# Welcome / Aloha

**webinar requests:**

Please mute your line

Utilize the chat function to ask questions, make comments, provide compliments, and capture important points or areas for follow up

Please turn on your camera, unmute and introduce yourself prior to speaking.


## Maintain Healthy Watersheds GIT Meeting

## May 27, 2020

# Logic and Action Table Progress

## Management Approach 1: Tracking Healthy Waters and Watersheds

- Continue gathering inventory of healthy watersheds
- Develop vulnerability information
- Prioritize protection
- Maintain and expand assessment activities and information

## Management Approach 2: Local Leadership – strengthen local commitment and capacity to protect their healthy watersheds

- Outreach, including: effectively conveying information on the status of healthy watersheds to local stakeholders Translate, communicate and develop materials to convey local engagement needs related to sustaining healthy watersheds and reducing land conversion.

# Logic and Action Table Progress

## Management Approach 3: Federal and State Leadership

- Leverage Funding
- Implement new or improve existing policy/programs/research

## Management Approach 4: Support State-based Efforts

- Provide a valued forum for mutual learning and exploration
- Develop information resources and support communications
- Promote the science

## Management Approach 5: Improved cooperation, coordination and integration

- Improved Cross Outcome Coordination

# Purpose of Chesapeake Healthy Watersheds Assessment

- Support the Chesapeake Bay Program and its jurisdiction partners:
  - Detecting **“signals of change”** in the state-identified healthy watersheds
  - Providing information useful to support strategies to **protect and maintain** watershed health.
  - Provide an **“early warning”** to identify factors that could cause future degradation,
    - allowing for **communication** and **management** actions

https://www.chesapeakebay.net/channel_files/26540/chesapeake_healthy_watersheds_assessment_report.pdf

Source: Chesapeake Healthy Watersheds Assessment, May 2020, P. 20

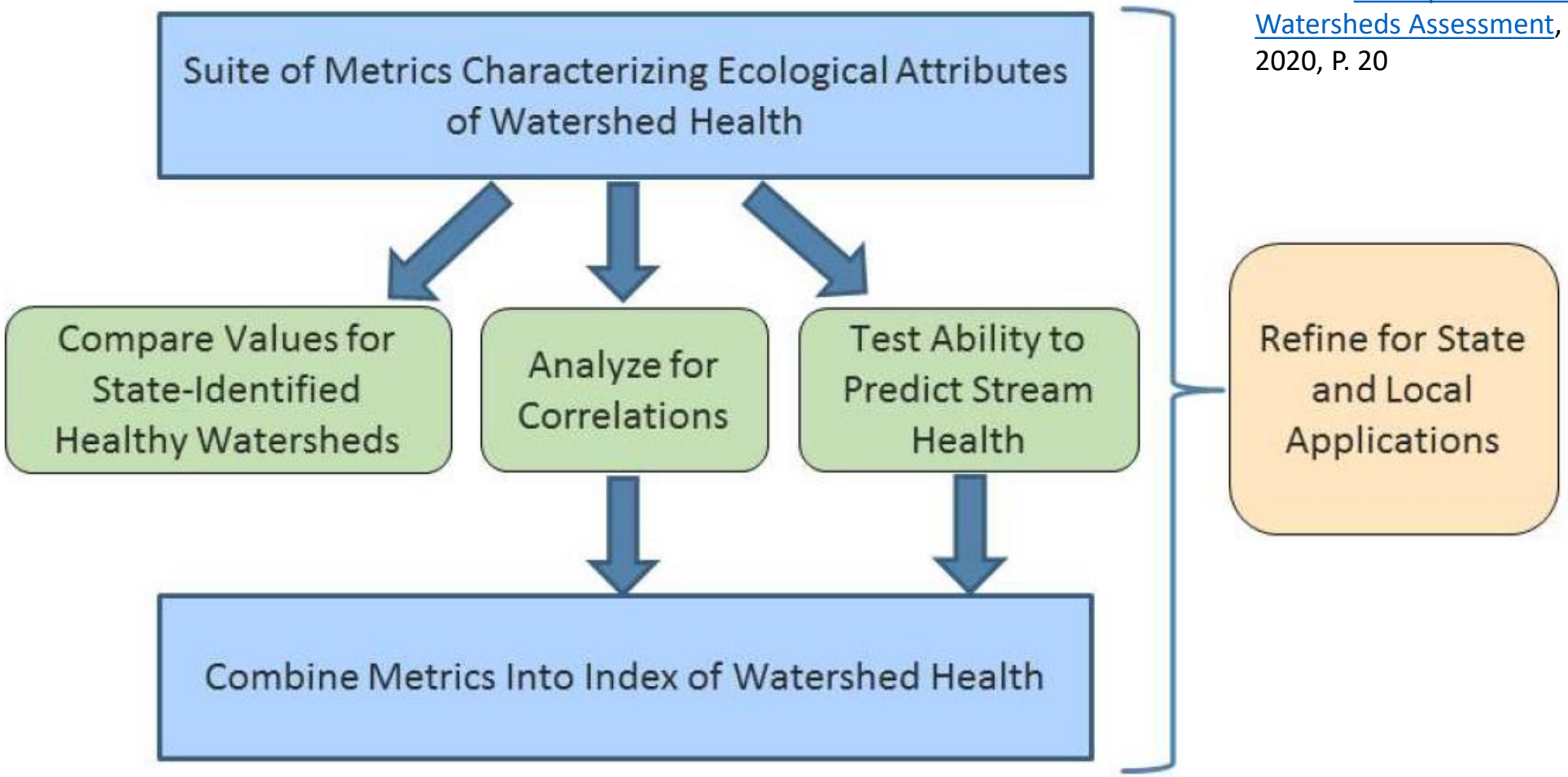



*Figure 10: Exploration and refinement of metrics of watershed health. While initial analyses have been completed, additional investigations and refinement are proposed as future steps for the CHWA.*

