



# Responding to the PSC Request to Improve the CBP Monitoring Networks: Toxic Contaminant WG.

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# Steps for TCW:

“The long and winding road”



June: Overview by P. Tango

July: Priorities and objectives, and existing data (inventory)

August: Refining objectives and design considerations

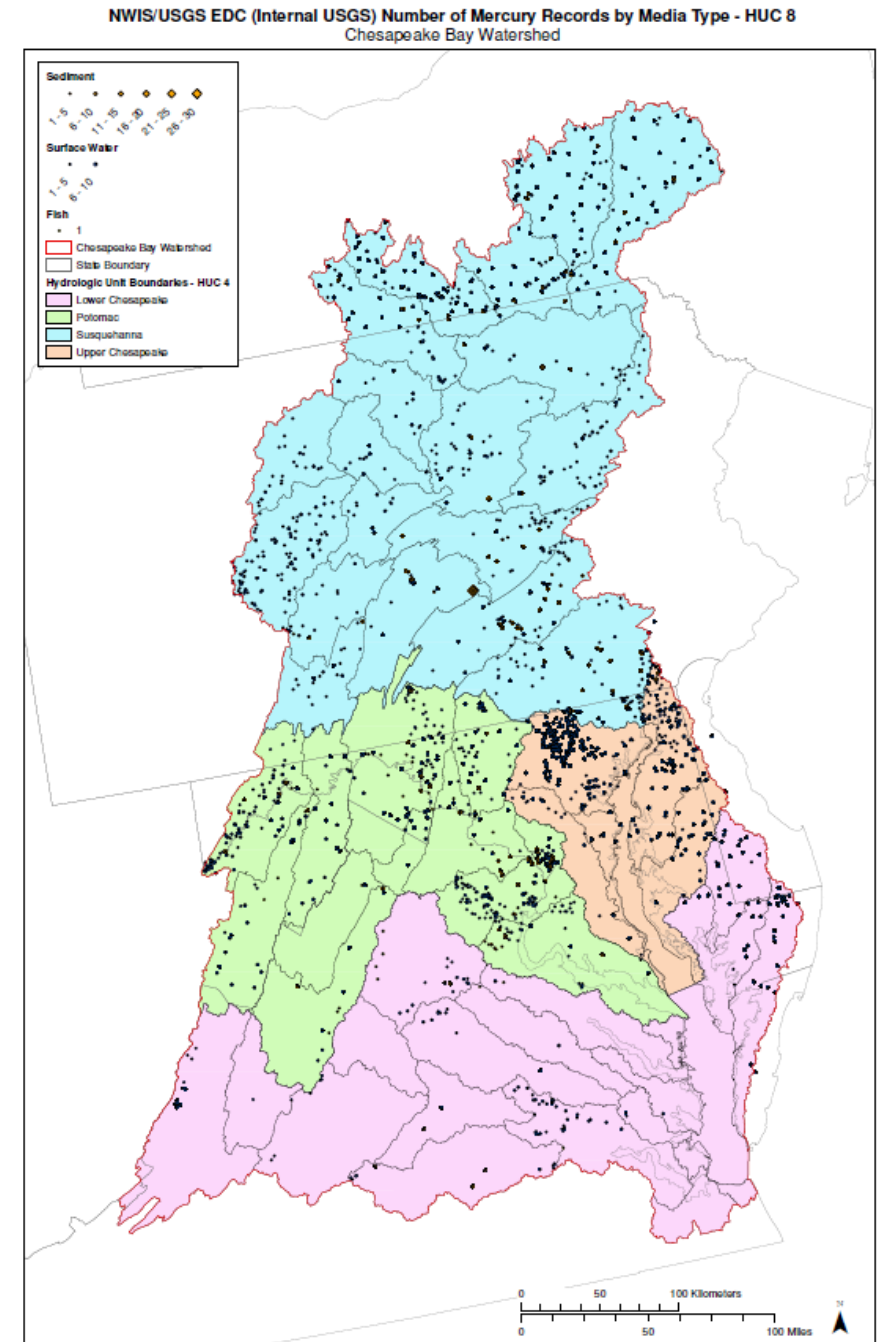
Sept: Design considerations; current monitoring to support objective

