Healthy Watersheds GIT successes, challenges and lessons learned in 2022

HWGIT February Meeting, Feb 13th, 2023

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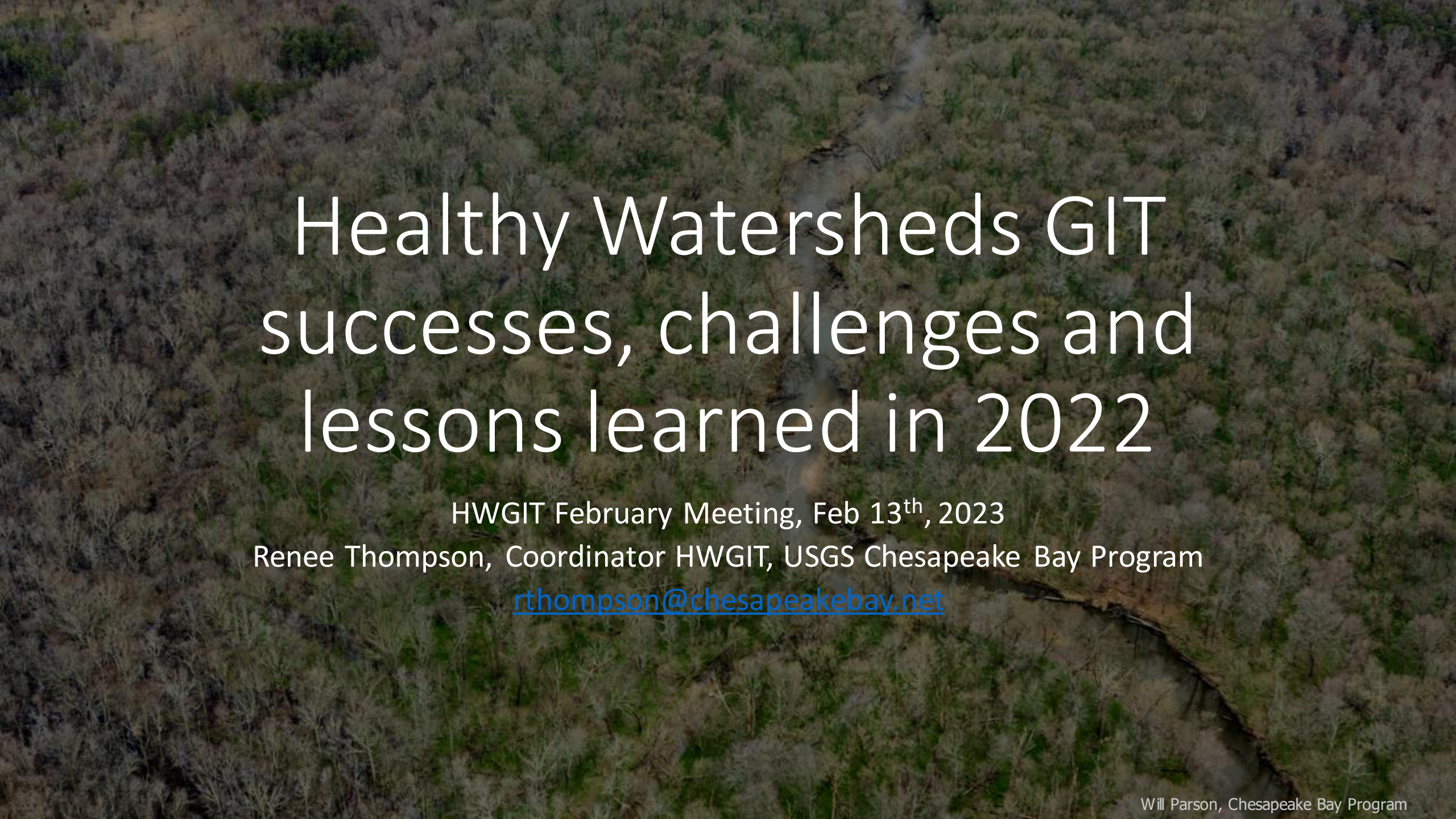


Will Parson, Chesapeake Bay Program

HEALTHY WATERSHEDS GOAL

Goal: Sustain state-identified healthy waters and watersheds recognized for their high quality and/or high ecological value

Outcome: 100 percent of state-identified healthy waters and watersheds remain healthy.

