



# Responding to the PSC Request to Improve the CBP Monitoring Networks

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Principal Staff Committee

June 2, 2021

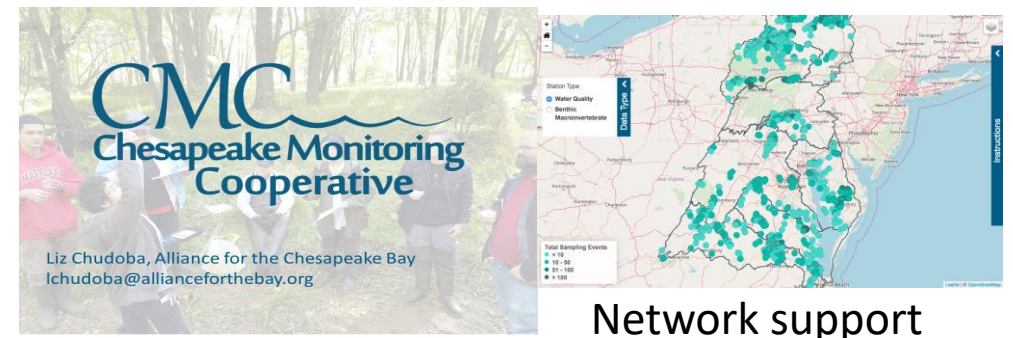
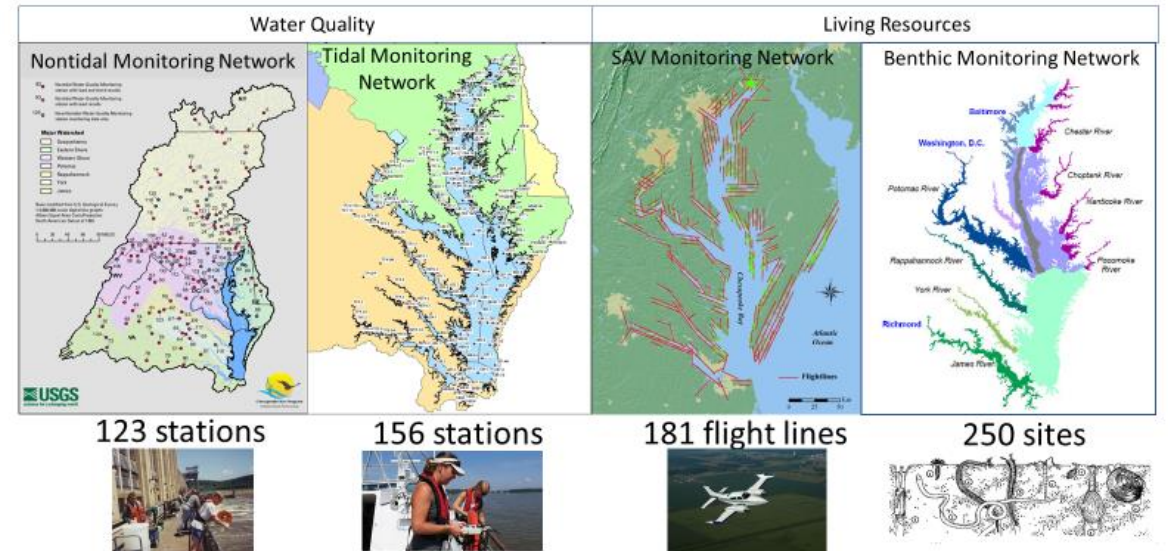
# Reminder

## March 2021: Monitoring Presentation to the Principal Staff Committee



- Lee McDonnell provided monitoring presentation on March 2
- Help them better understand CBP budget and funding for monitoring
- *CBP World Class Monitoring Networks:*
  - Tidal water quality
  - Nontidal nutrients and sediment
  - SAV
  - Tidal Benthic organisms
  - Citizen Monitoring
- Current Funding:
  - CBP \$5M and partners >\$7M

CBP Partnership Monitoring Networks: Annual Monitoring



## PSC request:

- In response to the status report, PSC requested information be provided on what is needed to improve the CBP monitoring networks, including:
  - (1) an overview of current status and threats to the networks, and
  - (2) what is needed to address the monitoring networks capacity shortfalls.