# Literature Review

USGS Priority Ecosystem Services funding - FY 2020

USGS Lower Mississippi Water Science Center (Billy Justus)

**Literature Review** Outlining the relationship between landscape characteristics of watersheds (e.g., land cover, land use, soils, geology, landforms, topographic position, hydrologic connectivity, etc.) and those in-stream measures of health

# Additional management applications of the CHWA include:

EXAMINING/QUANTIFYING STRESSORS AFFECTING STREAM HEALTH (NOT JUST IN HEALTHY WATERSHEDS)

ASSESSING LANDSCAPE FACTORS AFFECTING FISH HABITAT IN NON-TIDAL AND TIDAL WATERSHEDS, IN

COORDINATION WITH CBP'S FISH HABITAT ASSESSMENTS

IDENTIFYING AREAS OF BROOK TROUT POPULATIONS SUSCEPTIBLE TO CLIMATE SHIFTS

ENGAGEMENT WITH LOCAL GOVERNMENTS TO INFORM LAND USE DECISIONS

SUPPORTING LAND TRUSTS AND OTHER ORGANIZATIONS MANAGING PROTECTED LANDS

SOURCE WATER PROTECTION (DRINKING WATER)

# Implementation of Chesapeake Healthy Watersheds Assessment in Maryland's Tier II watersheds. (GIT Funding 2020-21)

Refine and customize (CHWA) for application in Maryland.

High quality streams in Maryland are classed as Tier II waters. Maryland uses an Index of Biotic Integrity (IBI) based on data from the Maryland Biological Stream Survey.

To develop indicators of stream and watershed health that are useful in Maryland, the CHWA metrics need to be statistically related to IBI scores and other diagnostic measures of stream health.

Because other jurisdictions also characterize healthy watersheds by the health of streams, the process for updating and applying more refined state-level data can be replicated in those states.

# CHWA Story Map

## Communication / Introduction

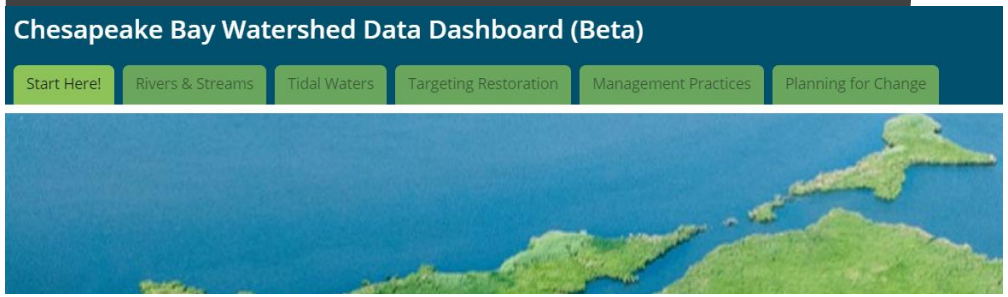
USGS Priority Ecosystem Services funding and EPA collaboration and hosting support FY 2020

USGS, Upper Midwest Water Science Center (Jamie Velkoverh, Gary Latzke)

**Story map** to highlight findings of the recently completed Chesapeake Healthy Watersheds Assessment (CHWA). It would draw from *existing* catchment-scale metrics for health and vulnerability and demonstrate connections to multiple Chesapeake Bay Watershed Agreement Outcomes.

# CHWA Visualization

download / analysis




## Data needs to be made available through

- Chesapeake Bay Open Data Portal http://data-chesbay.opendata.arcgis.com/
- Audience
  - State and Local governments
  - watershed groups
  - Land Trusts

## EPA Support, Innovate (FY 2020)

## Analysis and Visualization

- user-friendly
- Facilitates exploration
- Easy access to data
- variety of scales, from regional to statewide to local
- Statistics such as rankings and percentiles (either Baywide or by state) or comparisons of local catchment
- Recovery Potential Screening tool RPS tool
- Watershed Index Online (WSIO)

# CHWA Refinements, updates and code (July 2020)

Project Team: Renee Thompson, USGS Chesapeake Bay Program; Peter Claggett, USGS Chesapeake Bay Program; Labeeb Ahmed, Attain Chesapeake Bay Program; Sarah McDonald, USGS Chesapeake Bay Program

CHWA represents a first step towards assessing and tracking conditions in the state-identified healthy watersheds.

As new data become available: adapted, updated data to provide a refined assessment condition or changes in condition.

flexible framework for integrating additional data at various scales

need for updates

work to **standardize a set of practices and code to automate metric calculations at the catchment scale.** The end goal of the project is to build a model to replicate the CHWA updates and expansion with new data.

SESYNC NATIONAL SOCIO-ENVIRONMENTAL SYNTHESIS CENTER

# Thank you!!

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