



Habitat Goal Implementation Team Spring 2018 Meeting

Tuesday, June 19 - Wednesday, June 20

[Smithsonian Environmental Research Center](#) – Schmidt Center

647 Contees Wharf Road

Edgewater, MD 21037

Participants

Christine Conn (MD DNR, Habitat GIT Chair)
David Whitehurst (VA DGIF, Habitat GIT Chair)
Jennifer Greiner (USFWS, Habitat GIT
Coordinator)
Paige Hobaugh (CRC, Habitat GIT Staffer)
Margot Cumming (CRC, Habitat GIT Staffer)
Zach Smith (ICPRB)
Mary Andrews (NOAA)
A.K. Leight (NOAA)
Steve Faulkner (USGS)
Rebecca Chillrud (CRC)
Brooke Landry (MD DNR)
Kevin DuBois (DoD)
Erin McLaughlin (MD DNR)
Adrienne Kotula (CBC)
Denise Clearwater (MD DOE)

Becky Golden (MD DNR)
Gina Hunt (MD DNR)
Lisa Havel (ASMFC)
Ben Lewis (VA DGIF)
Angie Sowers (USACE)
Josh Homyack (MD DNR)
Peter Claggett (USGS)
Sally Claggett (USFS)
Anne Timm (USFS)
Nicole Carlozo (MD DNR)

Remote

Jessica Coakley (MAFMC)
Mary Gattis (Alliance for the Chesapeake Bay)
Kristen Saacke-Blunk (Headwaters LLC)
Jake Reilly (NFWF)

NFWF Business Plan Update – Jake Reilly (NFWF)

- 1) Update Process: Business plan for goals, outcomes, investments, monitoring of grants program through 2025.
 - a) Currently putting an effort forward for “Mid-Point Assessment” - to better align w/ CBP 2014 Agreement + incorporate new data, goals and establish monitoring plans.
 - b) Will present to Board of Directors in August 2018.
- 2) Overarching Goals:
 - a) Measurable contributions in
 - i) Water quality improvement.
 - ii) Restoring and protecting key species and habitats – especially if they rely on water quality, or if habitats help to improve water quality.
 - (1) Species and habitat goals are independent (i.e. brook trout, riparian buffers, etc.)
 - iii) Building an engaged and diverse citizen and stakeholder presence.
 - b) Have adopted species and goals that are directly from GITs

- i) Aiming to identify strategies for protection, establishing monitoring and evaluation goals.
- ii) Ex: Eastern Brook Trout (BT): NFWF goal to maintain and increase populations in 6 stronghold patches.
 - (1) Looking to coordinate with Brook Trout Action Team (BTAT) to develop specifics in strategies and decide best approaches.
 - (2) Also want to find best way to evaluate level of success.
 - (3) Comments:
 - (a) Anne Timm (AT): Combining Riparian Buffer restoration goals for water quality BT restoration goals from a stream temperature perspective may be an approach we could emphasize.
 - (b) Jennifer Greiner (JG): Would like to add BT map to Wednesday discussions with joint meeting.
 - (c) JG: CMC also has priority on BT - could be opportunities to collaborate on monitoring.
 - (d) Jake Reilly (JR): Separate monitoring and assessment appendix that will be rolled out AFTER main business plan document. NFWF working with scientists to identify needs and then will work with other groups on how to achieve.
 - (e) David Whitehurst (DW): Have the mapping efforts been coordinated with state wildlife agencies?
 - 1. JR: Funded by NFWF, coordinate with Trout Unlimited (TU) and Eastern Brook Trout Joint Venture (EBTJV) to look at multiple data sets for most accurate distribution and develop holistic conservation portfolio. Extensive stakeholder engagement.
 - (ii) DW: Any formal association with BTAT?
 - 1. Steve Faulkner (SF): Yes - they have met and consulted with new BT workgroup. Conservation portfolio has been presented to EBTJV. When finalized business plan is release, EBTJV and BTAT plan to follow up.
 - (f) DW: Master Naturalists are extensive in VA - could be a good place to start for monitoring + citizen science.
 - (g) JR: NFWF especially interested to coordinate cross workgroups on co-benefits - via Stream health.
 - (i) Gina Hunt (GH): is there a project evaluation process that highlights co-benefits?
 - 1. JR: There are already many robust decision support tools that have weighted evaluation of co-benefits. Currently, NFWF is considering locations and benefits. Mostly qualitative at this point in time.
 - (h) Denise Clearwater (DC): Thoughts on recommendations for connections between BT patches?
 - 1. JR: There appears to be higher value interventions before working towards connections - avoid spreading non-native species. Important to protect areas that are high quality because connectivity is relative to current conditions. In stream habitat can help to bolster populations that are on the edge easier than creating connectivity.
- iii) Ex. Black Duck (BD): NFWF goal to increase wetland habitat and available food to support 5,000 wintering black ducks.
 - (1) Purpose is to maximize efforts for wetland restoration for habitat and for water quality.
 - (2) Comments:
 - (a) Ben Lewis (BL): When discussing with Atlantic Coast Joint Venture (ACJV), did they give an estimate for how much land would support these?

