Land Use and Healthy Watersheds SRS Review Summary and Preparation

HWGIT June 12, 2023

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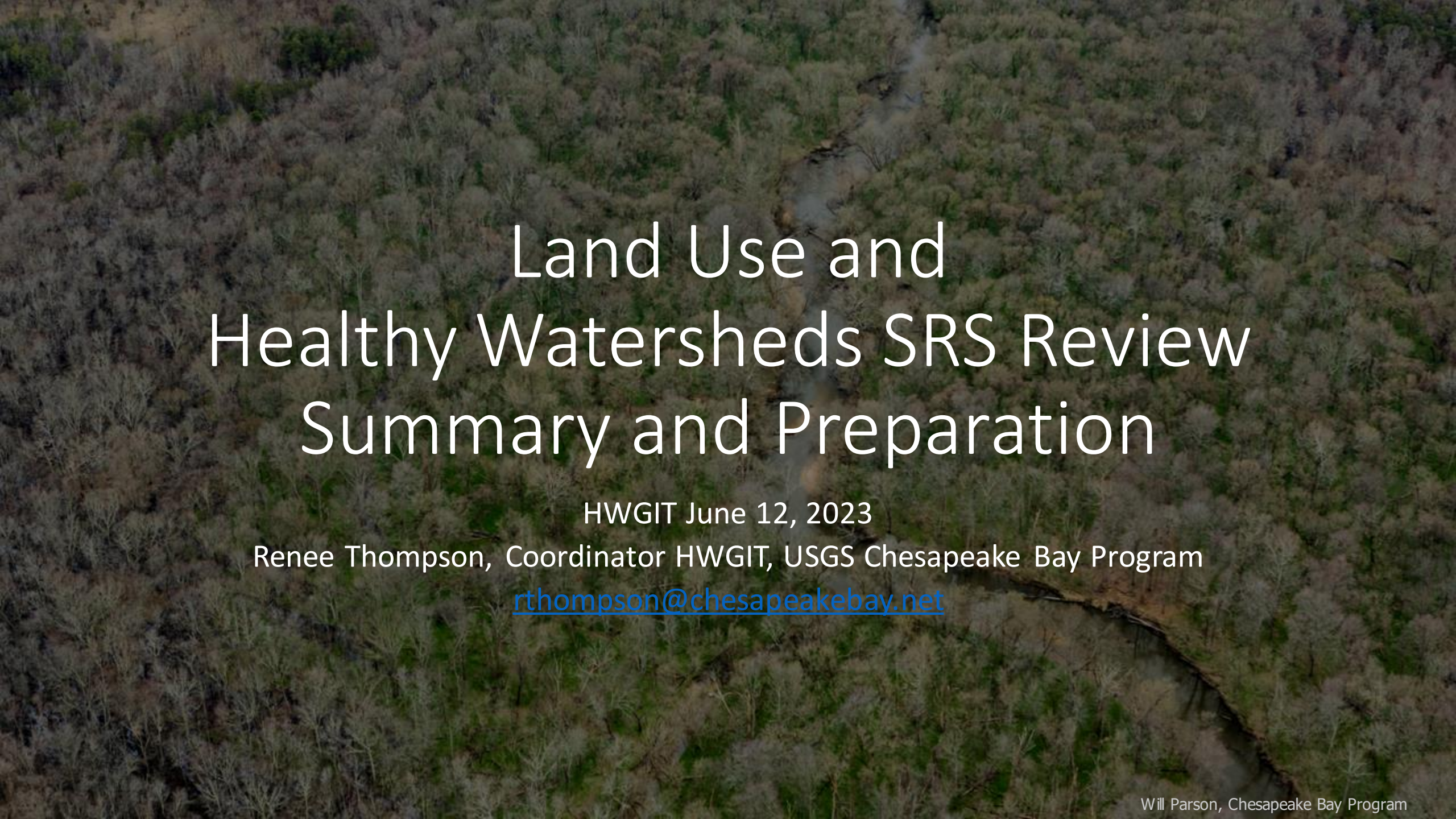
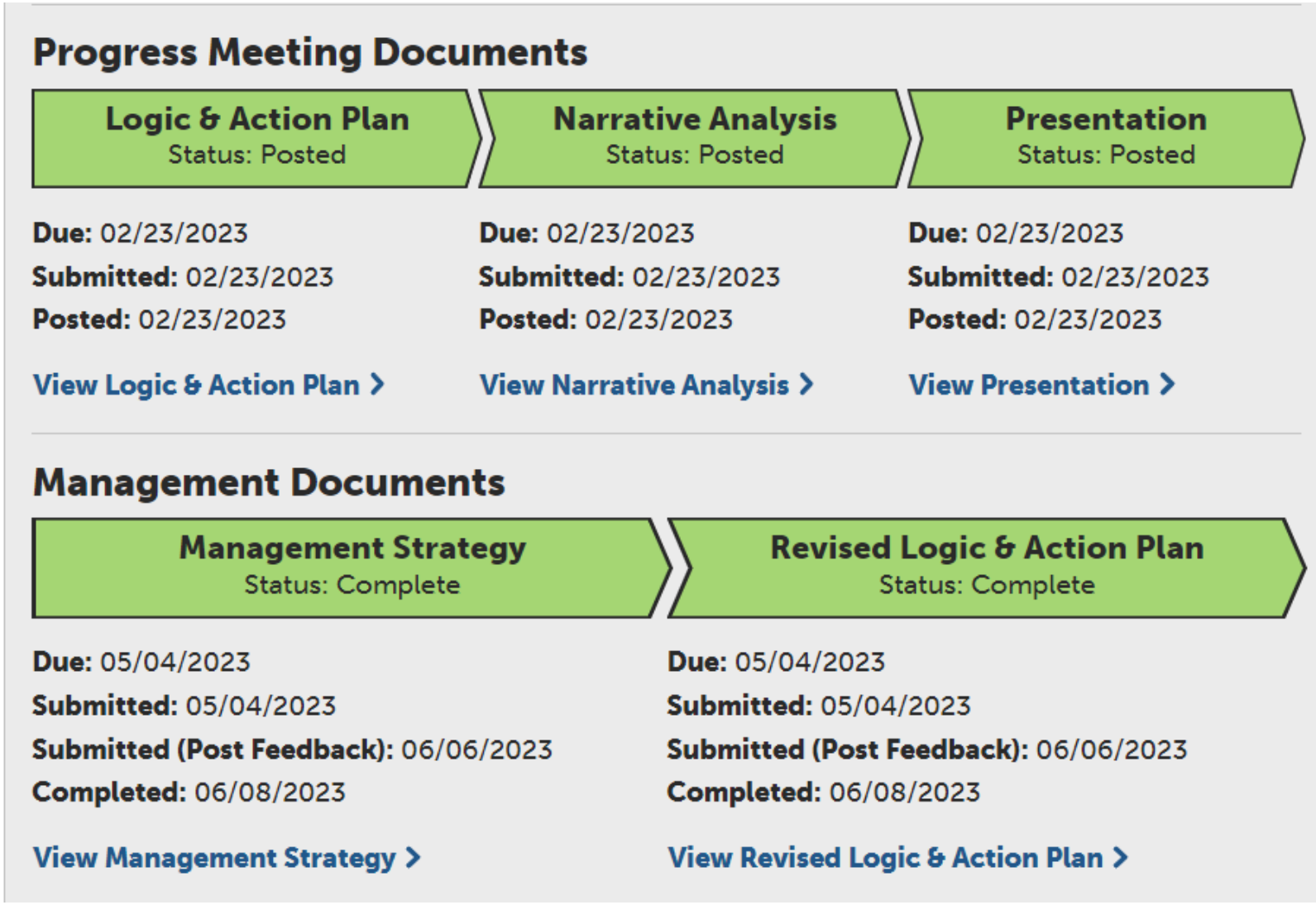


