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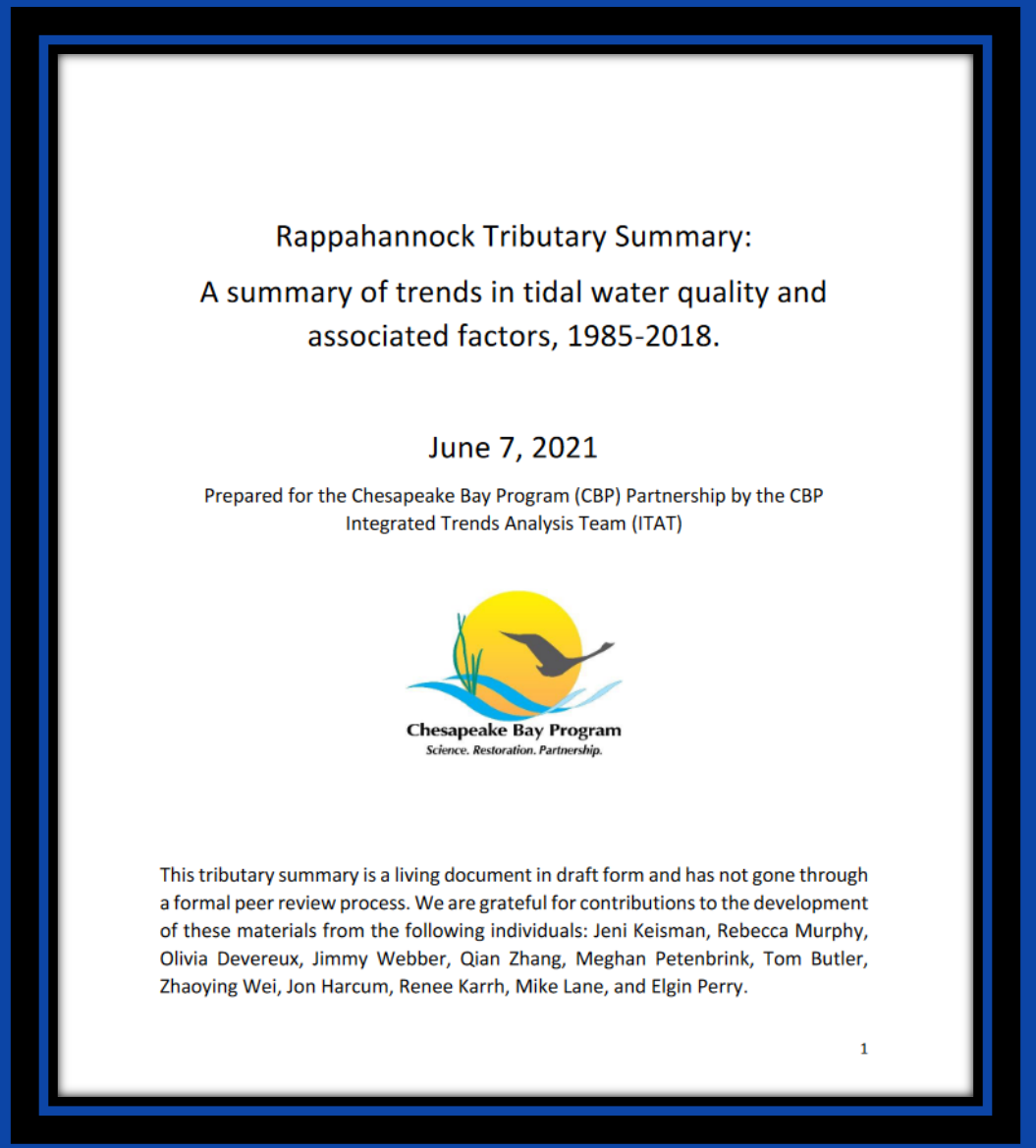
STAR Meeting
10/24/24

GIT Funding Proposal: Cluster Analysis

Need: The Integrated Trends Analysis Team (ITAT) requires assistance to refine code used in running the cluster analysis of our tidal trends water quality trends.

Final Deliverable: Completed code for ITAT members to use for producing results for communication products.



Rappahannock Tributary Summary:

A summary of trends in tidal water quality and associated factors, 1985-2018.

June 7, 2021

Prepared for the Chesapeake Bay Program (CBP) Partnership by the CBP Integrated Trends Analysis Team (ITAT)

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This tributary summary is a living document in draft form and has not gone through a formal peer review process. We are grateful for contributions to the development of these materials from the following individuals: Jeni Keisman, Rebecca Murphy, Olivia Devereux, Jimmy Webber, Qian Zhang, Meghan Petenbrink, Tom Butler, Zhaoying Wei, Jon Harcum, Renee Karrh, Mike Lane, and Elgin Perry.