- (b) JR: We decided on 7,000-acre goal based on kilocalorie calculations for BD and other duck species and land production feasibility. Not able to get an exact population level goal.
- (c) BL: This seems like a good opportunity to collaborate on in the future.
- iv) Ex: River Herring: NFWF goal to restore access and use of 200 additional miles of high quality migratory habitat.
 - (1) Targeting lower cost efforts to open high quality habitat (culvert assessment and removal).
 - (2) Comments:
 - (a) DW: There are opportunities for co-benefits as we focus on this set of species. Important to connect these in progress moving forward. How to ensure that NFWF, Joint Ventures, USACE and CBP workgroups are all collaborating? Additional opportunities to communicate to the public the co-benefits and holistic systems.
 - (i) DC: Infrastructure improvement does not get credit from the CBP - benefits would be seen from improving culverts if crediting was available. Potential to encourage in the future.
 - (ii) DW: How many of the 30 NFWF priority culverts are on public roads?
 - 1. JR: Analysis hasn't been done yet, but point analysis is possible.
 - (iii) Mary Andrews (MA): How many culverts have actually been assessed for fish passage?
 - 1. JR: Data from NACN has been incorporated. Additional assessments would be good.
 - 2. MA: Dataset will be updated regularly via additional assessments.
 - (iv) DC: There are additional opportunities to tie into flood risk assessments.
 - (v) DW: agencies need to know that these have been identified so states and lower level groups can also have them on the lists.
 - (vi) AT: A well designed culvert project that will give you the best benefit over the long term may be up to \$100,000 as well, depending on the location, size of stream channel, goals and objectives for the site, etc.

Action: Habitat GIT members should send comments about NFWF Business Refresh strategies to Jake Reilly (Jake.Reilly@nfwf.org)

Stream Health Baseline Workshop Update – Zach Smith (ICPRB)

- 1) Goal: establish 2008 baseline for Chessie BIBI
- 2) Recommendations:
 - a) 2006-2011
 - b) Future evaluations to also be 6 years.
 - c) Use bioregions and family (best case) level indices.
 - d) Bootstrap method requires a statistical background to understand errors.
 - e) HUC12 level; minimum of 5 samples per watershed for accurate classification.
 - f) Has 26,000 data, difficult to analyze and recognize trend.
 - g) Use predictive results from random forest model to fill in observed data gaps.
 - i) Most HUC12s are without 5 samples, experienced predicted rating gaps.
- 3) Future:
 - a) Needs to ID what qualifies as 10% improvement.

