Joint Meeting of Habitat and Sustainable Fisheries GITs

June 19th-21th, 2018

Smithsonian Environmental Research Center (SERC) – Schmidt Center

647 Contees Wharf Rd., Edgewater, MD 21037

Day 2: June 20th, 2018

Participants

Sean Corson (NOAA), Fisheries GIT Chair
Rob O'Reilly (VMRC), Fisheries GIT Vice Chair
Christine Conn (MD DNR), Habitat GIT Co-Chair
David Whitehurst (VDGIF), Habitat GIT Co-Chair
Bruce Vogt (NOAA), Fisheries GIT Coordinator
Jennifer Greiner (FWS), Habitat GIT Coordinator
Sara Coleman (ERT/NOAA), Fisheries GIT
Morgan Corey (CRC), Fisheries GIT Staffer
Paige Hobaugh (CRC), Habitat GIT Staffer
Margot Cumming (CRC), Habitat GIT Staffer
Becky Golden (MD DNR)
Dan Ryan (DC DOEE)
Tom Ihde (Morgan State)
Sally Claggett (USFS)
Jorge Holzer (MD SeaGrant)
Matt Ogburn (SERC)
Dave Blazer (MD DNR)
Chris Moore (CBF)
Scott Phillips (USGS)
Andy Lacatell (TNC)
Ellen Bolen (VMRC)
Gina Hunt (MD DNR)
Pat Geer (VMRC)
Tom Powers (VMRC/FMAC)
Alicia Logalbo (USACE)
Alicia Berlin (USGS)
Kristy Beard (NOAA)
Bob Fisher (VIMS)
Brooke Landry (MD DNR)
Kara Skipper (DNR)
AK Leight (NOAA)
Kay Briggs (USGS)
Jessica Coakley (MAFMC)
Angie Sowers (USACE)
Kristen Saunders (UMCES)
Marty Gary (PRFC)
Margaret McGinty (MD Fisheries)
Peter Tango (USGS)
Anne Timm (USFS)
Katie Ombalski (Woods and Waters LLC)
Rebecca Chillrud (CRC)
Mark Hoffman (CBC)
Joan Smedinghoff (CBP)
Allison Colden (CBF)
Kevin DuBois (DOD)
Adrienne Kotula (CBC)
Mark Southerland (AKRF, Inc.)
Scott Phillips (USGS)

SERC Welcome and Applied Science – Matt Ogburn

About SERC:

- SERC is a Smithsonian research center that began as 368-acre dairy farm that served as a field site for 50 years. SERC now is a permanent facility with 185 permanent staff. Invested $80 million in sustainable facilities in past 10 years; the new Matthias lab is Smithsonian's fist LEED Platinum building. SERC owns much of the land in the Rhode River watershed.
- SERC Research Focuses include global change, pollution, land use, fisheries and food webs, invasive species, loss of biodiversity.

- SERC Programs:
  - SERC is world headquarters for MarineGEO Program which tracks nearshore marine life to understand how it's changing.
  - Forest Global Earth Observatory Program: ForestGEO – a global network of scientists and forest research sites dedicated to the long-term study of the world's forests.
  - Marine Invasive Species Program. SERC's is the largest in North America. It monitors at ports in the U.S. for invasive species and maintains the National Ballast Water Clearinghouse.
  - Smithsonian Conservation Commons – A Smithsonian wide conservation program with 4 major parts:
    - Working Lands and Seascapes
    - Movement of Life
    - Sustainable Food Systems
    - #earthoptimism
  - Land-Sea Interaction Studies
    - Land Side: global change and forest management, biodiversiTREE reforestation experiment, nutrient pollution.
    - Water Side: global change/ecosystem responses, world's longest marsh elevated CO_2 study, fish habitat, food webs, fisheries.
  - SERC Public engagement: SERC is open 6 days a week; public hiking trails and kayak/boat launches.

Overview of CBP GIT Funding Process – Kristin Saunders (Cross GIT coordinator – UMCES at CBP)

In past years, around $1 million/year has been set aside by CBP administrator for non-Water Quality research projects. Projects are chosen for funding in a Goal Implementation Team (GIT) driven selection process. Priorities are driven by chairs and coordinators.