HEALTHY WATERSHEDS VISION

Sustain watershed health where it is ***high, exceptional and/or outstanding…***

to ***increase the number of healthy watersheds*** in the future…

Provide the forum for mutual shared learning…

Develop information resources…

Promote the science…

And

Coordination, Integration and Collaboration.

2022 Meeting Topic List

- February: Legacy Sediment presentation, Round Robin of what's to come for 2022
- April: Report Out on CBP Showcase with Region 3 Federally Recognized Tribes, Planning for Clean Water Collaboration Conversation, STAC Rising Temps Workshop and connection to the HWGIT
- June: understanding the High-resolution Land Use Land Cover Change data, Maryland Healthy Watersheds Assessment presentation
- August: C-Stream Intern project report out, LUMM indicator conversation, and LU/LC data visualization
- October: Maryland Healthy Watershed Assessment Report Out, A look at Charles County Comprehensive Plan, and Getting user feed back on the CHWA 1.0
- December: LUMM and LUOE Outcomes and the SRS process

SRS Cycle Progress Milestones

2013

- PUBLISH MAP OF STATE IDENTIFIED HEALTHY WATERSHEDS AND WATERS
- TRACKING HEALTHY WATERSHEDS FRAMEWORK

2014

2015

- UPDATE HEALTHY WATERSHED MAP

2016

- PHASE I FOREST RETENTION STUDY