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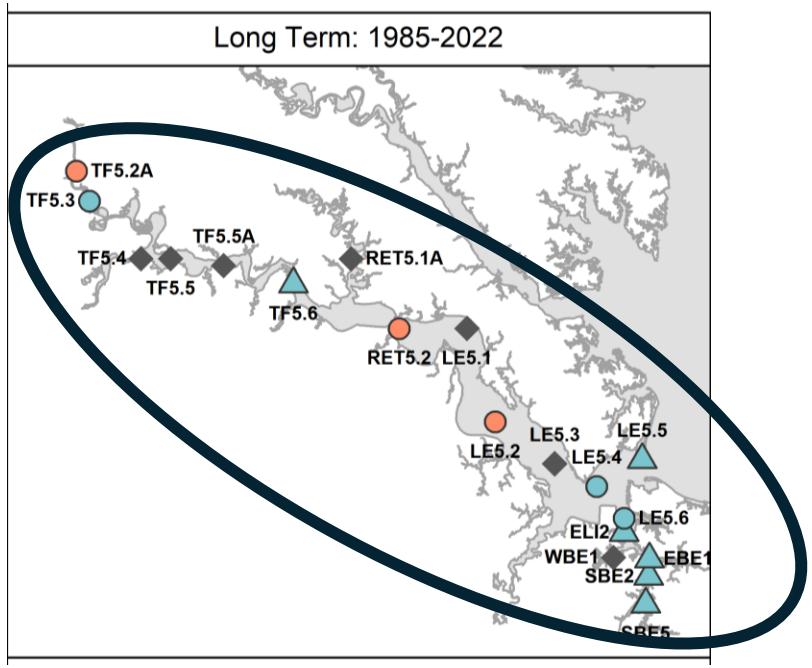
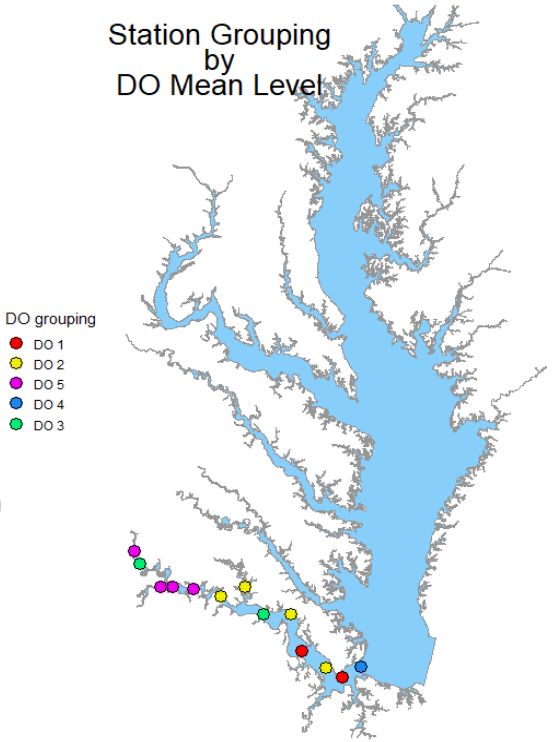
What is Cluster Analysis:

Groups a set of items according to some measure of similarity

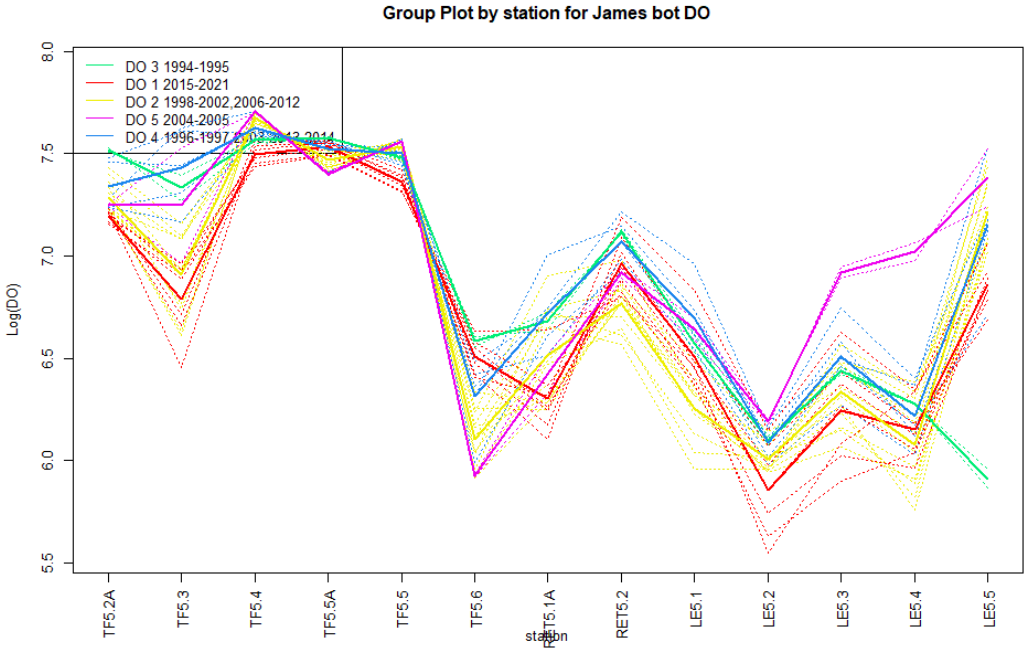
James DO tidal trends



James grouped by DO Mean Level



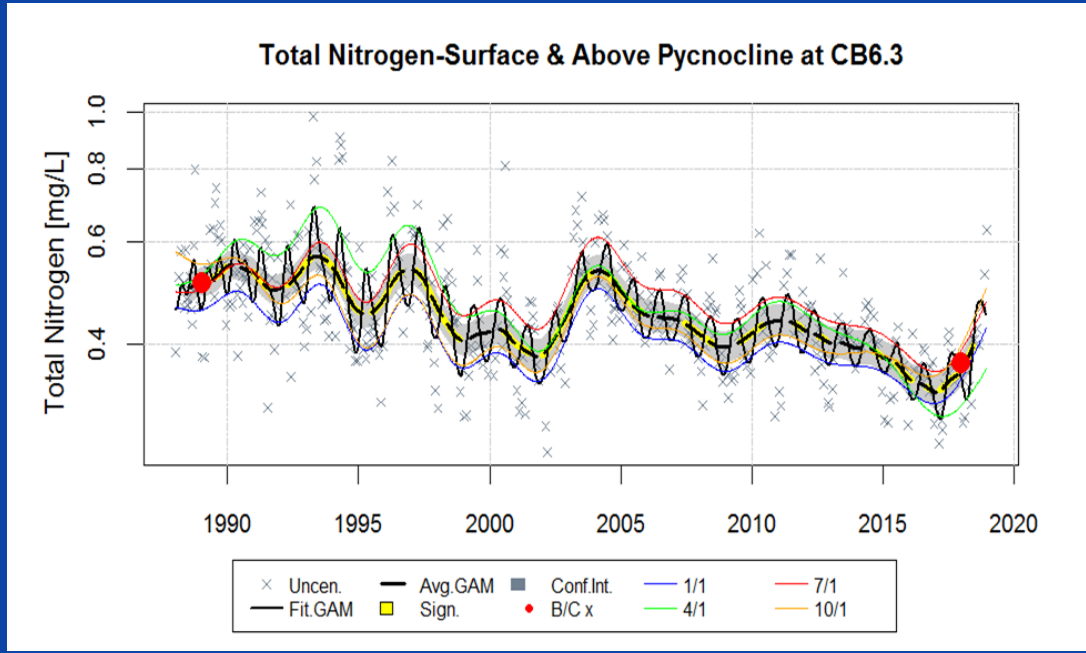
James grouped by station and plotted by years with similar flows



Why is it needed?

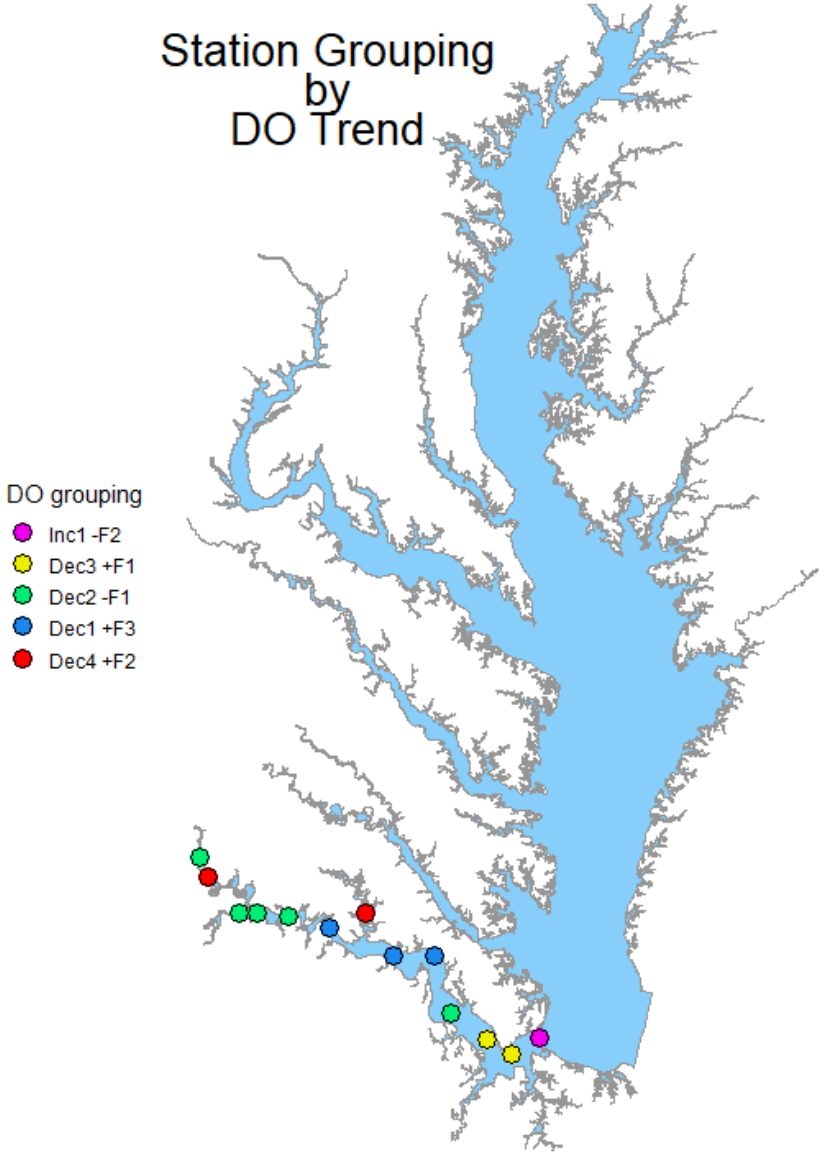
Current method: Assess trends at stations in a fixed station network through generalized additive models (GAMs)