- b) Sample type: Select data to use for evaluation - currently mix of probabilistic and targeted. Group refers probabilistic, but most agencies do not do this type or will not do this type into the future.
 - c) Need to refine poorly performing bioregion indices- needs more data. Bioregions include the Mid-Atlantic coast, Central Appalachian, Blue Ridge, Northern Appalachian. Will be seeking data outside of CB basin for analysis.
 - d) Perform power analysis to determine optimal number of sites per HUC to accurately represent conditions.
 - e) Encourage establishment of additional sentinel sites.
 - f) Consider additional metrics of in-stream conditions.
- 4) Comments:
- a) DC: Habitudes to jumpstart macros?
 - i) Zack Smith (ZS): Not enough study in that area currently.
 - b) JG: Might be a good science need to pass along. Scott Phillips is looking for additional needs for USGS to work on. Several recommendations from workshop that require additional science. How will those be transmitted to the correct audiences?
 - (1) ZS: Need to hold at least 1 additional, possibly several webinars. Need to do additional work on some recommendations and some will require a lot of time and funding.
 - (2) JG: monetize your needs and put them forward to HGIT, possibility of GIT funding projects.
 - c) SC: Land cover, riparian cover, impervious cover (good indication of health of watershed streams) simple analysis on HUC12 basis, is this happening? Is it possible to do a comparison of indices (macros, land cover, etc.)?
 - i) ZS: Not happening currently, would be nice for the future. Will be long lag time with macros vs. physical indices. Will have something to show in the meantime.
 - ii) SC: With high resolution data, we can assign someone to assess that.
 - iii) ZS: How do we develop index that says this is good, this is bad.
 - d) DW: We need to be focused, coming up with clear need of what needs to be done next. A well-defined need is necessary – one that connects well with a viable metric/assessment parameter.
 - i) ZS: Not all recommendations need to be addressed immediately. Some can be addressed quickly, baseline for instance.
 - e) Workshop summary and report can be found at the following link:
<https://www.potomacriver.org/focus-areas/aquatic-life/chessie-bibi-stream-health-indicator/>

Black Duck Outcome Report – Ben Lewis (VA DGIF)

- 1) Outcome
 - a) By 2025, restore, enhance, and preserve wetland habitats that support a wintering population of 100,000 black ducks, a species representative of the health of tidal marshes across the watershed.
- 2) Baseline/Current Conditions
 - a) NAWMP continental population goal of 640,000 black ducks.
 - b) NAWMP estimates CBW could support 100,000.
 - c) USFWS Mid-Winter Survey (clipped to CBW)
 - i) 2011-2013 rolling average of 41,907 black ducks observed
 - ii) 2012-2014 rolling average of 48,828 black ducks observed
 - iii) 2013-2015 rolling average of 51,332 black ducks observed
- 3) Management Board Ask
 - a) Adopt habitat based Black Duck Outcome indicator using bioenergetics model/DST.

- b) Continued partner participation.
- 4) Logic behind outcome
 - a) Factors
 - i) Habitat degradation
 - ii) Scientific research
 - iii) Technical understanding/implementation
 - b) Current efforts/gaps
 - i) Habitat conservation
 - ii) Technical assistance
 - iii) Scientific research
 - iv) Carrying capacity and bioenergetics modeling
 - v) Lack of funding
 - c) Management approaches
 - i) Habitat restoration
 - ii) Habitat enhancement and management
 - iii) Habitat protection
 - iv) Other conservation actions benefiting waterfowl habitat
- 5) Assessing Progress
 - a) What is our progress?
 - i) So far, BDAT has supported restoration, enhancement, and conservation work of partner NGOs, federal and state agencies.
 - ii) Development of a bioenergetics model and maps depicting black duck habitat needs under future landscape conditions (2030, 2080).
- 6) Are we on track?
 - a) Unsure, currently, due to lapse in indicator support. Slide 12 shows Bioenergetic Surplus HUC12s layered with protected lands. This can give us insight to see if we're on the right track, on potential protection opportunities.
 - b) Current Indicator: Mid-winter survey. This is no meant to be estimate, it is meant to be a trend. We don't have an accurate count of actual black duck population. Habitat based indicator would be more reflective of true outcome progress.
 - c) BDAT is lacking necessary partnership with restoration partners. Need to coordinate with these partners (slide 14) in the future to develop a baseline of restoration/conservation work already done in order to track progress. The collaborative partner process will be very important to outcome progress from now on (e.g. reporting restored acres, etc.).
- 7) Analysis:
 - a) Future plans
 - i) Use DST/maps to determine best locations (watershed wide, per state) for restoration (e.g. top 25% of areas) and distribute amongst conservation planners.
 - b) Challenges
 - i) There are areas of disagreement among partners on best areas to do restoration.
 - (1) e.g. very deficient areas (good for restoration) where black ducks don't actually reside (not useful).
 - c) Adaptations
 - i) Adopt new habitat based outcome indicator
 - ii) Develop priority list of HUC12s
 - iii) Improve coordination with partners and local agencies.
- 8) Comments
 - a) Presentation should include GIT Funding effort on "progress made" slides.