# Opportunities and Benefits of the PSC request

- Over a decade since the last CBP monitoring evaluation
- Address CBP Outcome: Standards Attainment and Monitoring Outcome
- Address selected monitoring needs of other CBP outcomes
- Consider new technologies and innovation
- Identify priority improvements and fill gaps

Through the 2014 Chesapeake Bay Watershed Agreement, the Chesapeake Bay Program has committed to...



**Goal:** *Water Quality*

**Outcome:**

*Continually improve the capacity to monitor and assess the effects of management actions* being undertaken to implement the Bay TMDL and improve water quality. Use the monitoring results to report annually to the public on progress made in attaining established Bay water-quality standards and trends in reducing nutrients and sediment in the watershed.



# Process

9 months start to finish

8 questions to answer

Provide a short synthesis to address the questions, vision going forward.

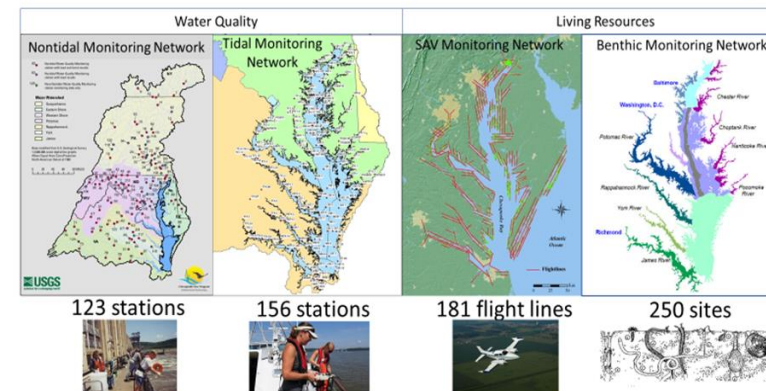




# 8 Questions to address in this 9-month review

1. Network Status?
2. Vulnerabilities to sustaining network operation?
3. Program management strategy?
4. Monitoring information gaps?
5. Monitoring program options for filling gaps with existing resources?
6. What innovations are available?
7. Who are the partners on operationalizing the innovations?
8. Financial perspective on sustaining, growing and innovation needs for our networks?

CBP Partnership Monitoring Networks: Annual Monitoring 



Thank You.  
Questions?





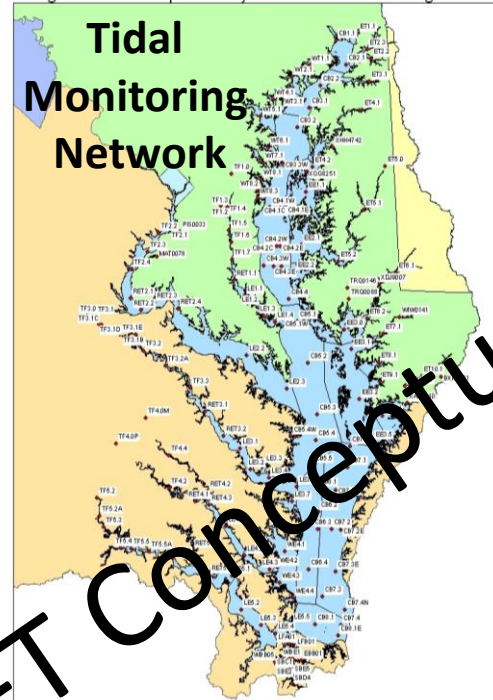
# Example Product Target for PSC: Individual Network portfolios with recommendations