- ✓ Good at capturing short term trend events due to meteorology, BMP implementation and other factors
- × Bad at capturing which stations are exhibiting similar trends



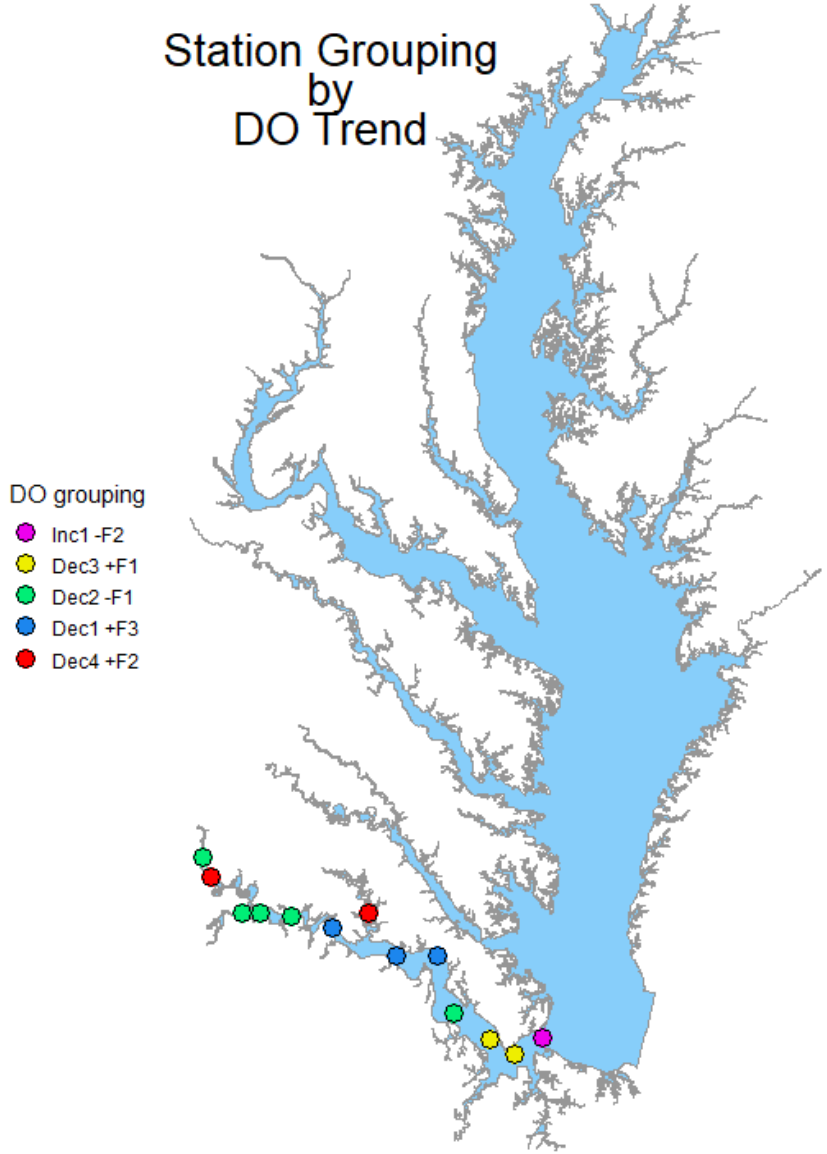
Additional cluster analysis method:

- ✓ Grouping stations with similar trends helps assess whether BMPs are influential over broad geographical areas.
- ✓ Differentiates regions where progress is satisfactory from regions where more attention to reverse degrading trends is needed.



Additional cluster analysis method:

- ✓ Supports one of STAR's function - *explain ecosystem condition and change by enhancing the understanding of spatial and temporal patterns.*
- ✓ Addresses STAR science need
- ✓ Supports WQSAM Outcome – "…report…trends in reducing nutrient and sediment in the watershed"



*** Funding going towards current Tetra Tech contact***

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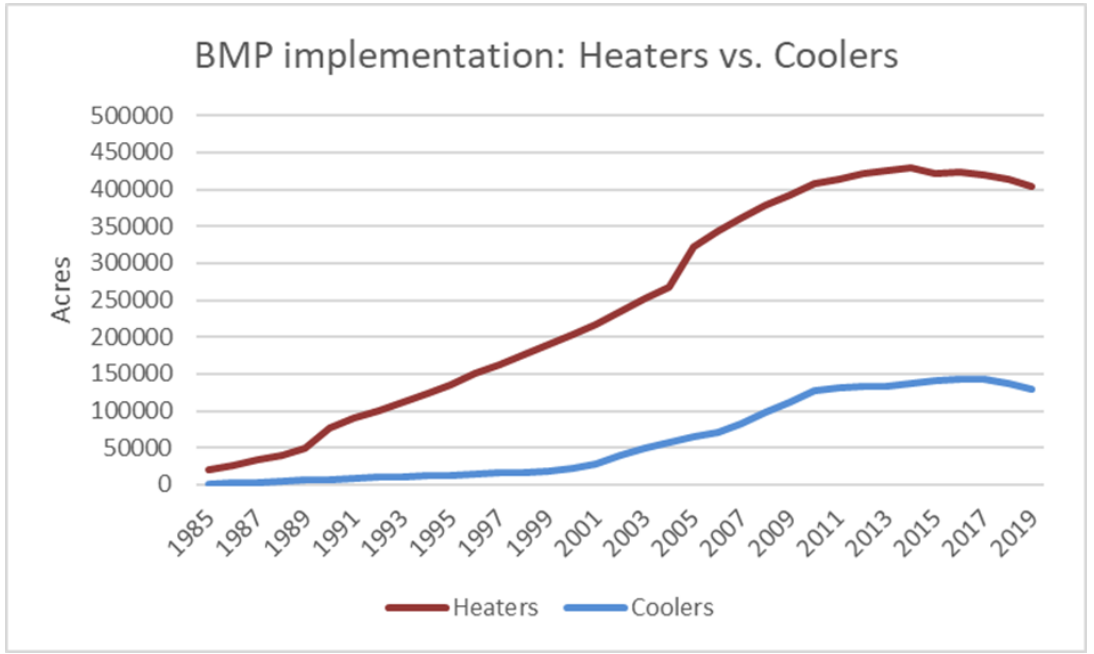
Questions?