Will Parson, Chesapeake Bay Program

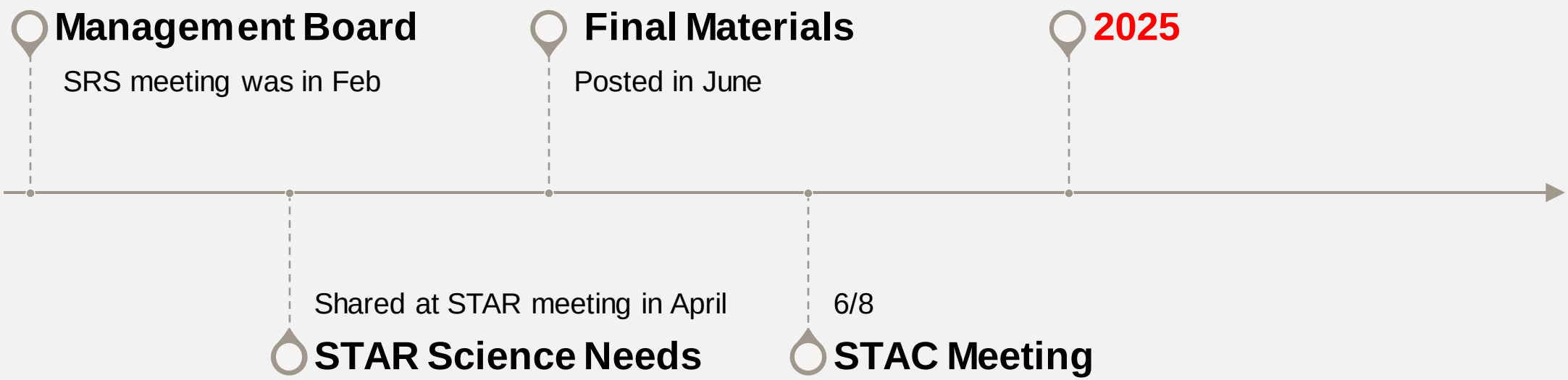
Land Use Outcomes

[Combined Management Strategy]

[Combined Logic and Action Plan]



LAND USE OUTCOME TIMELINE



LAND USE METHODS AND METRICS AND LAND USE OPTIONS EVALUATION OUTCOMES

1. *Measure rate of farmland, forest and wetland conversion, and the extent and rate of change in impervious surface coverage.*

2. *Quantify the potential impacts of land conversion to water quality, healthy watersheds and communities.*

3. *Launch a public awareness campaign to share this information with citizens, local governments, elected officials and stakeholders.*

With the direct involvement of local governments or their representatives

- *evaluate policy options, incentives and planning tools that could assist them in continually…*
- *improving their capacity to reduce the rate of conversion of agricultural lands, forests and wetlands as well as the rate of changing landscapes from more natural lands that soak up pollutants to those that are paved over, hardscaped or otherwise impervious.*
- Strategies should be developed for supporting local governments and others' efforts in reducing these rates by 2025 and beyond.

Management Approaches:

1. Monitor the rates of impervious surface change and conversion of forests, wetlands and farmland.
2. Quantify the impacts of land conversion on:
   - Water quality.
   - Healthy watersheds.
   - Communities
3. Communicate results to the public, elected officials and to the CBP

Status of the resource

- Full resources
- Partial resources
- No resources

STAR Science Needs

New and Emerging Science Needs

1. **Need:** Develop attributes for the hyper resolution hydrography data on streamflow permanence/periodicity
2. **Need:** Collate and curate local spatial data on building permits to assess and map near-term development potential.
3. **Need:** Translate, format, package, and communicate LULC information and policy guidance to organizations and individuals trusted by local decisionmakers to inform a variety of policies and programs including land use and comprehensive plans, hazard mitigation and climate resiliency plans, as well as greenway, recreational and forestry management.
4. **Need:** Quantify impact of land conversion on communities. Develop a better understanding of the needs of underserved and other communities and of their perception of land use characteristics, trends, and policy/planning tools.
5. **Need:** Develop stronger incentives for land conservation and land use management policies as part of the overall Chesapeake Bay watershed restoration effort.