- b) Christine Conn (CC): Walk through the landscape bioenergetic availability maps during the MB presentation explicitly.
- c) CC: Is there a suitability filter to overlay with the DST?
 - i) Ben Lewis (BL): Yes, that layer exists. Not meant to be a state specific survey/layer, it is based on hunter's experiences/volunteer responses.
- d) DW: Does MB audience know what acres of Black Duck habitat is? You will need to give specific explaining the kinds of wetlands that are habitat. You should show how to connect that habitat need to other wetland goals, shoreline goals.
 - i) BL: I can use Hog Island Shoreline restoration as example.
- e) DW: Increase in # of animals has a lot of power behind it. Would it be feasible to devise some sampling regime of that habitat that would be appropriate for agencies participate in? Cheaper, more sample based to show cause and effect? Show increase in wetland habitat is producing more wintering ducks?
 - i) BL: Work being done around CBW where were monitoring waterfowl use pre- and post-restoration.
 - ii) DW: If you had some type of proposed protocol for pre- and post-restoration to show value of ducks?
 - iii) BL: I will look into research results of those doing that kind of work, include it in presentation.
- f) MA: The Fish Passage Outcome is not a population goal also, out indicator is also inconsistent with outcome.
- g) SC: You need more of an ask for MB.
- h) JG: The more specific and hard hitting we can make the asks, the better.
- i) GH: Do you have partner participation issues?
 - i) BL: We could use more participation, but we could also do a better job of reaching out to them (NY, PA, etc.).
 - ii) GH: Highlight specific partners you need participation from in your ask.
 - iii) BL: I might end up removing this ask.
 - iv) JG: remove "continue" and include "encourage" and sub-bullet the agencies you need representation from.
- j) SC: On Challenge slide, you mentioned funding and technical assistance. This seems ripe for MB ask. It is important for them to know how technical assistance can help you better. Connect threads/weave that information throughout slides altogether.
- k) CC: Ask states to state using DST maps in consideration of their Chesapeake Bay fund distribution.
 - i) JG: Might be nice to highlight how NRCS is making use of the information to guide investments through Working Lands for Wildlife program. It'd be nice if other agencies used these maps to guide funding and work. Highlight the current partner involvement, give them a pat on the back.
- l) DW: Show co-benefits of current restoration/conservation activities, you'll have better luck getting people involved using co-benefits of creating black duck habitat.
- m) SC: It would be great to remind them how much of this habitat has been lost, too. Knowing how much has been lost is the key thing here. Its' important to give that context at the beginning of the presentation. It is becoming difficult to distinguish important co-benefits from one another. Agriculture Workgroup is boastful about how many co-benefits cover crops has.
- n) JG: Call agreement goals/outcome slide (slide 21) "co-benefits". More tangible way to represent these before discussion.

- i) CC: Maybe the Communications Team can do a wetlands graphic linking their health to other outcomes.
- o) JG: CCP saying is 50% by 2050, try to link 2080 bioenergetics map to that effort.