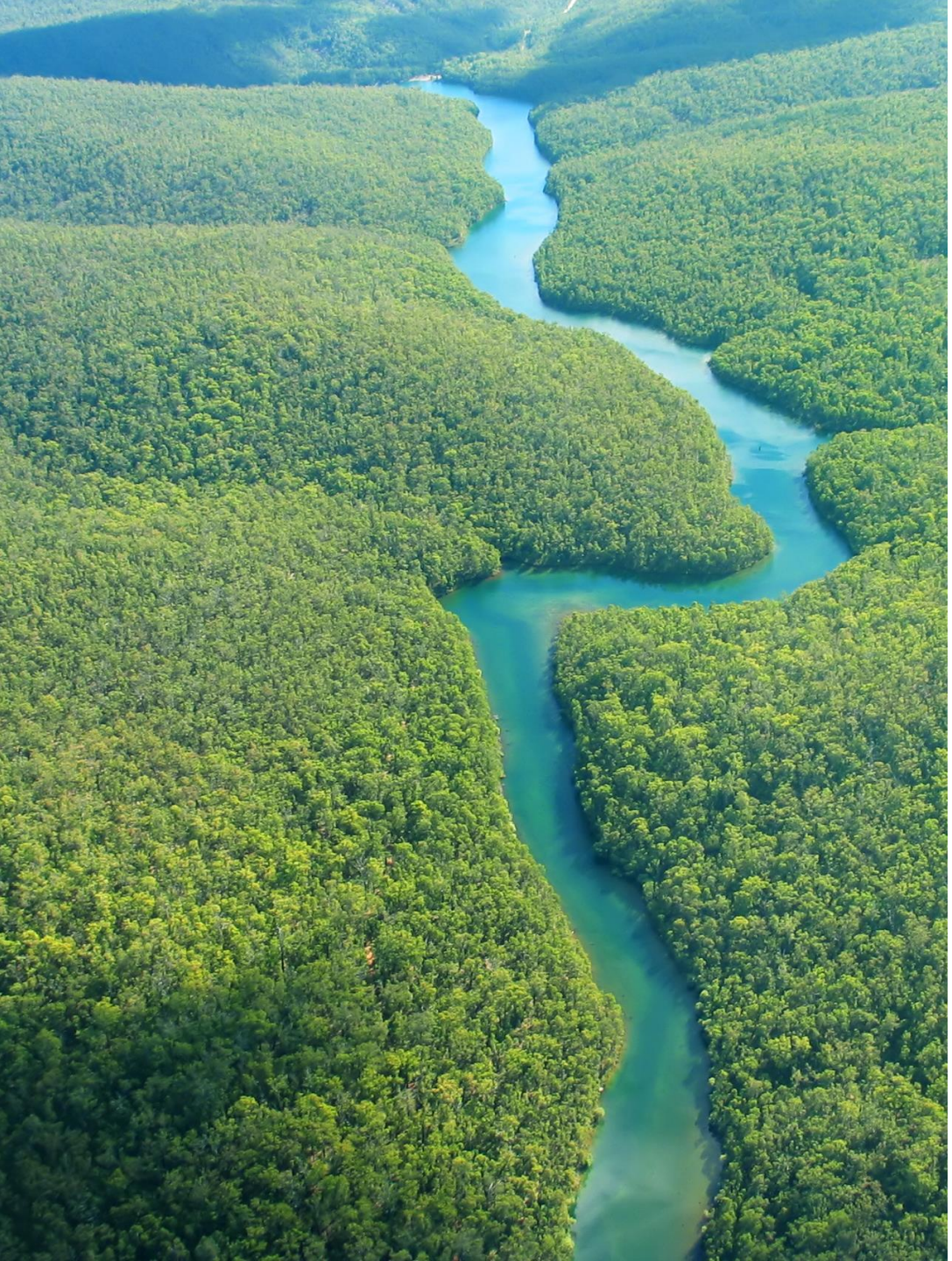
Hypoxia Collaborative: Sampling Strategy and Design for Chesapeake Bay Habitat Assessment

