting these communities to on-the-ground work.
 - **Briana Yancy:** The Diversity WG can act as a liaison and help facilitate these connections. One way of helping to support them could be providing them GIS resources, as many of these communities don't have access to GIS.

10:20 LOCAL GOVERNMENT EDUCATION MODULES

Laura Cattell Noll (Alliance for the Chesapeake Bay) and Nancy Nunn (Harry R. Hughes Center for Agro-Ecology)

- Access the editable version of *A Local Government Guide to the Chesapeake Bay* here: <https://bit.ly/3eiOIEq>
- **QUESTIONS/COMMENTS:**
 - **Denise Clearwater:** Regarding the slide on living shorelines in the local government module – what was the source that indicated costs were lower than structural practices?
 - **ACTION 5:** Laura Cattell Noll will check the sources in the notes of the slide and get back to Denise Clearwater with the answer.
 - **Kevin Du Bois:** the cost of living shorelines depends on many variables including site-specific goals. It's wrong to focus on the cost of LS, so practitioners should instead focus on their multiple values and co-benefits. When you look at value, living shorelines always come out on top!
 - **Brooke Landry:** Agreed, but we can't overlook that waterfront homeowners and communities often choose riprap over living shorelines because LS's are beyond their budget capacity. The same can be said for several green infrastructure options. The "healthier" option is unfortunately rarely also the cheapest, so implementation is slow.
 - **Kevin Du Bois:** In MD and now VA, LS are required for private landowners. States should also provide financial incentives to private landowners if they implement shoreline management strategies that help them meet their TMDL goals.
 - **Gina Hunt:** The Fish Habitat Team is finishing up a Living Shoreline Behavior change project which will include 'toolkits' for each state. There will be a slightly different audience than these modules (we're were looking to reach private shoreline landowners or communities), but we can share that information with HGIT if interested.
 - **Gina Hunt:** Do any workgroups have local government engagement or projects in their logic and action plan?
 - **Kristin Saunders:** The local engagement team is about to take another look at the engagement needs that workgroups have, so we can help.
 - **Laura Cattell Noll:** Tree canopy, healthy watersheds outcomes, land use outcomes, fish habitat.
- **For any additional comments or questions, please contact Nancy Nunn at (410) 827-8056 or nnunn@umd.edu**

11:00 HABITAT GIT MANAGEMENT STRATEGY

HABITAT GIT FALL 2021 MEETING

Overview Provided by Chris Guy (USFWS)

- **SOCIAL SCIENCE** (Amy Handen, EPA)
 - Amy or Lisa will be reaching out in the next week with a survey.
 - **QUESTIONS/COMMENTS:**
 - **Kristin Saunders:** One end-game for all this ecosystem service work is to put all the variables into the same "currency" as nitrogen, sediment and phosphorus removal so that people making decisions about where to implement and what to implement for water quality will also be able to see the mutual benefits to living resources. We hope to put the values in CAST so planners will see it all in one place.
 - **Denise Clearwater:** The benefits to living resources will be considered in the 2022 STAC workshop for a systems approach. It isn't just a matter of the qualifying BMP, but how and where the BMP is done.
- **ECOSYSTEM SERVICES** (Bo Williams, EPA)
 - [EnviroAtlas](#)
 - [Ecohealth Browser](#) an EnviroAtlas tool
 - **Bill Jenkins:** The EPA Regional Office is working on a project to create 1 meter landcover data covering all of the 5 states within the Mid-Atlantic Region: PA, MD, DE, WV and VA. The land cover data will be coupled with other data to generate ecosystem service valuation information for dozens of indicators.
- **DEIJ** - *covered in earlier session*
- **CLIMATE CHANGE** (Chris Guy (EPA) presented, as Marth Shimkin (EPA) was unable to attend)
 - Climate Directives
 - Have been working on a bullet-list of possible climate actions since October and completed a draft this morning that will go out to other federal partners. Once the other agencies give their approval, it will be distributed. Hoping that it will be finalized by the beginning of 2022.
 - A lot of these climate directives will have great impact on the HGIT.
 - How will we prioritize these climate action items?
- **BLUE CARBON EFFORTS** (Bill Jenkins, EPA)
 - Several of the Workgroups are working with EPA's Office of Research and Development to develop a project working collaboratively with a community or area to identify information needs around developing coastal adaptation/resiliency strategies, including Blue Carbon resources (SAV, living shorelines and SAV). This project is still in the scoping phase.
- **WETLANDS** - *covered in Day 1 workgroup updates*
- **URBAN OPPORTUNITIES FOR HABITAT RESTORATION** (Katrina Jones (MD Port Administration) presenting, as Kristen Fidler (MD Port Administration) was unable to attend)
 - Masonville cove was historically a beach-front recreational area, then became a location to hold dredge material.

HABITAT GIT FALL 2021 MEETING

○ QUESTIONS/COMMENTS:

- **Gina Hunt:** Wow- great project! What was the catalyst for this project? Who started this project- was it the port, USFWS, or local government?
 - **Katrina Jones:** The Port of Baltimore. There was a need to dredge channels to ensure adequate depth for passing ships, therefore there was a need for a location to put dredge material. They asked the community and they highlighted Masonville cove. The area adjacent to the cove was used for dredge material, and the community also identified the cove as a possible restoration site.
- **Denise Clearwater:** Is there a report on how outreach and engagement was accomplished?
 - **Katrina Jones:** This is captured in the strategic plan, which is currently in progress and can be shared when it's complete.
- **Bruce Vogt:** Biden is in Baltimore today – will this project be mentioned at all or will the focus just be on commerce?
 - **Katrina Jones:** Biden's visit will focus on the how the funds from the new bill will aid ports and transportation infrastructure and encourage private/public partnerships like we have with Ports America Chesapeake.