Oct-Nov: identify gaps and options

Dec.: 2-page summary to PSC with supporting materials

# Discussion Paper and Executive Summary

- Discussion Paper Sections
  - Need for enhanced monitoring
  - Monitoring objectives
  - Existing monitoring
  - Remaining gaps
  - Monitoring design considerations and options
- TCW reviewed initial version in Oct
- Revised version discussed today
- Executive Summary
  - 2-pages for PSC report



# TCW Feedback on Discussion Paper

- Majority of jurisdictions responded and comments from NOAA, USFWS, USGS, and EPA.
- Overall positive and constructive feedback
  - Agreed with objectives (section 2)
  - Reviewed accuracy and provided input of existing monitoring (section 3) and gaps (section 4)
  - Section 5: need to have more specific recommendations
  - Nov 8 version of paper: tracking of all comments and potential revisions

# Today's Discussion:

## Updated Discussion Paper (Nov 9)

- Clean version
- Quick Review of updated sections
- Focus feedback on Section 5:  
proposed recommendations

## Executive Summary



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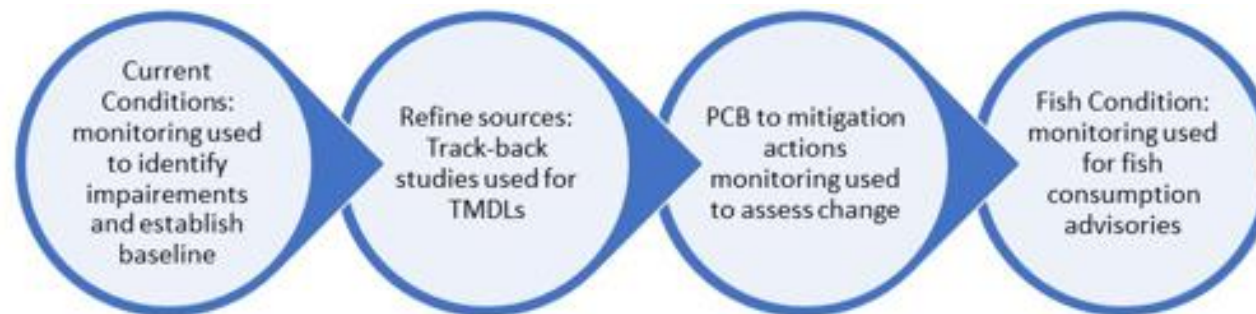
# Monitoring Needs



- Reviewed outcomes for Toxic Contaminant Goal
- Identified four primary monitoring needs:
  - Changes to PCBs levels as total maximum daily loads (TMDLs) and associated management actions are implemented.
  - Changes to mercury as TMDLs and associated management actions are implemented.
  - Assessing contaminants of widespread concern (such as pesticides).
  - Assessing contaminants of emerging concern (such as per and polyfluoroalkyl substances [PFAS] and microplastics).

