

Implementing PSC recommendations: Stream Health, Climate, and Toxic Contaminants Outcomes

Breck Sullivan (USGS)

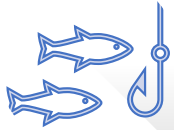
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Chesapeake Bay Program

Science. Restoration. Partnership.

10 Watershed Agreement Goals



Sustainable Fisheries



Climate Resiliency



Vital Habitats



Land Conservation



Water Quality



Stewardship



Toxic Contaminants



Public Access



Healthy Watersheds



Environmental Literacy

Maintain Success of Existing Monitoring Network

12 Outcomes

Examples
Blue Crabs
Oysters



Enhance Efficiency and Capacity of Monitoring Network

12 Outcomes

Examples
Wetlands
Stream Health

Establish a New Coordinated Monitoring Network

7 Outcomes

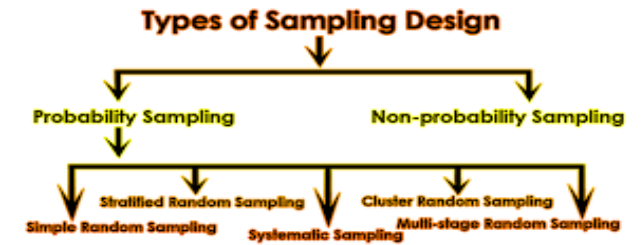
Examples
Climate
Local Leadership

Process of developing recommendations for outcome monitoring needs

Needs assessments from Science Needs Database and meetings with Goal Implementation Teams



Structure of need by group varies from topic of interest to monitoring design considerations



Develop costs for need based on proposed designs

COST MANAGEMENT CATEGORY	Year 1
Salaries and Wages (Data management, regression development)	\$21,520
Salaries and Wages (Installation of QW sondes)	\$ 21,300
Equipment and Installation Supplies	\$105,000

Collate cost estimates

Total cost

Which outcomes does your agency have interest to better coordinate monitoring or address other needs?(Nontidal)

Wetland

Nick Murray
(WVDEP)
Undetermined
Contact w/
(WVDNR)

Joel Carr, USGS,
actively studying
wetland changes
and guiding USGS
funds

Lee McDonnell, EPA
- We support all
outcomes, and I will
share this with
others in the office
who are closer to all
of these.

Brook Trout

Steve Faulkner,
USGS, overseeing
research and
guiding funding

Black Duck

Alicia Berlin,
USGS, leading
investigations
and guiding
USGS funding

Nick
Murray or
Jeff Bailey
(WVDEP)

Amy
Williams
PADEP

DE DNREC -
Bhanu Paudel
and Michael
Bott

Stream Health

VADEQ -
Cindy
Johnson,
Sandy Mueller,
Bryant
Thomas

Cathy Wazniak, MD
DNR interested in
coordinating
benthic algae bloom
monitoring

Kelly Maloney and
Greg Noe, USGS,
currently
investigating and
guiding USGS
funding

Matthew Kierce -
Chesapeake
Monitoring
Cooperative -
Continuing to
expand volunteer
monitoring
networks to assess
stream health

Fish Habitat

Fish GIT is interested
in Fish Habitat. For
non tidal, water
quality changes and
impacts to spawning
areas for species such
as, Sturgeon, striped
bass, herring, shad
(Bruce V)

Steve Faulkner and
Kelly Maloney,
USGS, currently
investigating and
directing USGS
funds

Fish habitat
assessment -
AK Leight-
NOAA COL

Fish Passage

Alex Haro and
Kevin
Mulligan,
USGS,
currently
investigating

NOAA currently
provides some level
of monitoring to
evaluate the
effectiveness of
barrier removal.
(Sean Corson)

Which outcomes does your agency have interest to better coordinate monitoring or address other needs? (Nontidal)

Forest Buffers

Katie Brownson, USFS

Peter Claggett
USGS, LULC mapping and change

Lee McDonnell, EPA
- EPA supports all outcomes and will bring other in who are closer to these.