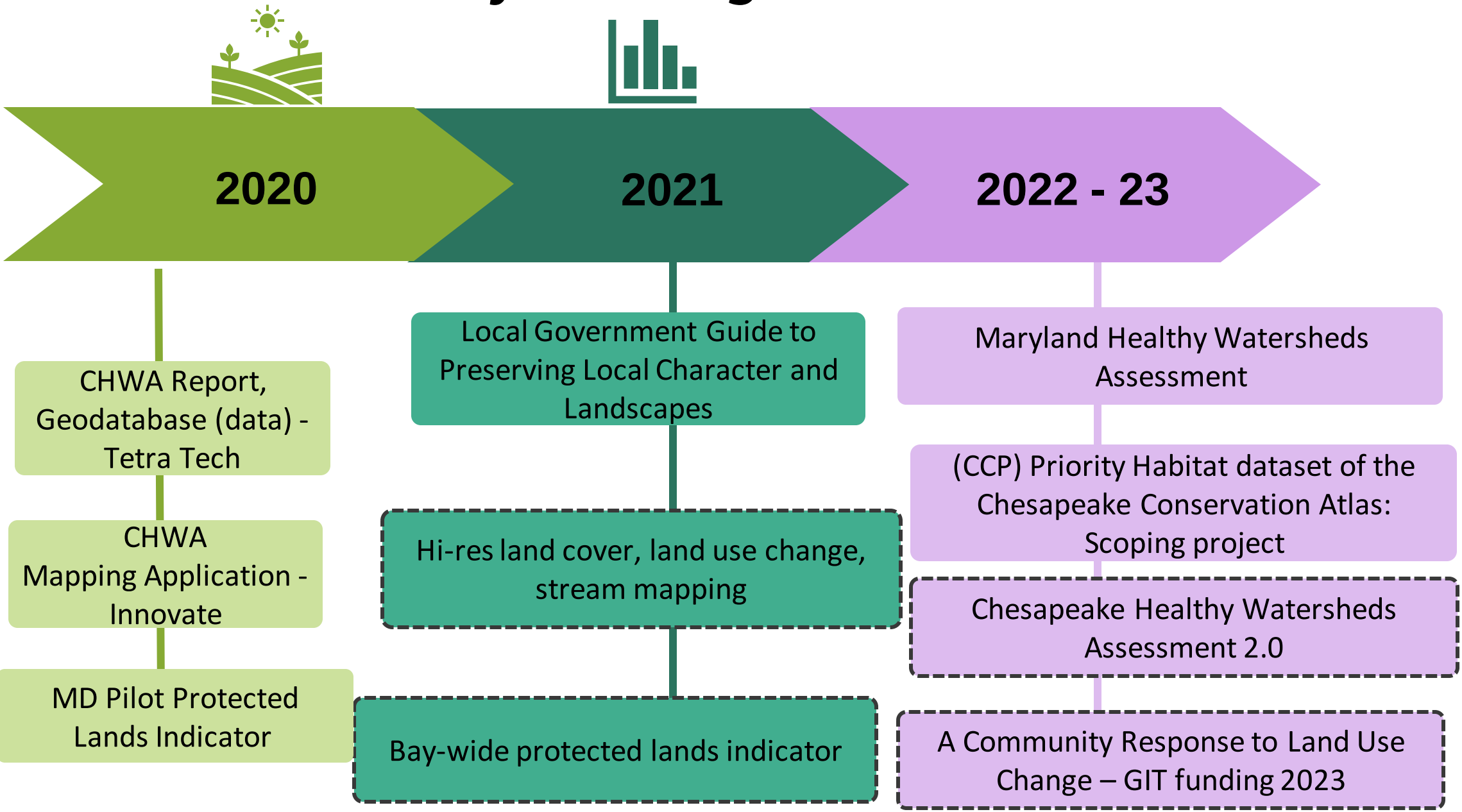
2017

- CONSERVATION LAND-USE POLICY TOOLKIT
- PHASE II FOREST RETENTION STUDY
- UPDATE HEALTHY WATERSHEDS MAP
- HEALTHY WATERSHEDS CO-BENEFIT FACT SHEET

2018 & 2019 →

- CHESAPEAKE HEALTHY WATERSHEDS ASSESSMENT
- HIGH RESOLUTION STREAM MAPPING
- PHASE III FOREST RETENTION STUDY

2021 SRS Cycle Progress Milestones



Work and Projects completed and ongoing (Dec 2021-Dec 2022)

Themes that were flagged as needed to further explore:

- Local Leadership – Strengthen local commitment and Capacity
- Land Use Landowner and Community Engagement
- Federal Funding opportunities: Federal and State Leadership
- Land conservation, source water protection in vulnerable healthy watersheds: opportunities and example

Worked with States to update their State Identified Healthy Watersheds- stayed tuned for more updates on this

Background work for a Healthy Watersheds Indicator- ongoing

Devlopment of the LUMM indicators- ongoing

C Stream Intern Project: Intern Bianca Martinez Penn project on DEIJ Resources and Outreach for the Chesapeake Bay Healthy Watersheds- Summer of 2022, HWGIT has an opportunity to pick this work up in 2023

December 2022 Joint LWG meeting to discuss the outcomes under the HWGIT.

Management Approaches:

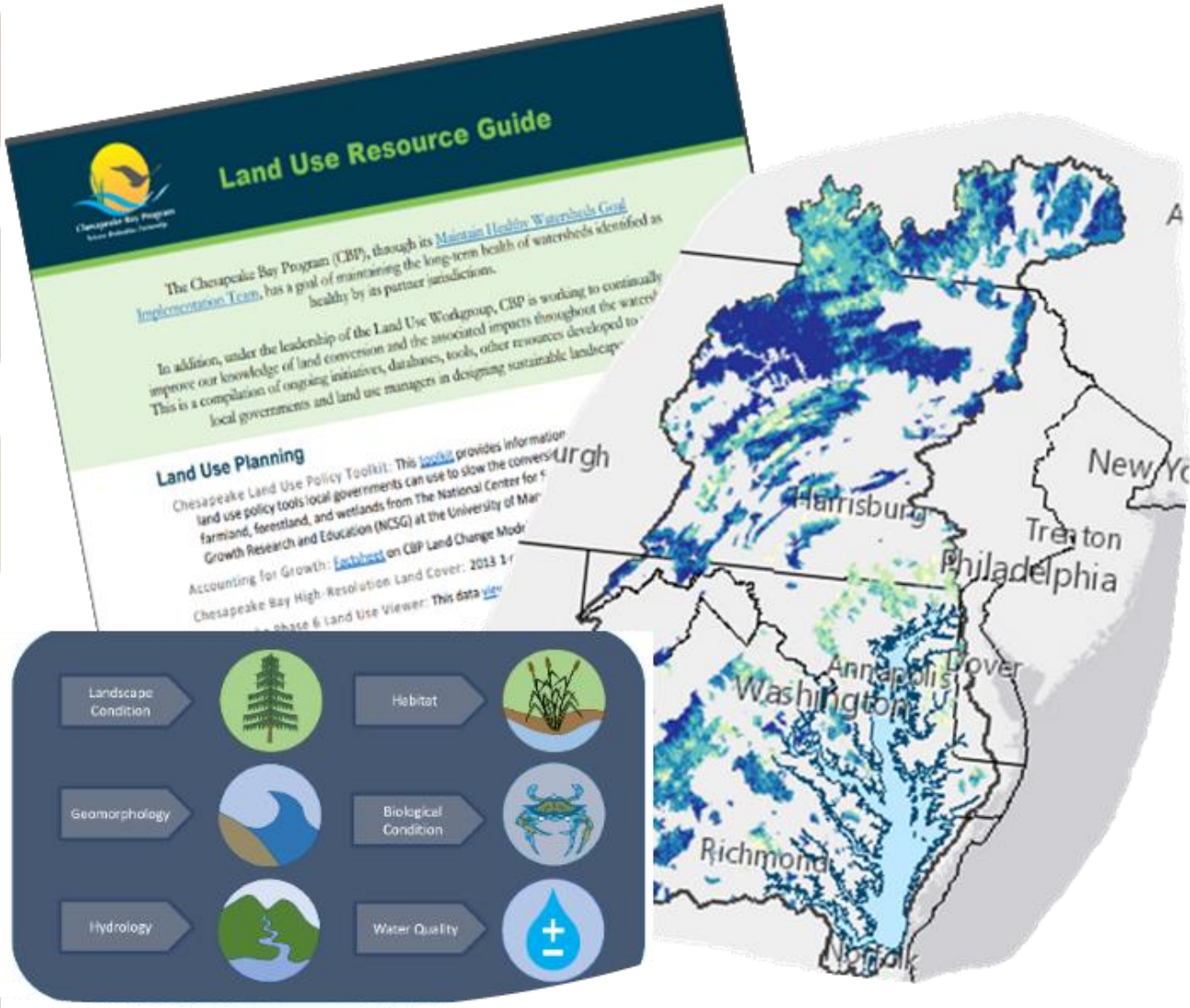
Tracking Healthy Watersheds

Local leadership strengthen capacity and commitment to protect healthy watersheds