Assessment of BMPs as Heaters and Coolers for Local Waters

STAC Rising Water Temperatures Workshop

- **Findings:**
  - Water temperatures and having negative ecological impacts, esp. for coldwater species.
  - BMPs can influence water temperatures (either contributing to warming or cooling).
  - Watershed-wide, we have been implementing more “heaters” than “coolers”.
- **Recommendation**: Prioritize best management practices that cool or moderate water temperatures, including riparian forest buffers and upstream tree planting, paying particular attention to vulnerable ecosystems and communities
- **Science need:** Advance understanding of how BMPs influence water temperature, including opportunities to create thermal refugia





2024 GIT Project: Assessing the Thermal Influence of Management Practices on Instream Temperatures: Heaters or Coolers?

- Purpose: Improve understanding of the impacts of common water quality BMPs on water temperature to better inform managers
- Project to be implemented by USGS through an Interagency Agreement
- Project team:
  - Sean C. Emmons, US Geological Survey
  - Kelly Maloney, US Geological Survey
  - Anna Kaz (Contractor), US Geological Survey
  - Greg Noe, US Geological Survey
  - Thomas Doody, US Geological Survey
  - Katherine Brownson, US Forest Service
  - Jeremy Hanson, Chesapeake Research Consortium
  - Olivia Devereux, Devereux Consulting

Expert Elicitation

- USGS Chesapeake Studies Streams Team Focal Studies project used an expert elicitation approach to evaluate the effects of a subset of management practices
- Structured expert elicitation approach: IDEA protocol (Investigate, Discuss, Estimate, Aggregate)

Stage 1: Pre-elicitation	Stage 2: Elicitation			Stage 3: Post-elicitation
	Phase 1: Investigate	Phase 2: Discuss	Phase 3: Estimate	Phase 4: Aggregate
• Create TAC • Management practice data organization/analysis • Decide on optimal number of participants • Discuss recruitment strategy • Discuss format of elicitation • Discuss methods for collection, analysis, and feedback of results • Compile scoring resources for participants to reference • Recruit participants • Hold pre-elicitation workshop to train participants	• Send instructions and platform for scoring MPs • Experts individually and privately score MPs • Answer any clarifying questions from individuals to the entire group	• Summarize/analyze initial scoring data • Hold post-scoring workshop where experts are anonymously shown scoring data • Encourage discussion of results, resolve different interpretations	• Experts individually make second final and private estimate following post-scoring workshop • Encourage experts to revise and change initial estimates if desired	• Experts individually make second final and private estimate following post-scoring workshop • Encourage experts to revise and change initial estimates if desired • Analyze data, write report

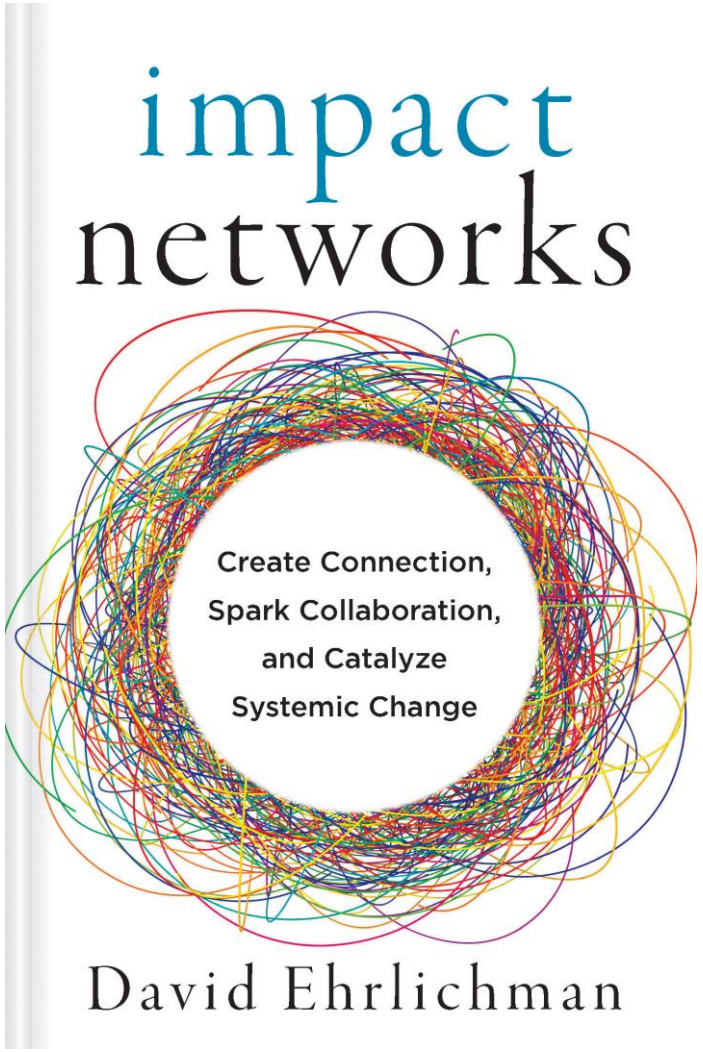
Project Overview

- Goals:
  - Analyze and identify effects of common BMPs on instream temperatures through expert elicitation workshops
  - Interpret and communicate results through a final report, presentations, and targeted communications products for managers/landowners
- Potential opportunities to contribute:
  - Participation on the project's Technical Advisory Committee (TAC)
  - Participation in the virtual workshops- will be recruiting GIT/WG members as well as other state/federal agencies and other partners to participate
- Timeline: 2 year project, now(ish) through end of FY26

Scope 7 – Training and Technical Assistance on Network Science

Strategic Engagement Team (SET)

Rachel Felver
Laura Cattell Noll
Amy Handen
Marisa Baldine
Bianca Martinez Penn



Impact networks bring people together to build relationships across boundaries; leverage the existing work, skills, and motivations of the group; and make progress amid unpredictable and ever-changing conditions.

