Chesapeake Bay Program

Science. Restoration. Partnership.

Responding to the PSC Request to Improve the CBP Monitoring Networks- Update

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STAR Staffer Support: Amy Goldfischer

Chesapeake Bay Program

July , 2022

Today's Update

- Report has been revised and submitted for final approval
  - MB and partnership comments were helpful to improve the report
- Need CBP partner involvement to implement recommendations
  - Kick-off meeting is being planned
  - *Need MB/PSC to identify high-level monitoring program managers to attend*
- Discussions have begun on funding opportunities but there are challenges to overcome

Timeline

March 2021
PSC meeting monitoring review request

April-May 2021
STAR develops monitoring review workplan

May 2021
PSC approves monitoring review workplan

May 2021-December 2022
Meeting with workgroups, building understanding of needs and costs

January-February 2022
Report production

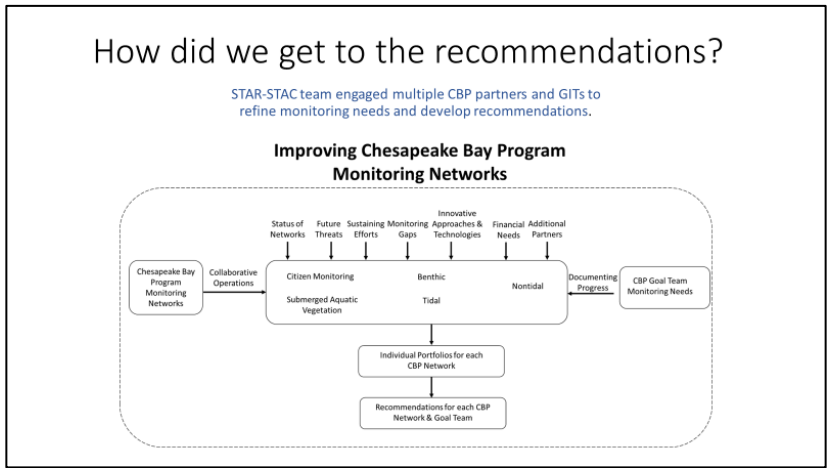
March 2022
Report findings presentation to PSC

March-April 2022
Community review of the report

April-May 2022
Team response to comments

May -June 2022
Report revision

July 2022
Final report delivered



Key Findings of the Report

- Monitoring is critical to assess progress towards meeting goals and outcomes of the 2014 Watershed Agreement.
- Monitoring is insufficient for many CBP outcomes.
- Opportunities for enhancing the networks exist but funding is a challenge.