Wetland Workgroup (WWG) Discussion – Jennifer Greiner (USFWS), HGIT

- 1) Current Workgroup Problems:
 - a) No leadership due to complications in acre reporting
 - b) Workgroup interest remains in funding and technical information
- 2) Plan:
 - a) presentation to Management Board (MB) about challenges and potential solutions
- 3) Comments:
 - a) Erin McLaughlin (EM): Disconnect between leadership and restoration professionals in the WWG.
 - b) GH: Suggestion to ask MB representative to contact the WWG representative before meeting for understanding of what is happening.
 - c) Mary Gattis (MG): GIT 6 having conversation about how well the SRS process is working – thinking of strategies to get MB to be more responsive.
 - d) SF: After Brook Trout SRS process, GIT 6 said they would be working on these issues. Currently no changes in the BTAT membership.
 - e) DW: Best way to run MB would be to have them come as prepared as possible to meetings. But, changes in leadership and administrations have created a different atmosphere which presents unsolvable challenges. GIT leaders and MB members should get together and discuss strategic approaches to address this.
 - f) JG: Follow up on GIT 6 conversation to see what how GIT leaders could support efforts. Or if GIT leadership needs to bring this up.
 - i) GH: Suggest as agenda item for Coordinator and Staffer meeting this week.
 - ii) JG: Would be valuable to request MB members to get briefed prior to SRS meetings.
 - iii) MG: GIT 6 had an expectation that MB members would bring state contacts to relevant meetings. That isn't happening.
 - g) SF: Leadership must have a conversation with the lower levels - more time, more money, better alignment of goals, etc.
 - i) JG: This is an organization challenge and it must be addressed as such.

Crediting Conservation – Peter Claggett (USGS)

- 1) CBP modeling group is using high-resolution data to produce several land cover change scenarios that model options for a range of behaviors.
- 2) Brings land change predictions into CBP modeling suite.
 - a) Based on residential, commercial development models (via many metrics).
 - b) Simulating with land conservation and dynamic probabilities.
- 3) Crediting Conservation: use density of land types to incentivize development in “like” areas (i.e. development closer to areas that are already developed).
 - a) With additional high-resolution land cover data, we can place checks on development choices.
- 4) Development patterns affect load reductions
 - a) States are developing custom scenarios to include in WIPs (including limits of development, and conservation planning).
 - i) Will receive credit for additional loads above the 2025 levels.
- 5) Comments:

- a) Kevin DuBois (KD): Coastal community property values will go down, increase municipal infrastructure costs – scenarios beyond 2025 will be impacting municipal choices. How is this taken into account?
 - i) Peter Claggett (PC): States are choosing more specifics in their scenario builder. We are also simulating out to 2100 to see broader bay health.
- b) CC: How does this highlight intersection of this type of BMP analysis and the healthy watershed analysis and valued lands assessment?
 - i) PC: Most valued lands map is scored on 1-31, we are taking that and scaling it to 0-1. Cut out farmland, and forested lands. Conservation is then based on remaining parcels, by weight. Healthy watershed currently doesn't have any protection, but if they did we could add it in.
- c) CC: How would this model influence development choices? Could a mini scenario be run?
 - i) PC: Yes - but not yet. It currently takes a lot of time and data to do a model run. This summer we will convert to the cloud so small scenarios could be run at any time. Nutrient loads wouldn't be available without running it through CAST – it is not feasible to run multiple scenarios through CAST right now.
 - ii) SF: Is crediting individual land parcels possible?
 - (1) PC: Could be possible, but not the mindset we want to be thinking with. Want to be thinking about more widespread conservation than one parcel. Working on small scales isn't as accurate as necessary.
 - iii) DW: Are you working with county or smaller scale to present multiple scenarios?
 - (1) PC: Work like that informed parts of this mode.