Federal and State Leadership

Support State Based Efforts

Cooperation, Coordination and Integration



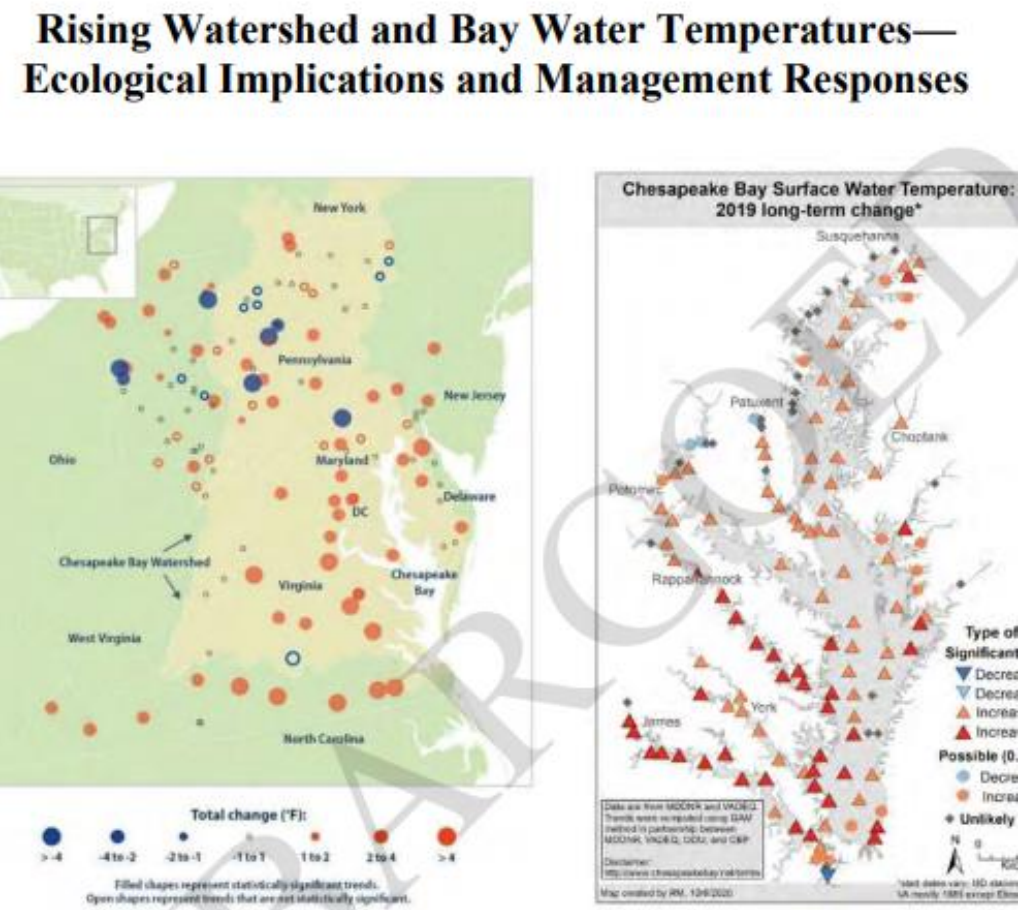
Priorities for 2023

- Completion of the CHWA 2.0
- Continued Development and application of the LUMM indicators and continued support high resolution LU/LC data
- Investigation and development of indicator(s) related to watershed health and vulnerability.
- Update the Watershed Protection Map
- Implementation of STAC Rising Temp workshop report
- Strengthen local commitment and Capacity-Creation of a Smart Growth Network?
- The Healthy Watersheds SRS new 2-year cycle (August)

User Experience and Research

- Decision support tools for informing decisions
  - How can land use and land use change information best be communicated to select targeted audiences to inform land use and land conservation decisions?

- Understanding end user needs (of different stakeholder audiences)
- Improvements to data and communication to meet local needs



STAC Rising Watershed and Bay Water Temperatures [Report]

- Recommendations from STAC report should be considered for analysis needed and climate resiliency.
- **Conserving existing healthy watersheds can help promote resiliency to rising water temperatures.**
- Key factors of healthy watersheds that may moderate rising temperatures include:
  - Land use/land cover: percent forest cover (catchment and riparian), percent natural land cover.
  - Hydrology/flow alteration, including infiltration rates of land use/land cover types.
  - Underlying geology/groundwater interaction.

Additional STAC Rising Temp findings

- Use monitoring and landscape information to help target locations for restoration and protection of areas from rising stream temperatures.
- Information from the healthy watersheds assessment could be coupled with remote sensing to detect groundwater discharge areas important for sustaining coldwater streams. Partners could include the Healthy Watersheds GIT, USGS, and NASA.
- MOD-3. The Chesapeake Healthy Watersheds Assessment (CHWA) should be used to enhance local and regional models. The CHWA includes data and metrics related to key landscape factors and watershed characteristics that may influence stream temperature. There are additional opportunities to incorporate stream temperature, and vulnerability thresholds for key habitat and species into the CHWA.

Science synthesis and analysis 2023

Thresholds for various living resources, and the need to communicate those thresholds and urgency.