2018 GIT Funding Process:

- $860k available for funding
- Project ideas are due 7/20
- Project Criteria:
  - Support CBP goals, outcomes, management strategies, and workplans
  - Aim to remove a key existing barrier to implementation of work plan tasks
  - Include deliverables that can serve as catalyst for expanded action
  - Unique projects that have not been previously undertaken
  - Should meet more than one CBP outcome (especially if fall under more than one GIT)
  - Should aim to complete all components of an outcome decision framework
- Ranking Criteria:
  - 1-10 scaling for: removing barriers, catalyst, cross outcome (double weighted), decision framework
  - "Power boost" added for special circumstances: equity, new outcome, never funded etc.

Discussion:

- Claggett: How do we look at other funding options at CBP beyond this?
  - Saunders: Budget and Finance used to take a look at money distribution, this doesn't happen anymore. Additional contracts are available through the science side of the program, or grants through outside programs. Budget and Finance Workgroup (WG) is working towards a way to prioritize where funding requests go. If other options for funding are available, your WG should start there.

    - Claggett: Important distinction to make because RFPs go out through the Chesapeake Bay Trust. That is different than applying for grants.
    - Phillips: Discussion of these projects often show partners that are doing similar projects, these can often be co-opted to supplement to meet GIT needs. Keep in mind how partners can work together.
- Participant: Where does stakeholder involvement happen?
    - Saunders: Outreach should be happening through the proposal development and through the bidding process on the RFPs. We are currently adding guidance for avoiding conflicts of interest.
    - Participant: Yes, but in the production of the science?
    - Saunders: That would have to be articulated in the RFP and ensure that the bidder takes that into account.

2017 Example Projects:

- Monitor and Protect SAV: Brooke Landry (MD DNR), SAV WG Chair
    - Goal: Protocol/manual and training/certification program for citizen scientists.
    - Contracted to UMCES IAN for $25k (matched funding through PhD student funding).
    - Related to Outcome Progress: Increase data collection capacity, facilitate siting of restoration projects, and improve outreach, citizen involvement and stewardship.
    - Relation to previous GIT funded projects: Follow up to a 2016 SAV Riverkeeper project (money distributed to multiple Riverkeeper groups to start citizen monitoring).
    - Future applications: Products (training manual and video) developed through this project will be used to continue this program into the future.

- Review of Statues and Regulations: Becky Golden (MD DNR), SAV WG Vice Chair
    - Goal: Determine if current regulations are sufficient to protect existing SAV, provide recommendations.
    - Contracted to The Legal Alliance for $25k (will sponsor a fellow for one year).
    - Project Related to Outcome Progress: Increase capacity to adequately protect SAV, improving the likelihood of SAV achieving and sustaining 185,000 acres.
    - Discussion:
        - Participant: Will the study be looking at where there are conflicts between regulations?
            - Golden: Not at this point, but I will mention it to the contractor.

Successful Past GIT Funding Projects – Bruce Vogt (NOAA), Fisheries GIT Coordinator

- Forage Monitoring Project:
    - Relatively new outcome
    - Science needs a better understanding for the bottom of the food chain
    - Initially got funding for STAC workshop to identify important prey and science gaps related to these species
    - With STAC report, applied for GIT funding to address the gaps
    - Goal: To develop indicator to evaluate status of food resources

- Fish Habitat Project:
    - identify additional stressors beyond hardening shoreline and impervious
    - Goal: To develop threshold for hardening shoreline

Factors Influencing Fish Habitat Function in the Chesapeake Bay Watershed: Application to Restoration and Management Decisions – Gina Hunt (MD DNR), Fish Habitat Action Team Chair

Broad fish habitat assessments have taken place in upper reaches of watershed, but not necessarily in coastal regions. The workshop objective was to identify the necessary information and analytical approaches to assess the condition and vulnerability of fish habitat in Chesapeake Bay Watershed (CBW). The Steering Committee realized early on that this has been done on national level (three assessments in 2015): Inland stream, national estuary, and regional estuary in Gulf of Mexico. Assessments done in the CBW tell us the following:

- Biggest fish habitat stressors include agriculture, urbanization, mining.
- Some data are not included (had to be nationally available to be used).
- Areas with the worst relative condition should be considered high priority for restoration.
- Assessments can help develop specific habitat management objectives aimed at protecting and/or restoring habitat to help recover fish populations or improve productivity of stocks.
- Results are spatial.