As a powerful and flexible organizing system that can span regions, organizations, and silos of all kinds, impact networks underlie some of the most impressive and large-scale efforts to create change across the globe.

www.converge.net/film

Hierarchical Mindset	Network Mindset
Mechanistic worldview	Living systems worldview
Systems seen as a hierarchical pyramid	Systems seen as a web of interactions
Organization at the center of focus	Purpose at the center of focus
Top-down, directive leadership	Distributed, servant leadership
Centralized decision-making	Collective decision-making
Impulse to command and control	Impulse to connect and collaborate
Information restricted	Information shared
Task-oriented	Relationship-oriented
Bias towards deliberate strategy	Embrace of emergent strategy

Project Purpose:

Provide training and technical assistance on network science to build the necessary collaborative infrastructure to advance shared goals and enhance the existing capacity of the Chesapeake Bay Program partnership to accelerate achievement of Watershed Agreement goals and outcomes.

Outcome:

- Increase partnership impact and collaborative capacity through the adoption of network science principles that will enable the partnership to intentionally design, cultivate, and sustain relationships and connections among our partners and stakeholders who have share goals.
- Improve the partnership's ability to coordinate work around different organizations, enable them to be more resilient to changes in goals, outcomes, and structure, respond to urgent needs and opportunities, and integrate diverse perspectives into the organization.

Key Tasks:

Phase 1: CBP Training – Provide education and training for the partnership of healthy collaborative network characteristics and keys to functioning as a network.

Phase 2: Strategic Technical Assistance and Evaluation - Deliver organizational/network technical assistance on removing barriers to increasing effective collaboration and key topics related to networks for 3-5 goal team/workgroups.

Each level requires an increase in time, trust, and capacity/resources

Compete	Coexist	Inform or Consult (1-way Comms)	Coordinate (2-way Comms)	Cooperate (2-way Comms)	Collaborate (Multi-way Comms)	Empower or Integrate
Competition between or among partners for clients, resources, partners, Board members, and/or public attention and credit.	Neutral relationship or connections with partners, aware of their work but no systematic connection between or among partners	Partners share information for mutual benefit – to improve understanding of and awareness about issues, alternatives, and/or decisions made	Partners agree to adjust and align organizational strategic priorities and work with each other for greater outcomes	Partners interact (formally and informally) on discrete projects or activities (time bound)	Partners engage in collective impact to achieve *jointly* identified issues, co-develop outcomes and alternatives, and implement solutions. Work is based on shared mission, goals, and decision making, share funding, staff, and expertise	Completely merging operations, administrative structures, and budgets to form new entity. The individual partners/orgs involved are not discernable – *decision making lies entirely with new entity*

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October 24, 2024

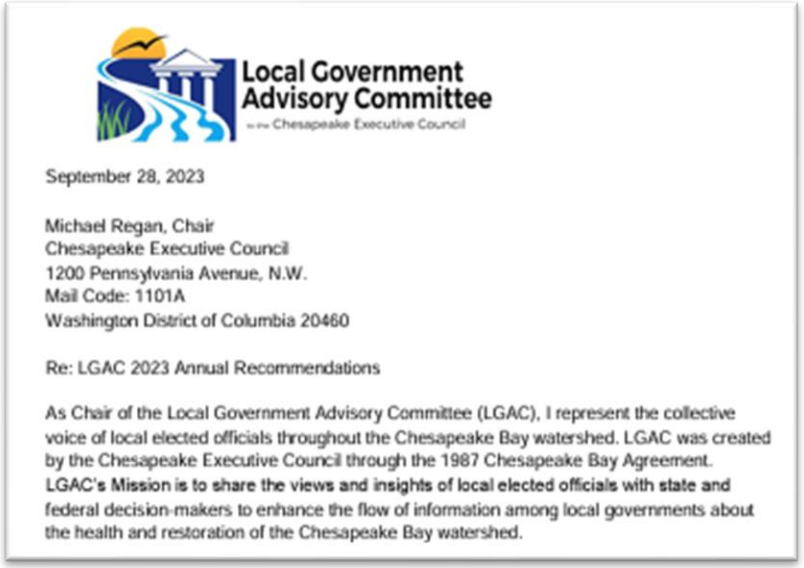
Scope #5: Local Government Technical Assistance Inventory and Gap Analysis

Rick Mittler, Local Leadership Workgroup Coordinator

The Why

- 2023 Annual Local Government Advisory Committee's (LGAC) Recommendations

- 2024 Local Government Roundtables



Local Government Advisory Committee
of the Chesapeake Executive Council

September 28, 2023

Michael Regan, Chair
Chesapeake Executive Council
1200 Pennsylvania Avenue, N.W.
Mail Code: 1101A
Washington District of Columbia 20460