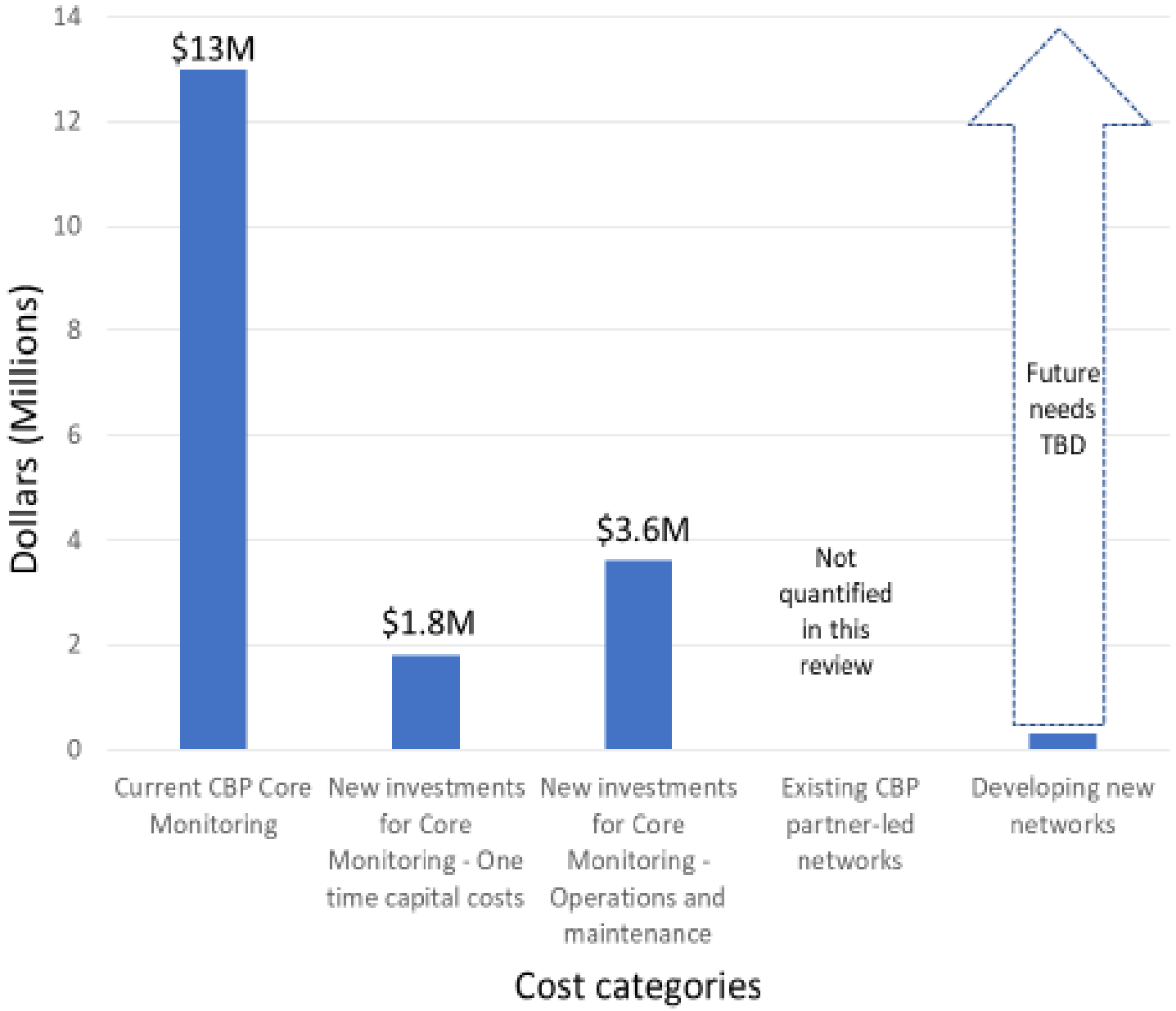
Summary of funding recommendations:

$13M base funds for Current Core networks

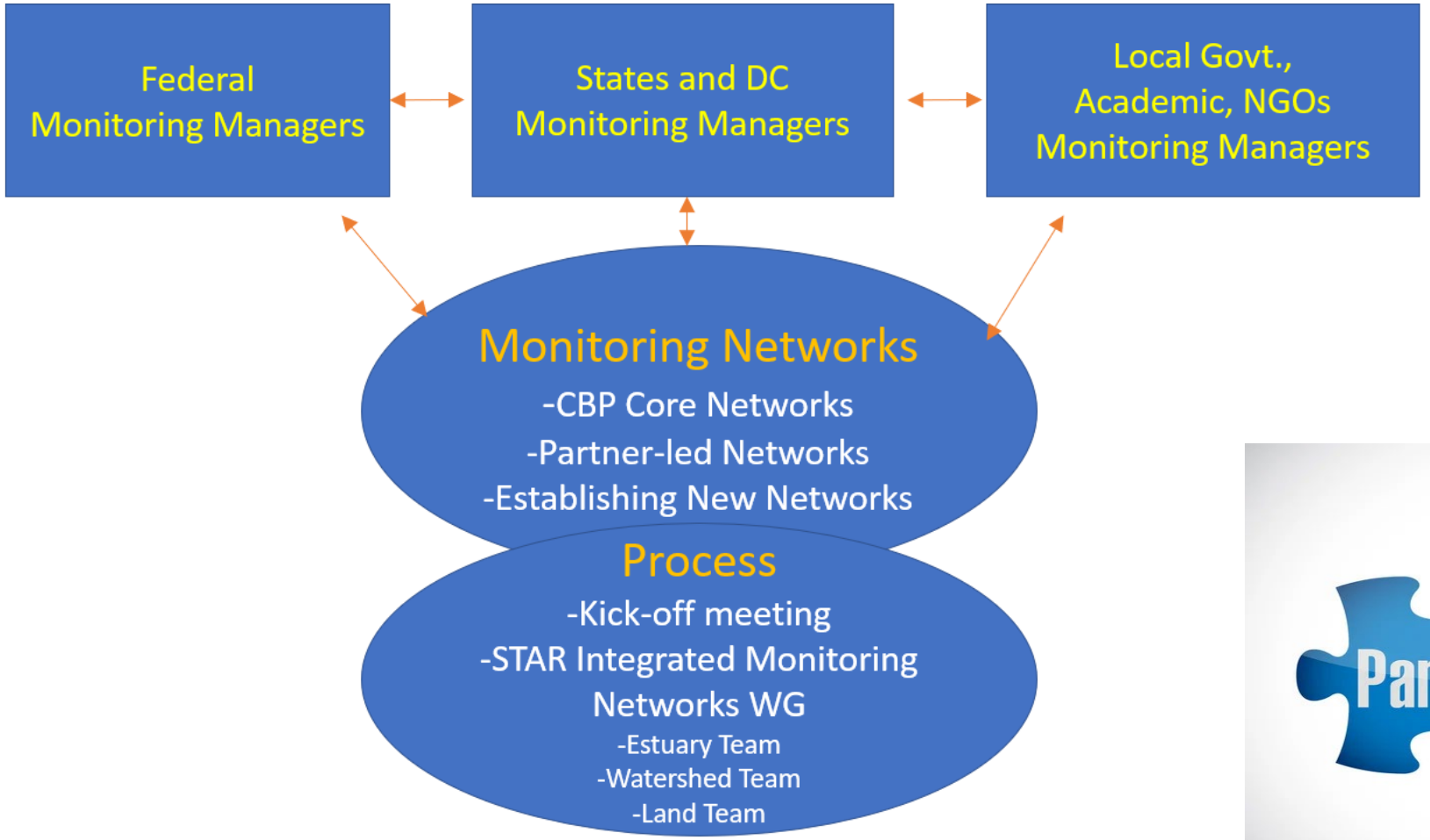
$5.4M a year in new investments identified for priority needs
--One time capital costs
--Operation and maintenance

Additional partnership-led networks need to be maintained

Future monitoring needs for some outcomes are yet to be determined (TBD)