We are thankful for partners from USGS and NOAA who sit on the Steering Committee! The first question posed to the Committee: What do we have that wasn't used in national assessment? They pooled together data that wasn't used in national assessment or were newly available on smaller scale:

- 15 factors influencing fish habitat (broad categories of stressor/influence on fish habitat).
    - 441 variables under the factors gathered before workshop.
        - Slightly exaggerated.
        - Some are redundant (e.g. dams: many ways to measure dams).
- Question comes back to scale:
    - Scale must support planning and management decisions.
    - Things got technical, unlikely to have local planners attend.

The Steering Committee developed an online questionnaire:

- 148 people responded, most were in local government.
- Received responses from every jurisdiction!
- 70% said 'yes I would use a regional assessment'.
    - But, we already have a lot of tools (some more popular than others).
    - Therefore, it would need to complement existing tools.
- Majority requested the smallest scale offered.
- Other suggested the HUC 12 scale or smaller and ability to switch from google earth to topo map scale.
- What data do responders want included? WQ degradation, development/land use, invasive species, impervious surface cover, wetland distribution and type.

Conclusion: Regional assessment would be used by practitioners, but maybe not as the main tool (must provide information that they don't already have or combines from other sources).

1. **Would you use a regional fish habitat assessment?**
    - Conn: Using information to communicate conservation values to partners, point to specific species with commercial/recreational value
        - Brook trout
        - Exists in another tool already
    - Timm: Stormwater and temperature, impervious surface is no longer working. I want a more specific mechanism.
    - Coakley: From council and Federal side, currently working on Northeast regional fish habitat assessment:
        - Information from national assessment wasn't appropriate in coastal areas, all looking to scale things down and then pilot and replicate to scale up.

    - Information on quantity and quality of habitat for ecosystem component species.
    - Ocean planning and offshore aquaculture initiatives, energy development
        - Need to point out what is important.
    - Metrics associated with water quality may be more useful for conservation.
    - We would use it! Excited.
- Corson: How much is too much? Can we put a finer definition on critical habitat areas? How do we make decisions based on 1 project? Is there a way to prioritize?
    - Tier 3 assessment (holy grail): Can you quantify value from energetic standpoint? How valuable is marsh for a specific species? And specific time of year?
    - NOAA is moving towards ecosystem-based management but we only have tools to talk about things in single species context
- Vogt: We haven't really done a good job of developing habitat objectives – How much habitat do we need to support a specific stock? Let's come up with specific number or area that we need to conserve/protect to maintain healthy stocks.
    - We have only really looked at harvest.
    - More specific data can allow us to apply habitat objectives, set clear targets.
- Powers: How is this mechanism going to address climate change/sea level rise in the future?
    - Hunt: Climate is one of the factors, shows up under every habitat type.
- Beard: Essential Fish Habitat (EFH) consultations – We can't review every project. Something to help prioritize our energy would be helpful.
- O'Reilly: Interested in national end of things – Many factors and stressors, how will it all come together?

Fish Habitat Assessment STAC Workshop Results and Recommendations:

- 1st step was to identify variables most influencing habitat
    - Some overlap across habitat types, 88 variables identified.
    - Word fish exercise – Give 1 word to describe a fish habitat assessment (Land use, essential, water quality, water, impervious surface, threatened, vital, wet, niche).
    - Nutrients and impervious surface were identified in all 4 habitat types.
    - In 3 habitat types, sedimentation, water temp, land use, erosion, stormwater discharge/runoff were mentioned.
- Determine scale and criteria to rank variables
    - Criteria selected: severity, mitigation potential, certainty (is it really a significant stressor with science behind it?).
        - Took a long time; very lively discussion.
    - Scale: 1:24,000
- Draft recommendations:
    - Fine spatial scale for planning, management, restoration, or mitigation.
    - Participants recognized a hierarchical approach.
    - Pursue opportunities to fill data gaps with volunteer monitoring.
    - Consider species assemblages as opposed to being species-specific to facilitate management decisions.
    - Conduct pilot-level assessments in representative waterways to validate approach utility.
- Report will be available by this fall.
- Gina is looking for feedback on recommendations we have received so far.