## • Recommendations

- Partner with ABCD organizations to finalize protocols on satellite-based monitoring
- Adopt satellite-based monitoring for SAV, light, chl<sub>a</sub>
- Adopt AI algorithm interpretation for satellite-derived data for cost effective assessments
- Increase 117e budget to augment losses on core monitoring \$X

## • Vulnerabilities

Category	Issue	Explained
Inflation	Buying power	Lost capacity in time
Level funding	COLA impact	Lost capacity in time with inflation
Aging infrastructure	Replacement costs	Resource distribution
Contractor viability	Discontinuity of service	Missed sampling
Pandemic	Safety	Missed sampling
Staffing	Capacity	Missing capacity



• **Status** - The current tidal monitoring network was established in 1984, its first full year was 1985. There are 154 active stations sampled for physical, chemical, and biological measures throughout the water column with a consistent set of collection and analysis protocols.

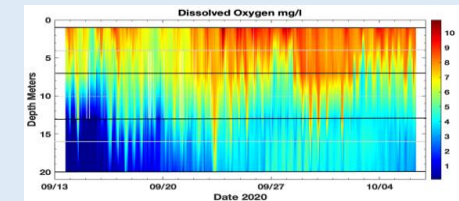
## • Innovations



Hi-Res satellite SAV, light and CHLA



Enhanced monitoring with Community science support



Cutting edge, cost-effective vertical profiles of water quality

## • Financials

- 2021 – level funding at \$X.x M
- Projected program changes include X,Y,Z

## • Gaps

- Short duration D.O. criteria
- Efficient CHLA coverage
- Efficient light limitation coverage

# Detailed needs – small bites, coming soon.

Teams/Groups	April 2021	May	June	July	Aug	Sept	Oct	Nov	Dec	2022	
	SPRING Status and vulnerabilities of existing network			SUMMER – Innovation Assessment, Financials of Sustaining networks			FALL Evaluate limitations, Financials for adopting innovations, recommendations			Winter	
NTN	Network support spreadsheet, vulnerabilities, financials, design options			Network revision proposals – BMP, climate, historical; financials of vulnerabilities next 5 years			Analysis innovation – target, timeline, investment. Formalize network & analysis revision recommendations			Consolidate recommendations, financials for PSC Presentation	
CAP WG with DIWG	Tidal Mon program status, vulnerabilities, financials			Satellite SAV readiness, data management, QA needs	Satellite kd readiness, data management, QA needs	Satellite CHLA readiness, data management, QA needs	Cit Sci targets, expectations	STAC Wkshp: Knitting together innovations in and analysis –			
Hypoxia Collaborative	Establish Team, kick-off mtg, provide Vision, input on stakeholder requirements, initial deployment targets			Network design, sampling design adjustment							
Cit Sci	Award of contract.			Tier 3 document			Review of Cit Sci data can				
Fish Forage/Black Duck/117e grants	Is Spring BIBI necessary?						Formalize recommendations and financials of existing and proposed modifications to program				
Fish Habitat	Dat			Monitoring network design, data management and QA needs			STAC Workshop panels support				
SAV	Track acquis			Prep for STAC Workshop – sharpen financial assessment			STAC Wrkp: AI options, AI progress to improve efficiencies, comparability of method outputs, document path and financials				
4-D Interpolator	Establish Team, provide Vision, stakeholder requirements,			Guidance and development phase with monthly updates			STAC Wkshp: Shaping development, envisioning products to address WQ Stds reporting needs, fish habitat needs				
STAC Workshop	Pre-planning work		Planning and organizing phase					Early Themed Workshop meetings			Continue
STAR/WQGIT updates	Presentation prep		Input from all GITs	Presentation prep		Input from all GITs	Presentation prep STAC Workshop panels, meeting support as targeted		Early PSC material PPT and review		
PSC Presentation										X	

Detailed plans, dates, homework assignment assistance planning is in progress here