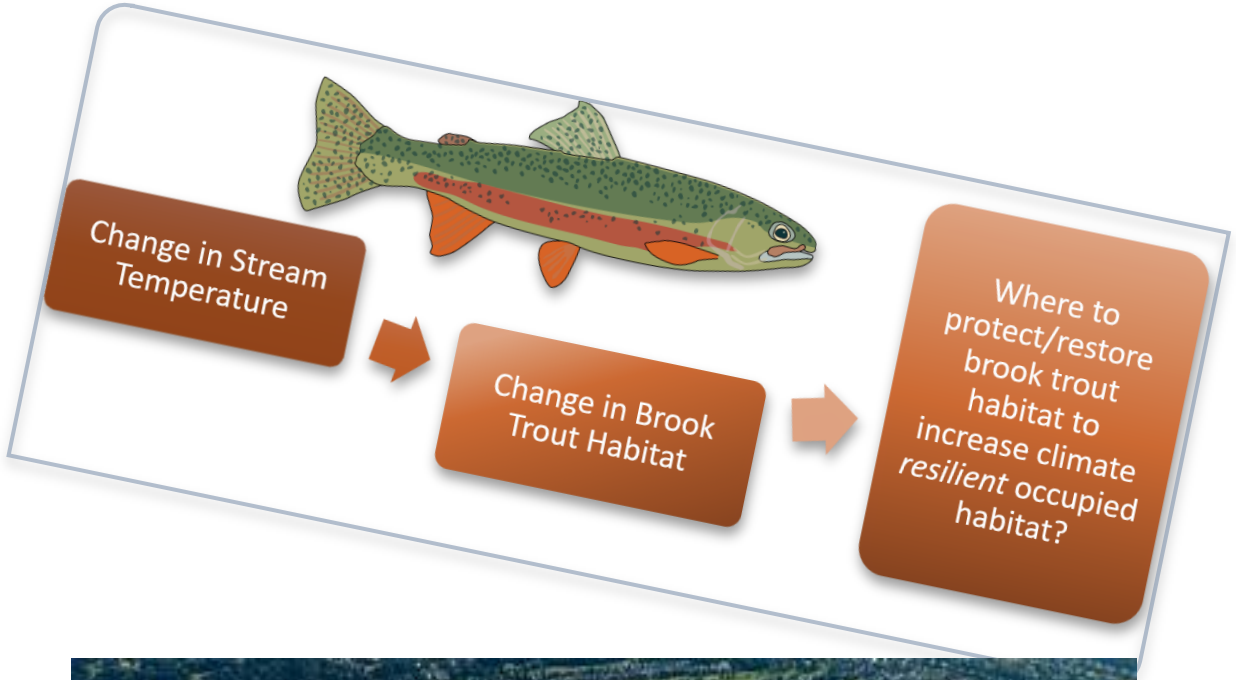
A Chesapeake Bay **smart growth network** could gather feedback from locals regarding the utility, etc. of the CBP land change data.

Connect metrics with climate resiliency and disaster response planning, a different team than we usually connect with.

Utilize the metrics in the CHWA translate and interpret data.

How can the CHWA 2.0 serve to **support the land use** outcomes?

Interim indicators



Proportion of state identified HW that are not protected and under threat of development. / Pristine watersheds vulnerable to land use change

Presence of brooktrout despite changing climate conditions/ Brook trout watersheds resilient to climate change (conservation potential)/signal of “sustained”

DEIJ – watershed health and vulnerability as related to high risk, underserved, low income or percent non-white.

Synthesis and Communication

- **Communication, Translation, (pathways), and Engagement.**
  - Translate, format, package and flow information through to trusted sources.
  - How to effectively engage locals directly
  - understanding target audience needs
  - curating content and decision support resources to meet pressing priorities related to infrastructure, flooding, co-benefits, climate and DEIJ have been identified.
- **Online tools (localized and scalable):**
  - Assess changes in impervious cover, turf grass, forests, wetlands (loss only), tree canopy, and agriculture, for any user-specified geography (e.g.,user-drawn polygons, Census Tracts, Municipalities, etc.)Output a standardized set of graphs and interpretive text tailored to graph content.