2. **Do you support pilot level assessments?**

- Saunders: The way you stepped through this, description sounds ripe for GIT Funded proposal.
    - Why did you limit it to MD, VA, and PA?
        - Hunt: Mostly due to cost and time.
    - Don't want to see data just sit there for 5 years.
- Powers: What about a pilot study?
    - Idea: Comparative study of 2 rivers (one with oysters, SAV).
- Phillips: Where do we have information to do pilot study?
    - Probably require more money than what we have for GIT funding
- Hunt: This is not just about money and data, there are lots of methodological components.
    - Do not want to make same mistakes across multiple pilots.
- O'Reilly: Pilot is stimulus to get analytical approach going.
- Conn: Try to solicit interest from local governments to validate approaches and methods – link it to management on the ground
- Whitehurst: Planning District Commission, will have interest but no resources.
- Hunt: One of the benefits of USGS and NOAA as partners was working across different habitat types, not typical of CBP.
- Hunt: We need clarification on expectations of regional assessment (we already have many tools):
    - TNC tool rose to the top
    - How do we integrate with existing tools? Can't work with all 27, how do we decide? Based on questionnaire results?
    - Many unanswered questions

USACE Comprehensive Plan – Angie Sowers (USACE)

The USACE Chesapeake Bay Comprehensive Plan (CBCP) represents both the Baltimore and Norfolk USACE districts. The Plan draft products are out and currently in comment period. The structure is as follows: report (Executive summary, main report, planning analyses appendix, agency coordination and public involvement appendix) and products (table with Restoration Roadmap data, state and D.C. annex, CBCP electronic products – data heavy, not suitable for printing). The goal is to provide a single, comprehensive and integrated restoration plan to assist in achieving Bay Agreement goals by:

- Identifying actions for others as well as corps.
- Identifying at least one project in each state and D.C. that can be considered for implementation or technical assistance by the USACE.
- Identifying new policies or programs to improve implementation.

Comprehensive Plan analyses are GIS efforts geared around 2014 Bay Agreement. They include:

- Evaluation at different levels
    - Baywide: Restoration Roadmap (HUC10 level)
        - 425 sub-watersheds
        - Range in size from 30,000 to 754,000 acres
        - Opportunities: Watersheds with greatest restoration potential
        - Clipped to each state and D.C. for implementation ease
        - State-selected watershed: Finer scale
    - Watershed Action Plans (identified by each state and D.C.)
        - Number of Action Plans limited only by 2-year timeframe of Comprehensive Plan

        - Action Plans are vehicle for identifying projects to then be matched with funding sources

Restoration Roadmap analysis results: If sub-watershed was identified as "Opportunity" it was given score of 1

- Separated by tidal and non-tidal as not to bias
- Darker areas are higher ranking for more areas of opportunity (more possibilities to address greater array of goals and outcomes)
- Each time a sub-watershed was identified, it gets a row in table
    - HUC name
    - Area of opportunity (acres)
    - Rough costs
    - Benefit
    - Who could implement?
    - Threat analysis
    - What Bay Agreement goals does it address?
    - Presence of federally listed species

State-Selected Watershed Action Plan Development

- CBCP analyses results
- Local GIS datasets
- Review of existing projects, ongoing efforts, planned projects, reports, and studies
- Results (includes potential focus areas):
    - Ex: Anacostia River Watershed (identified by D.C.)
        - Heavily stressed, limited habitat, limited SAV, high nutrient loading.
        - Opportunities: Moderate priority for restoration and conservation based on work by federal agencies (SAV, wetland restoration and enhancement using dredge material, removal of sea walls), high socioeconomic impact.
    - Ex: Lower Susquehanna River Watershed in PA
        - Heavily stressed with agriculture and development, poor habitat connectivity, nitrogen and phosphorus inputs, highly vulnerable to non-tidal threats
        - Opportunities: High priority for conservation and recreation, riparian buffer restoration, dam removal.
    - Ex: Choptank River Watershed in MD
        - Heavily stressed, poor habitat connectivity, highly vulnerable to tidal threats, loss of SAV.
        - Opportunities: High priority for conservation and restoration, wetland restoration/shoreline stabilization, oyster restoration, stream restoration, water quality improvements for specific areas.
    - Ex: Middle Peninsula Watersheds (Pamunkey, Mattaponi, Piankatank, York Rivers) in VA
        - Lost SAV, shoreline erosion, fish passage barriers, oyster populations.
        - Nine potential conservation/restoration activities identified (ag BMPs, oyster restoration, living shorelines, fish passage, riparian buffer restoration, etc.)
    - Ex: Nanticoke River Watershed in DE
        - Heavily stressed, poor habitat connectivity, nutrient inputs
        - Opportunities: Culvert assessments, agricultural BMPs, fish passage, stream restoration
            - Agricultural BMPs often come to the top because of water quality (need to address that before habitat restoration)