- **CROSS-GIT COORDINATION** – *covered in Day 1 session*

11:50 SHALLOW-WATER HABITAT PROJECTS AND OPPORTUNITIES

Bruce Vogt (NOAA CBPO)

• QUESTIONS/COMMENTS:

- **Kristin Saunders:** In land conservation conversations in preparation for big money opportunities, we started talking about the importance of being "conservation ready", rather than "shovel ready", and people really liked that framing. This or "restoration ready" might also apply for this group.

12:20 WRAP-UP

- Moving forward, there will be more discussions focused on linkages between outcomes.
 - **ACTION 6: Please contact Gina Hunt with any additional ideas, questions, or comments. If you would like additional conversation with your workgroup, please contact Bill Jenkins, Gina Hunt, and Chris Guy.**
- The final, updated HGIT Management Strategy will be completed in January 2022.
- QUESTIONS/COMMENTS:

HABITAT GIT FALL 2021 MEETING

- **Gina Hunt:** Pulling together information discussed over the past two days, please share a “big picture” or individual connection that you are inspired to explore based on this meeting.
 - **Katrina Jones:** We are working on our strategic plan, which will capture our efforts, and I can share when the document is finalized.
 - **Brooke Landry:** Kevin and I will take a million dollars (maybe 2) to acquire property and build a native SAV and plant nursery for the purpose of ensuring our restoration efforts don't negatively impact existing SAV beds.
- **Denise Clearwater:** We need more work on linkages to ensure that work towards outcomes is mutually compatible – fisheries, stream health, fish passage, wetlands, riparian forests, etc. are all related. There's a lot of room for improvement for how we go about achieving these outcomes, despite them being so interdependent. We need to work to make sure that work doesn't conflict with each other. I'd like to see more work done to make sure that everything fits together.
- **Chris Guy:** Regarding GIT Funding projects, we start fairly late in the season to generate these projects. I suggest we start these conversations earlier, so that we can spend more time developing project proposals for projects that would overlap. Next year we should have a true cross-GIT proposal.
- **Gina Hunt:** I'm wondering if WG chairs know if there are projects in the jurisdictions that would rise up (perhaps in the idea/design phase but have stopped because they didn't think they had funding) that could help support us and in turn we could help prepare them for possible funding opportunities.
- **Kristin Saunders:** one of the folks that presented today was someone from the nature conservancy running program for Bezos Earth Fund and posted the question “how ready are you? If \$100M became available tomorrow, what would you do with it?” We are in a good place within the Habitat GIT in regard to generating ideas, but we need a list or plan to bring some of these elements together. We should do this in the next six months to a year. What are the top things that you'd want to contribute
- **Bruce Vogt:** I think we should be aspirational given the scale of funding we are hearing about. Set some targets for linking oyster, wetland and SAV goals and identify specific places where we are "conservation ready".
 - **Gina Hunt:** If we link 3 at a time, we would be moving forward fast!
 - **Kristin Saunders:** If you link oyster, wetland and SAV in vulnerable under resourced areas, you have four!
 - **Brooke Landry:** This is a really interesting exercise. I think we're all so used to trying to figure out what to do with practically no funding. I have a long list of things that the SAV workgroup would love to do with more funding.

12:30 MEETING ADJOURNED

HABITAT GIT FALL 2021 MEETING

THE NEXT HABITAT GIT MEETING WILL OCCUR IN SPRING 2022.

IN THE INTERIM, A HGIT CO-CHAIRS MEETING WILL OCCUR ON MARCH 3rd, 2022 from 10:00-12:00. ADDITIONAL MEETING INFORMATION WILL BE SENT OUT IN THE NEAR FUTURE.

SUMMARY OF ACTIONS FOR THE WORKGROUP:

1. Kristin Saunders will send information containing links of GIS layers to Rachael Peabody.
2. Brooke Landry, Pam Mason, and Julie Reichert-Nguyen will continue discussions on the living shoreline/SAV compatibility study.
3. Workgroups will submit input on what details should be included in the report to the PSC to Peter Tango. The deadline for this submission is COB 01/06/2022.
4. Brook Landry, Peter Tango, and Martha Shimkin will continue discussions re: addressing cost implications of satellite vs. plane imagery capture for SAV Monitoring.
5. Laura Cattell Noll will review the PowerPoint sources respond to Denise Clearwater with the answer.
6. Regarding linkages between outcomes, please contact Gina Hunt with any additional ideas, questions, or comments. If you would like additional conversation with your workgroup, please contact Bill Jenkins, Gina Hunt, and Chris Guy.

SUMMARY OF HGIT STEERING COMMITTEE FOLOW-UP TOPICS:

1. The Habitat GIT Steering Committee will follow-up with workgroups discuss project readiness.
2. Habitat GIT Steering Committee will follow-up re: search for new Fish Passage Workgroup Chair.
3. The Habitat GIT Steering Committee will follow-up with Peter Tango re: what he sees as the outcome for the “map” idea – will this be an actual map, or cross-GIT workgroup interests “mapped” out to show connections/relationships?
4. The HGIT Steering Committee will follow-up with Katie Brownson regarding exploring this idea (a possible cross-GIT analysis and mapping exercise?).
5. The HGIT Steering Committee will contact the Tracking and Reporting staff (Jeff Sweeney) re: how we can ensure “progress” accounting that includes losses, not just gains – thus creating a more accurate picture of the state of the outcome.
6. *See Follow Up 5.*
7. The Fish Passage Workgroup will talk to the USWG to see if fish passage is being considered along with climate change, when dealing culverts.
8. The HGIT Steering Committee will get in touch with Peter Tango for a continued discussion regarding the possible WWG use of Maxar Imagery.