LUMM and LUOE Priorities for 2023-24

- Continued Development and application of the LUMM indicators and continued support high resolution LU/LC data
  - Publish land conversion and riparian forest metrics on Chesapeake Progress.
  - Complete the 2021/22 land use data and update change from 2013/14 with improved accuracy, temporal consistency, and categorical detail.
  - Assess the use of existing databases for mapping the location and area of approved new construction permits.

Development of a Local Engagement Strategy with a focus on 1 target audience to start (local planners)

- Targeted to Local Participation Local participation to assess impacts to communities, to ensure the data are useful for informing local-level decisions.
- Target outreach efforts and integrate and disseminate products from this outcome and those from the Land Use outcomes.
- The CBP Land Use Workgroup will work with LGAC, the Local Leadership Workgroup, Communications Workgroup, and others (GIT funding 2023-24?)

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…

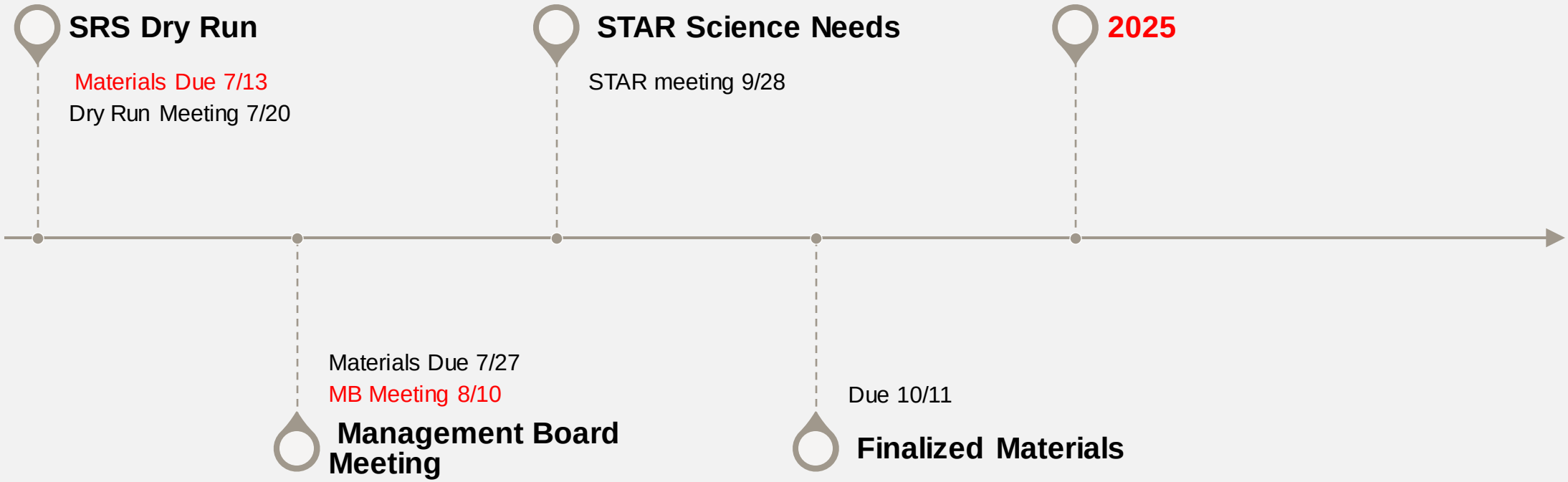
Develop information resources…

Promote the science…

And

Coordination, Integration and Collaboration.