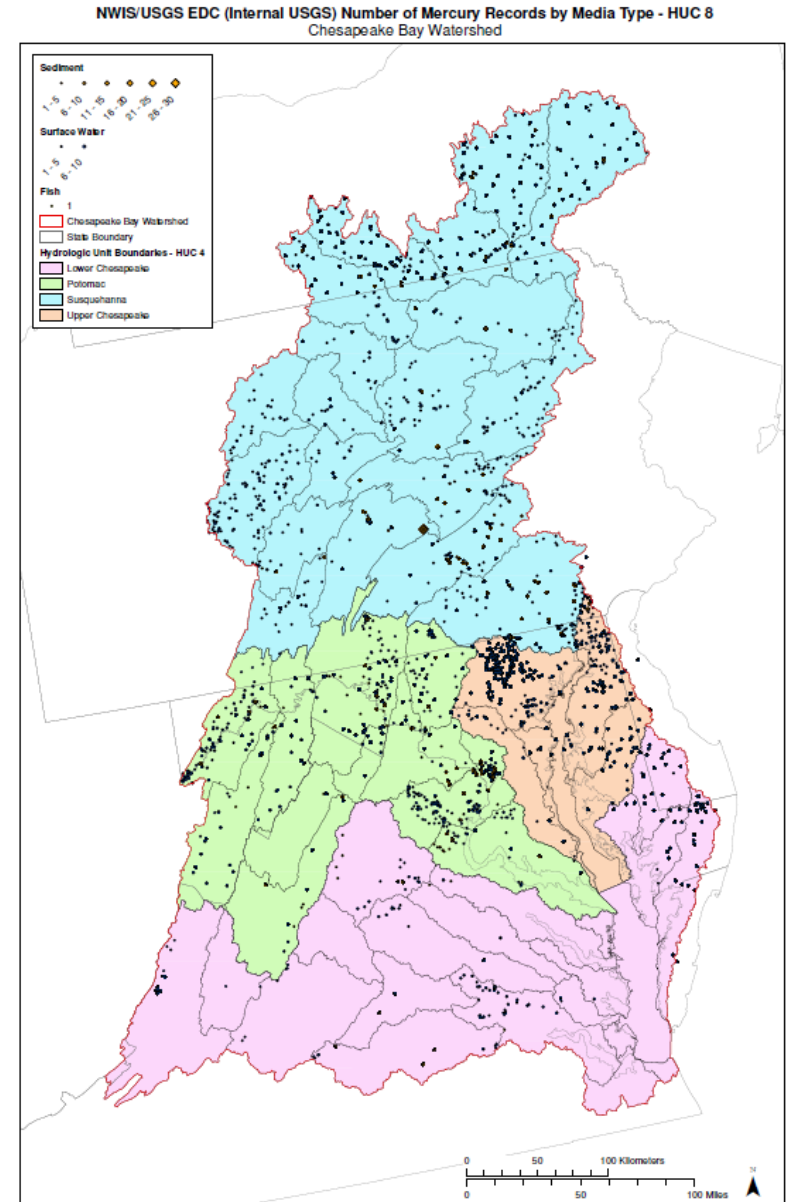
# Objectives

- TCW developed objective for each monitoring need
  - PCBs and emerging contaminants highest priorities
  - Decided to focus on PCB objective
- Establish current conditions and determine if remediation or management actions are resulting in downstream reductions in PCBs.
- A multi-pronged approach with several inter-related components:
  - (1) current conditions,*
  - (2) refine identification of sources*
  - (3) determine PCB response to mitigation efforts*
  - (4) assess fish conditions and relation to consumption thresholds*



# Current Monitoring

- Requested monitoring information as it related to PCB objective
- Table for:
  - Monitoring approach(es) you are using,
  - Media you are sampling (sediment, surface water or fish),
  - Frequency (annual, cycling 5-year rotations, etc.),
  - Field/analytical methods you are using (passive, wet/dry weather grabs).
  - Assessment endpoint (e.g.. load, concentration, other).
- Questions on:
  - Better identify sources
  - Determine if fish are safe to consume
- Thank you for your responses!





# Remaining Gaps

- Limited monitoring to directly assess change due to mitigation at a scale of interest (exceptions, some DE fish data collection, some Anacostia work)
- Sampling locations are currently limited in number and frequency that samples are collected
  - Sample fish every 2-5 years
  - Streamflow gages may limit calculations of loads (vs. concentration)
- Methods to collect and analyze surface water vary among jurisdictions and federal agencies (may also vary for fish\*- 8082 vs. 1668)

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# Design Consideration and Options

- Asked for your feedback on:
  - *What* would we do?
  - *Where* do we want to do it?
- Organized around three recommendations:
  - 1: Focus monitoring in geographic areas to help the jurisdictions assess PCB response where mitigation actions are being implemented and or planned
  - 2: Geographic focus areas should be in places with PCB reductions can be detected.
  - 3: Initiate monitoring in a single geographic-focus area as a pilot test