        - Nine focus areas
    - Ex: Opequon Creek Watershed in WV
        - Heavily stressed, non-tidal threats, poor habitat connectivity
        - Opportunities: wetland restoration, stream restoration, riparian buffer restoration, stakeholder identified - green infrastructure opportunities
            - Nine focus areas
    - Ex: Upper Susquehanna Watershed in NY
        - Medium stressed watershed, moderate habitat connectivity, high nitrogen output, no prioritized fish passage blockage data
        - Opportunities: wetland restoration, agricultural BMPs, riparian buffer restoration in high nutrient areas
        - 10 focus areas

Comprehensive Plan Findings/Recommendations

- Prioritize actions geographically to maximize benefits and contribution to Bay Agreement goals
- Promote conservation/enhancement adjacent to existing healthy/high value habitat
- Develop relationships to support implementation
- USACE leadership role in watershed planning (communities need assistance with planning and engineering)
- Track restoration actions with NEIEN
- Promote integrated water resource management and plan for future threats
    - Protect restoration gains from past investments
    - Minimize adverse impacts from future stressors

Comprehensive Plan Budget/Schedule

- Budget: over $2 million in federal investment ($704,000 in-kind services)
- Schedule: public input period concludes July 16
- Another webinar (office hours) on June 28, 2018

Discussion:

- Greiner: Columns identified activities (none of them are fish habitat - but next presentation will sharpen our lens to look at areas/activities that benefit fish habitat).
- Powers: One data layer to consider is SAV, from VIMS.
- Saunders: Goal Team members should know that USACE worked closely with Bay Program, many of you (whether you know it or not) have data represented in the analysis.
    - If you are looking for something specific, it's in the planning analysis appendix, schematic of GIS process.
    - Lots of capacity to manage large databases? Working on how to share publicly.
    - Corson: as I understand it, USACE has a deep bench, but it is tied to project money (no one slated to maintain it for the future).

Breakout Discussion

Each breakout group will develop 1-4 project ideas that will go to GIT executive committees who when then decide what to pass on to GIT funding process. Additional ideas will be noted for possible application in USACE Comprehensive Plan, NFWF grant funding, NOAA grants.

Breakout Discussion Report

- **Choptank/Middle Peninsula Watersheds**
    - Project 1

        - Project Type: Conservation/restoration planning project to optimize habitat types working with design experts, ecologists, planners, and community stakeholders
        - Objective: Identify key habitat areas and create a shoreline plan aimed to enhance crabs and oysters, SAV habitat, and to help site living shorelines and places to preserve natural shoreline
        - Area: Harris Creek or Tred Avon within an oyster sanctuary
        - Outcomes benefitted: Blue crab, SAV, oyster, shoreline, forage, and waterfowl
        - Anticipated Ecological Benefits: Prioritize where we do projects and create a transferable template for use in other areas
        - Estimated cost range: $75,000
        - Major Partners: Envision the Choptank, local community, design experts, ecologists, regulators, and planners
        - Implementation Barriers: None identified
        - Point of Contact: Dave Blazer
    - Project 2
        - Project Type: Design of living shoreline to identify site
        - Objective: Habitat enhancement
        - Area: Harris Creek of Tred Avon
        - Outcomes Benefitted: Blue Crab, SAV, Oyster, Forage Fish, Black Duck
        - Anticipated Ecological Benefits: Increased habitat productivity, benefits to populations of economically valuable species (Blue Crab, Oyster, etc.)
        - Estimated Cost Range: $75,000
        - Major Partners: DNR, USACE, MDE
        - Implementation Barriers: Ownership depending on location, design to minimize impacts to existing resources (shallow water habitat, SAV)
        - Point of Contact: Dave Blazer (MD DNR)
    - Project 3
        - Project Type: Monitoring project using citizen science volunteers
        - Objective: Develop a standardized shoreline monitoring and evaluation protocol to better understand shoreline habitats with community engagement
        - Area: Natural and living shoreline sites (no specific sites yet identified)
        - Outcomes Benefitted: Oysters, SAV, Blue Crab, Forage Fish
        - Anticipated Ecological Benefits: Increased habitat productivity, benefits to populations of economically valuable species (blue crab, oyster, etc.)
        - Estimated Cost Range: $75,000
        - Major Partners: Shoreline practitioners (VIMS, DNR, MDE), scientists
        - Implementation Barriers: No standard living shoreline design, long term funding but could bring in citizens to carry out long term monitoring at lower cost
        - Point of Contact: Baskar Submaranian (MD DNR), Donna Bilkovic (VIMS), AK Leight (NOAA)
    - Project 4
        - Project Type: Nearshore ecosystem restoration/resiliency study
        - Objective: Beneficial use of marine debris (old crab traps), shoreline erosion reduction, complex habitat restoration (oyster, eel grass, salt marsh), with potential black sea bass and summer flounder habitat