HEALTHY WATERSHEDS OUTCOME TIMELINE



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

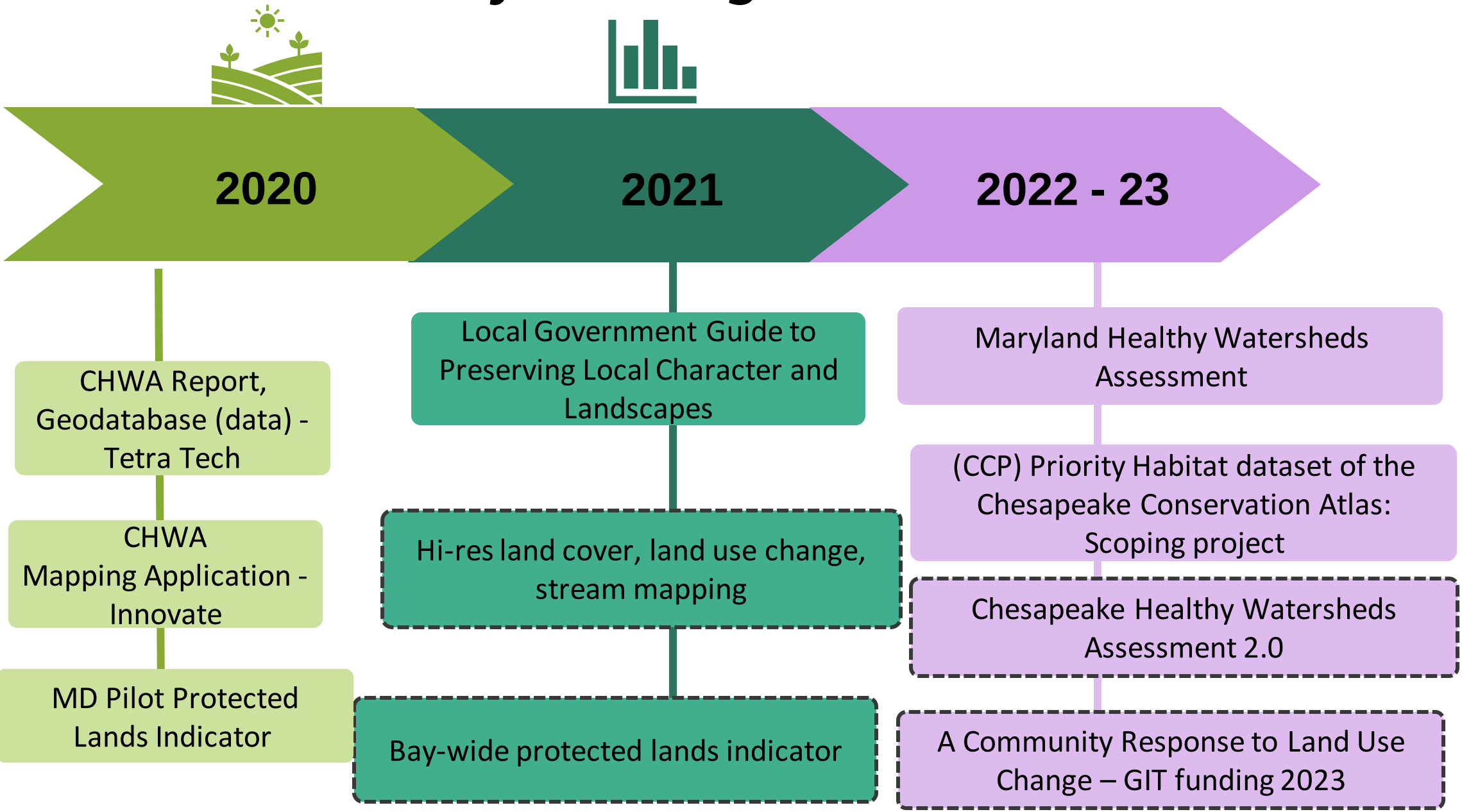
2017

- 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-June 2023)

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

Update State Identified Healthy Watersheds / Completion of Maryland Healthy Watershed Assessment

Background work for a Healthy Watersheds Indicator- ongoing

Development of the LUMM indicators- ongoing

Completion of High Value Habitat scoping project / Completion of Protected Lands Indicator 2022

Completion of CHWA 2.0 data compilation and model run, update the CHWA tool (completed, ongoing)

Management Approaches:

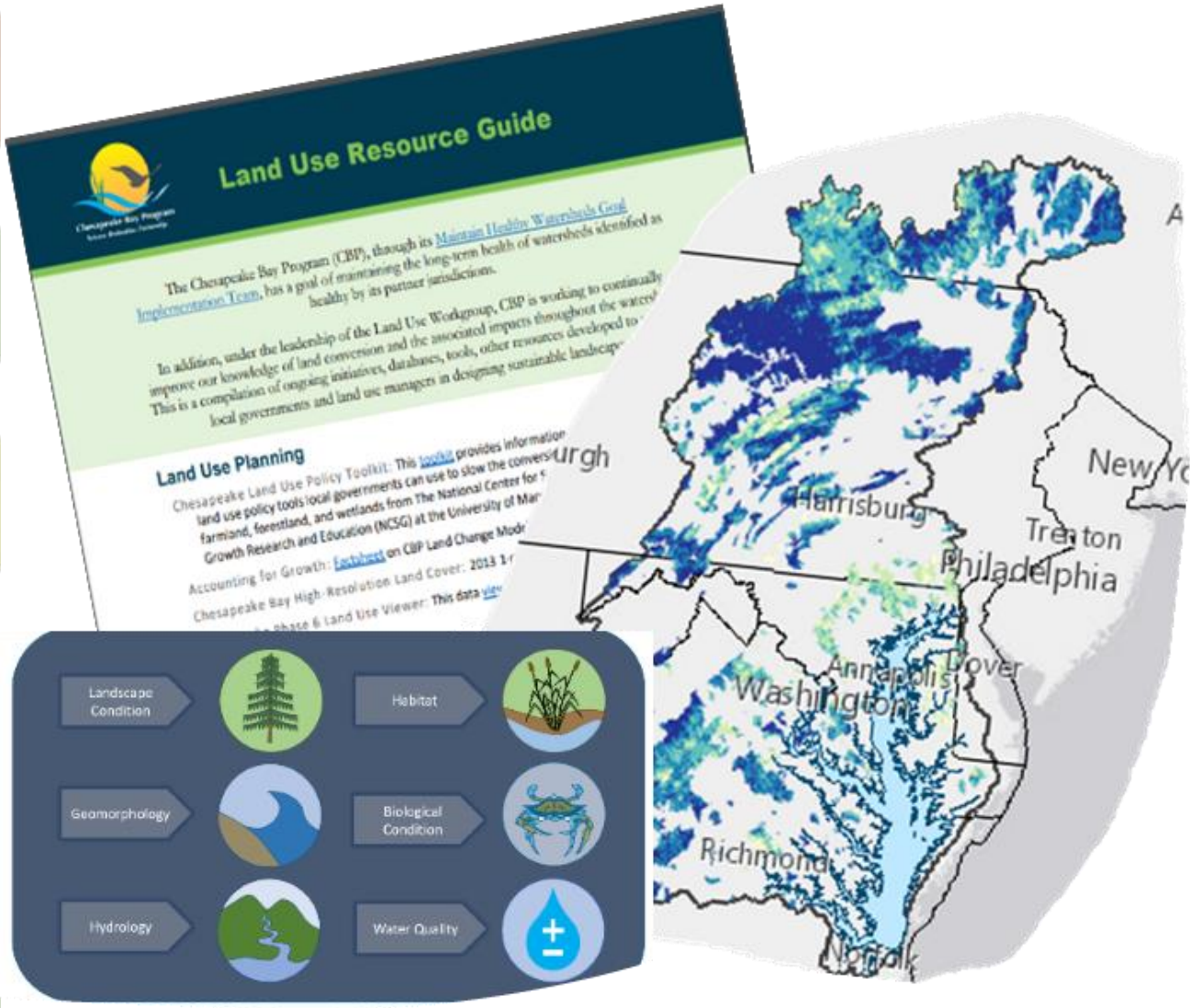
Tracking Healthy Watersheds

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.

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

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?

REACHING 2025

- The Chesapeake Bay Program Reaching 2025 Team
- Creation of the Outcome Attainability Documents
- Docs will be used to share a high-level overview of our Outcomes at the Executive Council annual meeting.

Chesapeake Bay Program

40 years of science, restoration and partnership

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GEOGRAPHER, USGS, LOWER MISSISSIPPI GULF WATER SCIENCE CENTER