Re: LGAC 2023 Annual Recommendations

As Chair of the Local Government Advisory Committee (LGAC), I represent the collective voice of local elected officials throughout the Chesapeake Bay watershed. LGAC was created by the Chesapeake Executive Council through the 1987 Chesapeake Bay Agreement. **LGAC's Mission is to share the views and insights of local elected officials with state and federal decision-makers to enhance the flow of information among local governments about the health and restoration of the Chesapeake Bay watershed.**

The How

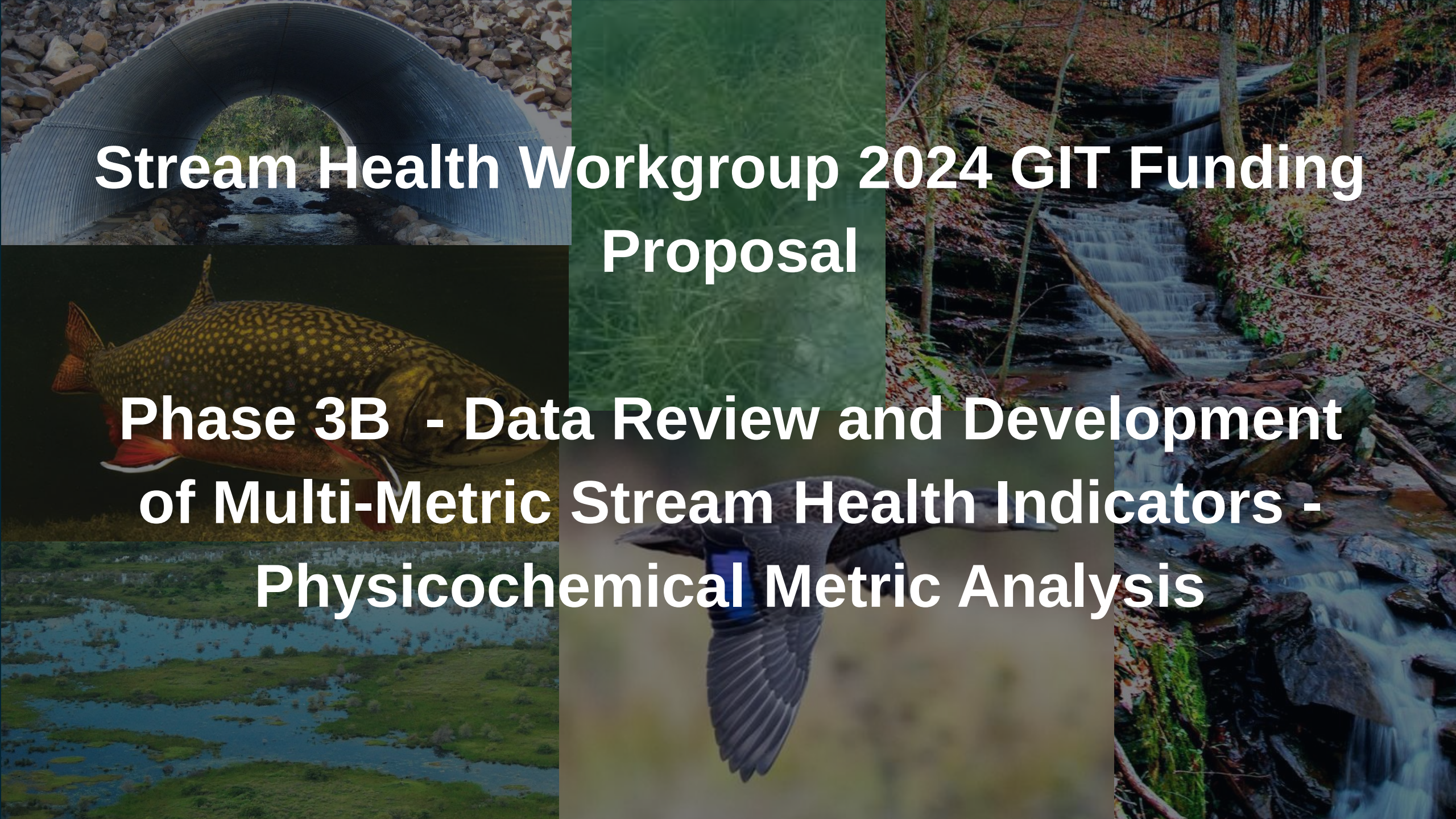
- Identify and inventory existing local government technical assistance programs
- Compile standardized information about each technical assistance program
- Define and analyze gaps

The Product

- Recommendations to fill gaps

- Inventory List

Habitat Goal Implementation Team
GIT Funded Project
2024



Stream Health Workgroup 2024 GIT Funding Proposal

Phase 3B - Data Review and Development of Multi-Metric Stream Health Indicators - Physicochemical Metric Analysis

Wetlands Workgroup 2024 GIT Funding Proposal

Increasing Effectiveness of Landowner Engagement to Accelerate Wetland Restoration Across the Chesapeake Bay Watershed





SAV Workgroup 2024 GIT Funding Proposal

Chesapeake Bay Shallow Water Habitat Sentinel Site Program Development