Protected Lands

Renee Thompson, USGS, currently investigating and guiding USGS funds

Peter Claggett
USGS, LULC mapping and change

Healthy Watersheds

Renee Thompson, USGS, currently investigating and guiding USGS funds

Climate Monitoring and Assessment/ Climate Adaptation

Nick Murray or Jeff Bailey (WVDEP)

USGS, John Clune, changes in stream temperature, Steve Faulkner, relation of stream temp to cold water fisheries

Mark Trice (MDDNR) - OA and climate related water quality monitoring

DC - George Onyullo, interest: climate change and assessment/adaptation in urban setting. We have very limited data on cold water fish and stream temp

julie.reichert-nguye (NOAA)

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NPS conducts WQ monitoring in two NPS units in CB. We would like to contribute that data, or at least start a conversation on opportunities to support and partner

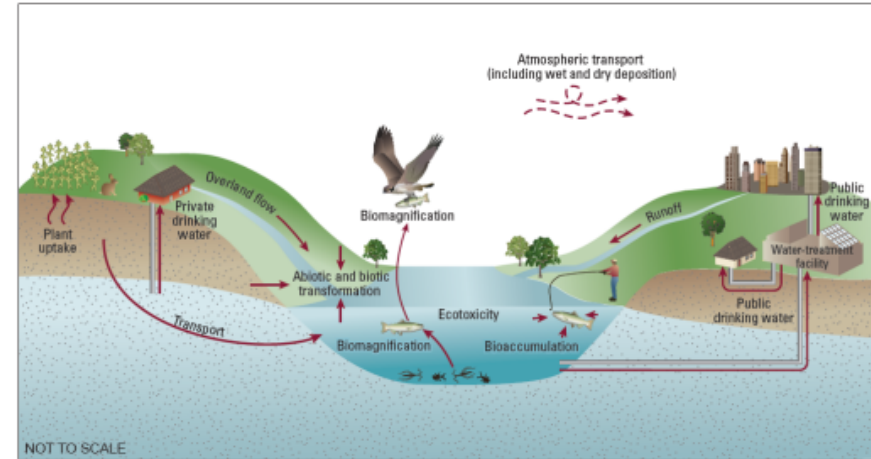
Cathy Wazniak, MD DNR increasing HABs related to climate changes (temp and droughts)

Tree Canopy

Toxic Contaminant Outcome

- A STAC Workshop gathered speakers to better understand the state of the science and purpose approaches to improve knowledge of PFAS including considering [study designs and comparable sampling and analysis methods](#) for a more coordinated PFAS science effort.

Improving Understanding and Coordination of Science Activities for Per- and Polyfluoroalkyl Substances (PFAS) in the Chesapeake Bay Watershed



STAC Workshop Report
May 17-18, 2022
Annapolis, MD and virtual



STAC Publication 2023

Stream Health Need

More monitoring needs to prioritize

- Fill gaps to enhance watershed representation and expand Chessi BIBI (spatial monitoring)
- Design long-term monitoring network (temporal monitoring)
- Site selection for restoration (restoration monitoring)

Approach

- Multi-day workshop OR Devote time during SHWG agenda
 - Write report to identify what monitoring need to design network around, how to accomplish multiple needs, identify gaps, identify areas for new stations or relocation of stations

Still Need

- Personnel to coordinate workshop and report
 - USGS has the funding
 - Looking into CESU and UMBC MOU