Maryland Living Shoreline Projects – Nicole Carlozo (MD DNR)

- 1) Resilience through Restoration: Utilizing natural and nature-based features.
 - a) Living Shorelines have become default erosion control measures (Living Shorelines Protection Act of 2008).
 - b) Help maintain continuity of natural land-water interface.
- 2) Nature based living shoreline
 - a) Bagged oyster shell, coconut fiber logs, Christmas trees, oyster reefs.
- 3) Beyond shore stabilization, living shorelines provide
 - a) Water quality, Fish and wildlife habitat, Biodiversity, Food webs, Recreation, Aesthetic value, Coastal and community resilience (storm and wave attenuation and absorption).
 - i) Fish and wildlife habitat
 - (1) Linking the abundance of estuarine fish and crustaceans in nearshore waters to shoreline hardening and land cover research
- 4) Resilient communities
 - a) Gas storage in salt marshes.
 - b) Marshes trap sediments and grow in height.
 - c) Study: After Hurricane Irene, marshes with and without sills protect estuarine shorelines from erosion better than bulkheads during a Category 1 hurricane.
 - i) Marsh sites had no damages or surfaces elevations, vegetation density dwindled but rebounded within a year.
- 5) Many studies over past few years about resiliency and natural features.
 - a) Modeled insurance models to resolve how much damage would have taken place without wetlands.
- 6) Living shorelines aren't end all solution, just one tool in our toolbox
 - a) We don't know everything, how these features will respond each time in a dynamic environment

- b) Need to know better how these features work to contribute to resilience
- 7) Resiliency through restoration initiative in Maryland
 - a) Maryland pledged to integrate climate change in decision making (infrastructure design, conservation design, etc.)
 - i) 41 million in damages from Sandy, renewed interest
 - ii) Targets:
 - (1) Identify vulnerable coastal communities
 - (2) Identify locations where nature can help reduce risk
 - b) Coastal resiliency grant program
 - i) Technical and financial assistance for nature based features to protect residents, economies, infrastructure, and public resources
 - (1) Innovative climate resilient designs encouraged
 - (a) Tidally influenced sites will be designed differently (marsh migration potential, Sea level rise, accretion rate) than non-tidal/inland sites (Precipitation, streamwater flow, channel structure).
 - (2) Monitoring for maintenance and adaptive management
 - (a) Identify physical, chemical, and biological metrics
 - (b) Improve design with changing conditions
 - (3) Outreach, communication, and education
 - ii) Grant management
 - (1) Supported by states' capital budget
 - (2) 6 projects in year one – all shoreline stabilization or flood reduction
 - (3) Year two – expansion to upland/non-coastal communities with storm water and/or floodplain climate impacts
 - (4) Project details will be shared in MD DNR online toolbox.
 - iii) Monitoring for adaptive management
 - (1) CBNERR helping
 - (2) Beneficial use – identify locations for dredge
 - (3) GMU/TNC helps with
 - (a) Water levels, currents, waves
 - (b) topo/bathymetric surveys
 - (c) Vegetation surveys
 - (d) Extreme event rapid deployment
 - iv) Current pilot project: Deal Island Shoreline and Marsh Enhancement
 - (1) Shoreline lost 234 feet since 1970s
 - (2) Priority for community. Held several meetings and conducted breakout groups to gather this information.
 - (3) Goal is to keep shoreline from breaching, prevent increase in flooding, maintain wetland behind shoreline.
 - (4) Design will include headland breakwater spur to prevent scour, dune restoration, submerged breakwaters - not entire natural living shoreline installation.
 - (5) <https://www.dealislandpeninsulaproject.org/>
 - c) Climate change in MD – year 2100 snapshot
 - i) Sea level rise predicted 2-6 feet
 - ii) Air temperature predicted to rise 2-8 degrees Celsius
 - iii) Annual precipitation will vary -10 to +20%

8) Comments:

- a) CC: Tomorrow we are brainstorming for projects we might propose for GIT Funding. Oriented toward addressing barriers, monitoring protocols, etc. based on work you've done, what are top level priorities that need more attention?
 - i) Nicole Carlozo (NC): Community outreach to show what people can do to help themselves on their own properties. These projects benefit multiple systems. Anything we can provide to document biggest bang for buck will be helpful.
- b) GH: On local scale, do they know this is more resilient long term? Is the issue one of science or communication? Is reason they're not doing it because they don't know it's a better option?
 - i) NC: Should we be putting more of our time in communication/education? We need to do series of these projects and monitor them to show these practices do work. Difficult to get all factions of local communities on board for a project of this scale.
- c) JG: For landowners with wetlands on their properties, maybe we can work with CBP's web team do something similar (to the 2016 WWG GIT Funding project) for shorelines?
- d) DW: How much of this is being done in coastal Virginia? If living shorelines are a better technique but people aren't aware of it or there is not enough funding for it, it could be meaningful for a communicative GIT funding project.
- e) DC: Another issue – landowners getting information from contractors who want to stick to what they're used to doing. Can be resistant to change.
- f) KD: Restore America's Estuaries did white paper on reducing barriers to implementation of living shorelines. We should possibly do an outreach study on peoples' attitudes on living shorelines.
 - i) NC: Mix between not knowing about it, not trusting it, following what neighbors are doing
 - ii) DW: Education outreach to contractors, might be beneficial in the long run
 - iii) DC: Coastal Resiliency Workgroup grant opportunity to do study on this
- g) BL: An obvious barrier is expense, 1.6 million dollars for the design.
 - i) NC: Also need to consider maintenance and monitoring requirements, hopefully have practices last past 15-year lifetime
- h) GH: People are unaware that riprap use is against law. Education is biggest thing, not just cost/benefits/resilience, but law process they're missing. People don't know where to go to even figure out what to do, first thing they do is go to contractor. How do we reach out to people to get them to figure out what to do?
 - i) AL: Effective strategy on small scale, affluent community. Use signage – one way to communicate that living shorelines are an option for those living there.
 - i) NC: MD DNR working with towns, clubs, counties, HOAs to spread education
- j) SF: Is monitoring a phase of the grant?
 - i) NC: We don't have money for it, so we are committing to monitoring a few each year, working with others to get programs in place. Interested in working toward citizen science program to monitor these projects.
- k) NC: Flood insurance rate reductions are given to those building dunes, unsure if that happens with wetland construction.
- l) JG: Takeaways to consider – development of GIT Funding proposal, work with CBP communications team for outreach/awareness campaign
 - i) Rebecca Chillrud (RC): CBP Communications team has GIT Funding for behavior change, looking for pilot projects

VIMS SAV Interactive Map Demo – Brooke Landry (MD DNR)

- 1) International Seagrass Workshop to be held in MD in 2020, likely in Salisbury or Baltimore
- 2) VIMS conducts Aerial Monitoring survey every year in the Bay and its tributaries

- 3) VIMS hosts the data, segments, tables, reports on interactive online map - <http://web.vims.edu/bio/sav/maps.html>.
 - a) Highly customizable; add your own basemap
 - b) Layers:
 - i) SAV bed densities
 - (1) If bed is not dense enough, it is not included in the map
 - ii) Bed outlines
 - iii) Composite map
 - iv) SAV imagery
 - v) Species observations
 - (1) Ground-truthed data
 - (2) Not comprehensive
 - (3) Listed by surveyor, species, date
 - c) Lots of applications
 - i) Practical for shoreline work

SAV BMP Expert Panel Proposal Discussion – Brooke Landry (MD DNR) and Becky Golden (MD DNR)