        - Area: Lower York shoreline -work with local planning district for access to shoreline, ideally in an area where some elements of oyster and or marsh remain in place
        - Outcomes Benefitted: Oysters, Fish Habitat, Forage Fish, Blue Crab, Wetlands, SAV, Water Quality, Climate Resiliency
        - Anticipated Ecological Benefits: Reduce shoreline erosion, increase oyster filtration, reduce nutrient and sediment pollution, provide fish habitat, help clarify the relationship between seagrass and oyster reef
        - Estimated Cost Range: $100,000 for a PI to coordinate with the local planning district, watermen, VMRC, NOAA, Non-profit and University partners to identify the property, develop a sampling design, construct a stable reef base and monitor impacts before and after implementation related to oyster recruitment, seagrass recruitment, fish community and erosion control.
        - Major Partners: Middle Peninsula Planning District, VMRC, NOAA, USACE, CCA or similar sport fishing group, TNC, VIMS (although TNC or VIMS may choose to bid)
        - Implementation Barriers: Concern over use of derelict crab pots for reef base due to aesthetics and potential post storm loss, potential shallow water permit issues
        - Point of Contact: Bruce Vogt (NOAA)
    - Project 5 (to be submitted by the Communications Team)
        - Project Type: Education and conservation surrounding salt marsh grass mowing
        - Objective: Conservation of existing, but poorly maintained salt marsh habitat. An unknown amount of high and low saltmarsh is currently mowed, removing most of its habitat value. This project would quantify the extent of the problem and produce outreach material to begin to address it.
        - Area: Lower York, Mobjack, and Lower Piankatank shoreline
        - Outcomes Benefitted: Wetlands, Water Quality, Black Duck, Fish Habitat
        - Anticipated Ecological Benefits: Improved waterfowl habitat, water filtration, nutrient uptake and improved juvenile fish habitat
        - Estimated Cost Range: $25,000 to survey local landowners, calculate “marsh loss” and develop outreach materials for homeowners and land use managers
        - Major Partners: Perhaps SERC, Baltimore Aquarium, Sea Grant, VA CZM, TNC?
        - Implementation Barriers: None identified
        - Point of Contact: Sean Corson (NOAA)
    - Project 6
        - Project Type: Seagrass restoration and monitoring project to understand climate resiliency
        - Objective: To test the ability of Rupia maritima (widgeon grass) to serve as a proxy for Zostera marina (eel grass) in seagrass restoration projects. The study would involve restoring both kinds of grasses in side by side plots and monitoring the plots to measure the success of the plots as well as related fish and wildlife. Published work on the habitat value of both of these species exists and so the emphasis will be on monitoring the efficacy of restoration of the grasses.
        - Area: Lower York, Mobjack and Piankatank
        - Outcomes Benefitted: SAV, Fish Habitat, Climate Resiliency

        - Anticipated Ecological Benefits: Eel grass is suffering from prolonged exposure to increased water temperatures in much of VA's brackish waters (bay and rivers vs coastal bays). Widgeon grass is a native species with higher temperature tolerance. Eel grass serves as habitat for a wide variety of fish, invertebrates and waterfowl. Finding a temperature tolerant restoration alternative may allow for the lost ecosystem services from eel grass die off to be recouped.
        - Estimated Cost Range: $50,000 to plant and monitor several plots
        - Major Partners: USACE, VIMS, DU, Recreational fishing group like CCA
        - Implementation Barriers: A survey of existing data to confirm the availability of suitable study sites would be warranted
        - Point of contact: Alicia Logalbo (USACE)