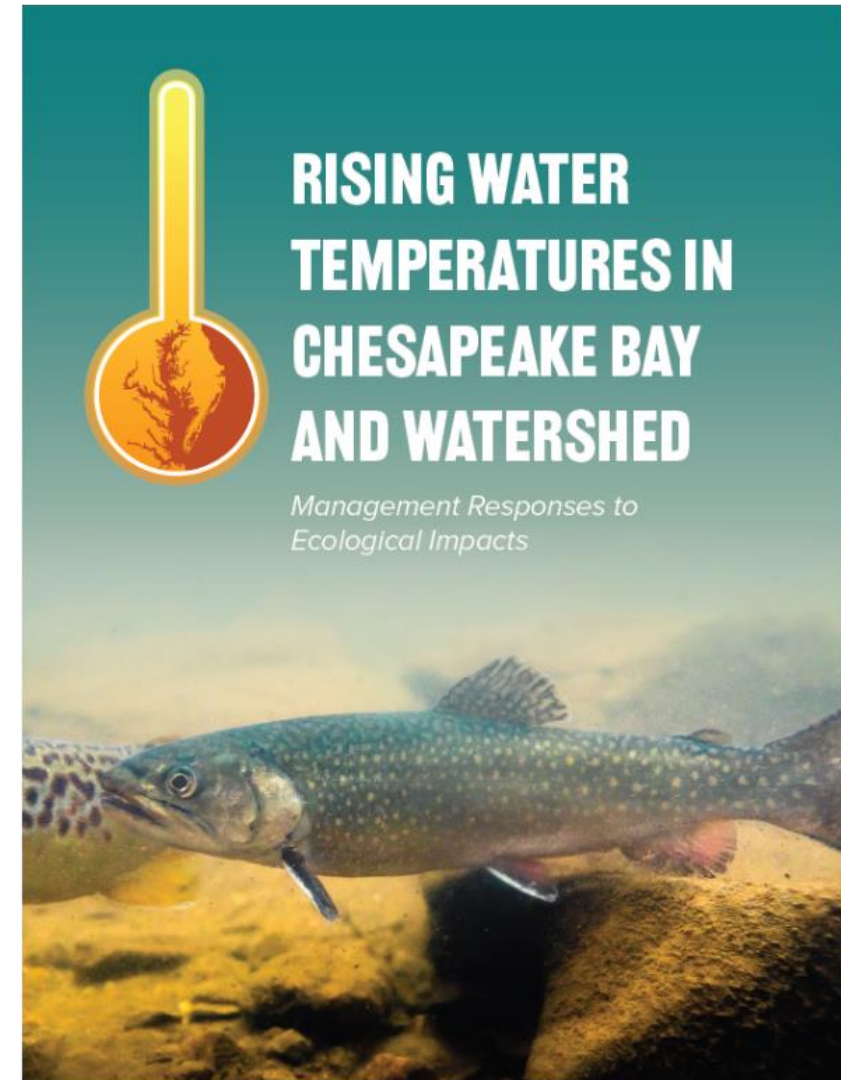


Climate Need

Better characterization of headwater and coldwater climate refugia at a better management-relevant scale

Approach

Collaboration within USGS



Toxic Contaminant Need

Status of PFAS monitoring effort and gap analysis to inform considerations related to developing a more integrated PFAS network

Approach

New USGS Hire

- Funding for FY23 and FY24

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Biennial Meeting Information

Status Reporting for “Uncertain” Outcomes and those in Need of Data Support

Likely to have indicators AND off course/on course status by 2025

- Healthy Watersheds
- Environmental Literacy and Planning
- Student MWEEs
- Stewardship
- Diversity
- Forage Fish
- Toxic Contaminants Research