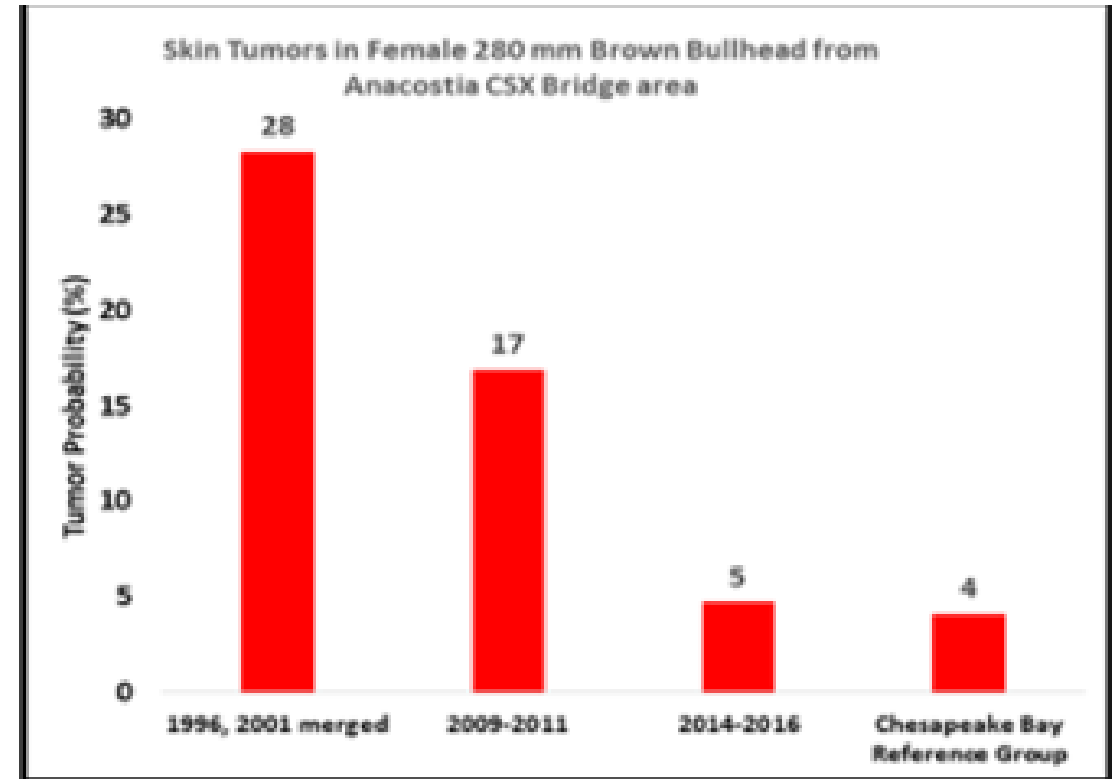
# Recommendation 1

- Focus monitoring in geographic areas to help the jurisdictions assess PCB response where mitigation actions are being implemented and or planned
  - Based on where active (or planned) implementation mitigation practices for a TMDL



# Recommendation 2

- Geographic focus areas should be in places with PCB reductions can be detected
  - Media specified: Fish vs. surface water (response time?)
  - Statistical power decline vs. observational decline
  - 1-3 locations per area
  - Frequency



*Decrease in skin tumor prevalence Brown Bullhead, Anacostia River (Pinkney 2019)*

# Recommendation 3

- Initiate monitoring in a single geographic-focus area as a pilot test

| Jurisdiction | Geographic-focus Areas  |
|--------------|---|
| DC           | Anacostia   |
| MD           | Tidal Patapsco River (Baltimore Harbor/Curtis Bay/Middle Branch), Anacostia tributaries (eg, Lower Beaverdam Creek) |
| VA           | Potomac tributaries at head of tide   |
| DE           | Nanticoke River   |

# Potential Costs

- With a focus on fish or shellfish sampling, the estimated cost of per sample location, per event would be approximately \$22,000, for a total of \$22,000 to \$66,000 per year for 1-3 locations
- With a focus on quarterly surface water (water column) sampling, the estimated cost per sampling location would be approximately \$70,000 per sample location, per event, for a total of \$70,000 to \$210,000 per year for 1-3 locations,

# Next Steps:

- Review of updated discussion paper and Executive Summary
- Revise and finalize papers
- Discuss any remaining issues at Dec TCW meeting
- Submit to STAR for inclusion in report (Dec)



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