- **Upper Susquehanna/Opequon Watersheds**
    - Project 1
        - Project Type: Streambank stabilization with citizen monitoring component - culvert replacement project already submitted to WV DEP ($75-100K) so possible opportunities to tack onto this
        - Objective: Evaluate success of sediment/nutrient projects and added benefits/biological lift, identify areas where groundwater is predominant component of temperature regulation (TU conservation strategies include climate refuges - data layer), protection of tree canopy and buffers to maintain cooler stream temperatures
        - Area: Opequon
        - Outcomes Benefitted: Brook Trout, Riparian Forest Buffers, Water Quality, Fish Passage
        - Anticipated Ecological Benefits: Water temperature related to groundwater, sediment control, fish passage barriers removed
        - Estimated Cost Range: Not identified
        - Major partners: Trout Unlimited, WVDNR, WV DEP, state parks (Cacapon, Sleepy Creek)
        - Implementation Barriers: Lots of agricultural ownership, landowner willingness and attitudes
        - Point of Contact: Seth Coffman, Alana Hartman (POC for culvert replacement project in Tuscarora Creek, NFWF funding dam removal this year for fish passage and bank stabilization)
    - Project 2
        - Project Type: Develop strategic plan to present to NRCS; Awareness building
        - Objective: Cross outcome prioritization of culverts, work with NAACC for training and monitoring (multi state NY, WV)
        - Area: Upper Susquehanna
        - Outcomes Benefitted: Water Quality, Stream Health, Brook Trout, Fish Passage, Riparian Forest Buffers
        - Anticipated Ecological Benefits: protection of healthy watersheds (forested), reduction of nitrogen loading from agriculture (dairy), reduction of sediment
        - Estimated Cost Range: Not identified

        - Major Partners: TNC, FWS, Upper Susquehanna Coalition (partners need prioritization NAACC project?), Upper Susquehanna Watershed Coalition, NAACC
        - Implementation Barriers: None identified
        - Point of Contact: Berry Franz (NRCS), David Stilwell, Mike Lovegreen, NY State Conservationist, Cassandra Davis (MB rep for NY - engaged lately)

- **Lower Susquehanna / Anacostia / Nanticoke**
    - Project 1
        - Project Type: Consider potential connectivity of higher and lower quality streams in watershed
        - Objective: For any greater likelihood of stream health restoration uplift/benefit across multiple systems
        - Area: Lower Susquehanna
        - Outcomes Benefitted: Stream Health, Fish Habitat, possibly Brook Trout, Water Quality
        - Anticipated Ecological Benefits: Identify areas that could possibly provide enhanced ecological uplift, Areas to host potential Fish Habitat pilot projects
        - Estimated Cost Range: Not identified
        - Major Partners: Fish Habitat Action Team (Gina Hunt)
        - Implementation Barriers: Not identified
        - Point of Contact: Mark Southerland (AKRF Inc.)
    - Project 2
        - Project Type: Pilot study on the effectiveness of retention tunnel/bladder in controlling runoff
        - Objective: Evaluate runoff reduction benefit of retention tunnel/bladder for future use in runoff problem areas (review historical WQ data, outline strategy to ID markers that point to bladder system efficiency)
        - Area: Anacostia
        - Outcomes Benefitted: Stream Health, Fish Habitat, Water Quality, Toxic Contaminants, possibly Public Access
        - Anticipated Ecological Benefits: Reduced sediment, pollution that the Anacostia River receives, increase in water quality, increase in potential for fish habitat, public use of waterway.
        - Estimated Cost Range: Likely over $75,000
        - Major Partners: Not identified
        - Implementation Barriers: Not identified
        - Point of Contact: Dan Ryan (DC DOEE)
    - Project 3
        - Project Type: Study on Eastern Shore poultry industry pathology
        - Objective: Understand the origin and path of poultry industry pathogens
        - Area: Nanticoke
        - Outcomes Benefitted: Stream Health, Fish Habitat, Water Quality, Toxic Contaminants, possibly Public Access
        - Anticipated Ecological Benefits: Understand the origin and path of, gain knowledge necessary to reduce poultry industry pathogens
        - Estimated Cost Range: Not Identified
        - Major Partners: Not identified

- Implementation Barriers: Not identified
- Point of Contact: Scott Phillips (USGS)

Wrap Up

Discussion:

- Corson: GIT Funding Project templates will be filled, shared with group before executive committee decisions.
- Phillips: Put together letter of support for a database/home to keep USACE data, signed by GIT chairs, give to Jim Edward. USACE only has so long to hold onto their data, it needs a home. Someone needs to provide funding.

Follow Up

A joint proposal for GIT funding can be drafted and refined after group discussion in June, and submitted for review to both GITs and the Management Board for consideration in July.