Indicator development may not be complete before 2025

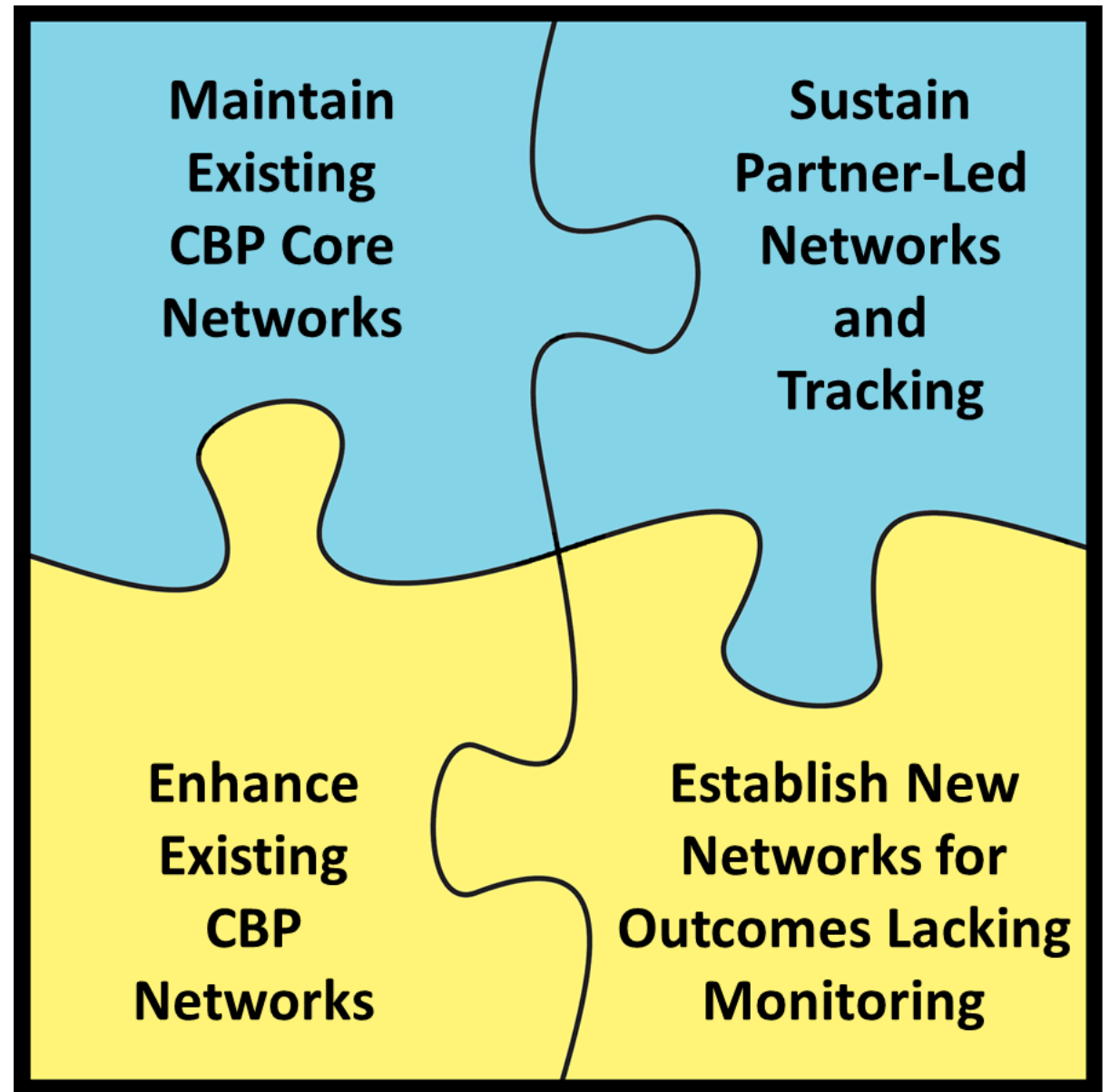
- Black Duck
- Climate Adaptation
- Fish Habitat
- Land Use Options and Evaluation
- Brook Trout



Efficient Monitoring for all outcomes is a challenge for the partnership

Monitoring networks and identified metrics are critical to characterize status and assess progress to outcome and goal achievement.

Which CBP
outcomes does your
agency have interest
in
that requires
more coordinated
monitoring?



Questions?

Breck Sullivan (USGS)

May 18, 2023