- 4) Purpose:
 - a) To evaluate SAV's effectiveness in reducing nutrients and sediments
 - b) To apply SAV in the Chesapeake Bay TMDL water quality model if feasible
- 5) Why now?
 - a) Highest SAV acreage on record since survey began
 - b) SAV is an output of restoration efforts; water clarity indicator
 - c) Takeaway from SAV Workgroup (SAV WG)/Budget and Finance Workgroup (BF WF) dialogues
 - i) From investment perspective, investors want to know what sav provides as return
 - d) Interest in ecosystems services and co-benefits
 - e) Oyster BMP expert panel update
 - i) In water/in situ BMPs are legal
- 6) Scientific and policy gaps
 - a) SAV success positive feedback mechanisms
 - b) New research by Gurbisz and Palinkas
 - c) Currently, the simulation models only coarsely parameterize sav enhances sediment trapping
 - i) Calibrated with data that precede recent SAV resurgences
- 7) Goals of sav bmp expert panel
 - a) Identify unintended consequences of promoting SAV as a BMP
 - b) Reach consensus on acceptable nutrient reduction estimates
 - c) Establish a methodology and process to update these estimates as new science becomes available
 - d) Establish BMP crediting and verification guidelines for their use in the TMDL model
- 8) Next steps
 - a) SAV Workgroup discussion
 - b) Follow the CBP's BMP Review protocol
 - i) Formal request to Habitat GIT
 - (1) Clear and concise definition of how SAV reduces nitrogen, phosphorus, and sediment
 - (2) Reference available science/data on removal efficiencies
 - ii) Review by HGIT and WQ GIT
 - iii) Coordinate the convening of an expert panel
- 9) Comments:

- a) DC: Challenge because SAV comes and goes as other BMPs are supposed to be in place and monitored. Potentially problem doing additions and subtractions each year.
 - i) BG: Lots of questions, oyster panel is dealing currently with variability.
 - ii) BL: Hopefully variability would help determine reduction in land based BMPs. Might be good argument for saying you can't stop doing land based management, we just want to count SAV too. SAV needs to compete with aquaculture, space based conflict.
 - b) DW: There is excitement and acknowledgement that bay is improving. Biggest indicator has been SAV, great endorsement of resource as BMP.
 - i) DW: Do jurisdictional boundaries travel far in the water?
 - (1) GH: Might have to set up SAV bed permitting?
 - ii) DW: In order for localities to use SAV as a BMP, needs to be some conflict management effort at waterfront/property owners.
 - c) DW: what kind of resources would you need to complete this?
 - i) BG: We would use previous BMP expert panels as a guide. 10-20 people, at least once a month commitment. Data/research is there, must condense and organize it. Coordinate with modelers.
 - d) DC: Crediting not model reductions, but improvements. Another avenue to investigate.
 - e) GH: What is the timeframe?
 - i) BG: A few are broken in to years-long phases. Could be one to a few years.
 - f) BL: Break aerial survey data down into counties, force them to pay subscriptions, would pay for survey and necessary in order to receive credit.
 - g) BL: We would need to decide how much of nutrients that sav can accumulate.
- 10) Decision:
- a) JG: Worth the Workgroup discussing with more experts in the room. Tell them you brought it here and wants to defer to them.
 - b) DW: If you come out of that meeting with solid support and approach, I support it. Good concept.

Wrap Up and Ideas for Fall Meeting – Jennifer Greiner (USFWS)

- 1) Goal Team Funding Process:
 - a) \$860k available for projects
 - b) Timeline
 - i) July 10: Proposals drafted (from workgroups)
 - ii) July 10 - 17: HGIT input and review
 - iii) July 17-24: Cross GIT vetting / refinement
 - iv) July 31: Top 3 submitted to GIT Chairs/ Coordinators
 - c) June 20: Brainstorm for breakout group discussions of cross GIT projects
- 2) Fall Meeting:
 - a) Shift meeting to January for better alignment with SRS prep
 - b) Possible locations
 - i) PA (beneficial for culvert/Fish Passage context)
 - ii) WV (NCTC, Leetown, Cacapon St. Park)
 - iii) DE (Bombay Hook (tidal not as applicable to SRS theme))