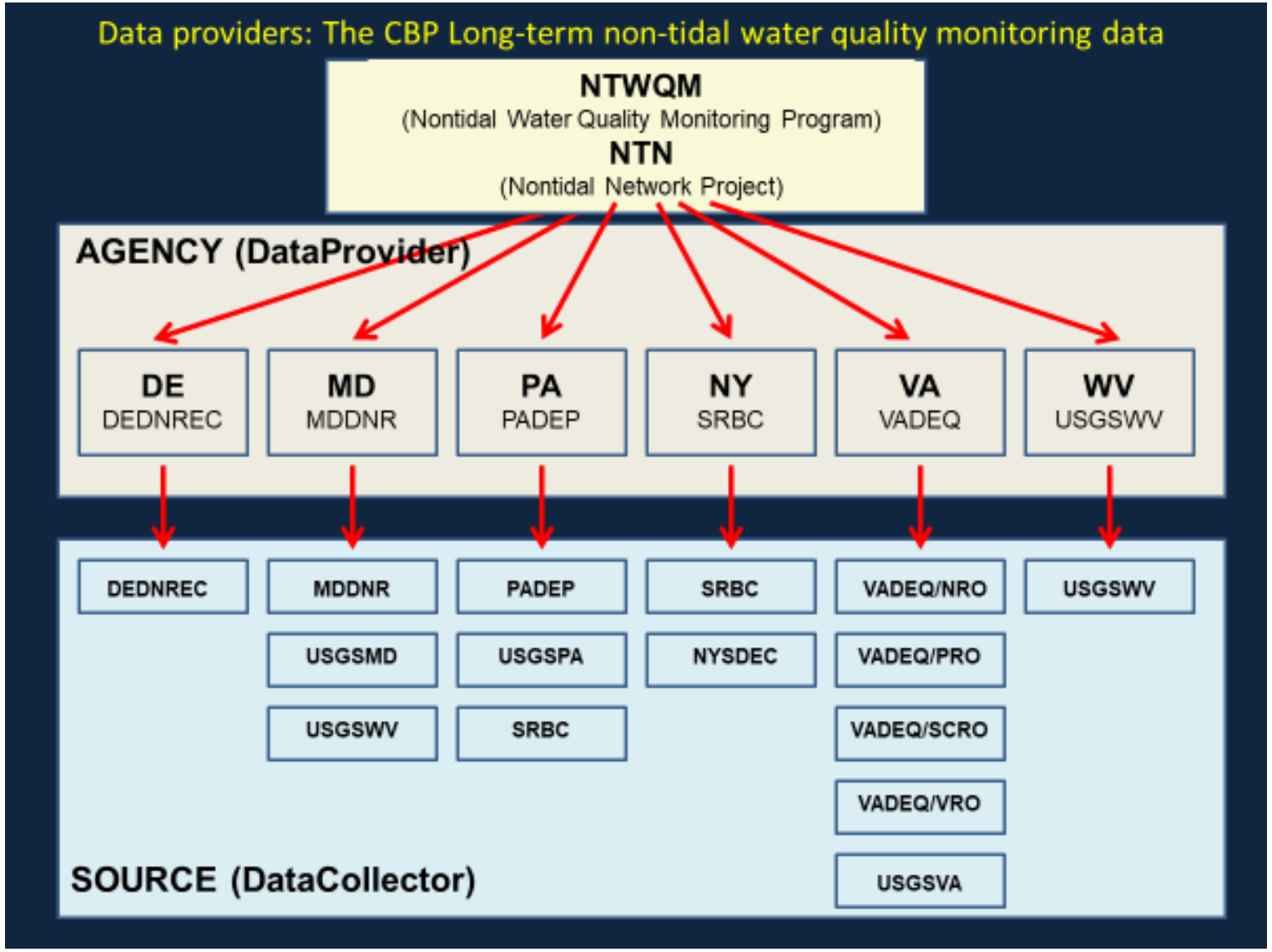
Process moving forward for sustaining and enhancing networks



Needed Discussion at Kickoff Meeting

- Sustaining the Existing CBP Core Networks
  - Shortfalls from 2022
  - Inability of partner to continue to backfill various shortfalls
  - Network Wide Challenges
- Partner Resource Sharing
  - Examine Most Cost Effective Means of Pooling Resources
  - Number of Agreements That Support These Networks
- Network Enhancements

NTN Example


Data providers: The CBP Long-term non-tidal water quality monitoring data
NTWQM
(Nontidal Water Quality Monitoring Program)
NTN
(Nontidal Network Project)
AGENCY (DataProvider)
DE
DEDNREC
MD
MDDNR
PA
PADEP
NY
SRBC
VA
VADEQ
WV
USGSWV
DEDNREC
MDDNR
USGSMD
USGSWV
PADEP
USGSPA
SRBC
SRBC
NYSDEC
VADEQ/NRO
VADEQ/PRO
VADEQ/SCRO
VADEQ/VRO
USGSVA
USGSWV
SOURCE (DataCollector)

Kick-off meeting: Work together with investment menu (subset of line items shown from the report)

Tidal Water Quality $

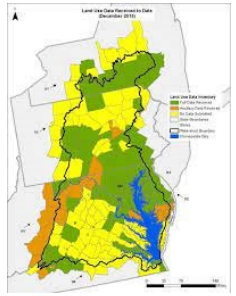
- Program maintenance
- Hypoxia network 8 arrays
- 4D water quality interpolator
- Nutrient limitation surveys

Nontidal Water Quality $

- Program maintenance
- Conowingo Continuous monitoring
- River input continuous monitoring
- Small watershed studies

- **Tidal SAV assessment $**
  - AI satellite image interpretation
  - Automated Polygon method development
  - Sentinel site network
  - Assessment calibration
  - Pilot study of proposed satellite assessment on spring grasses

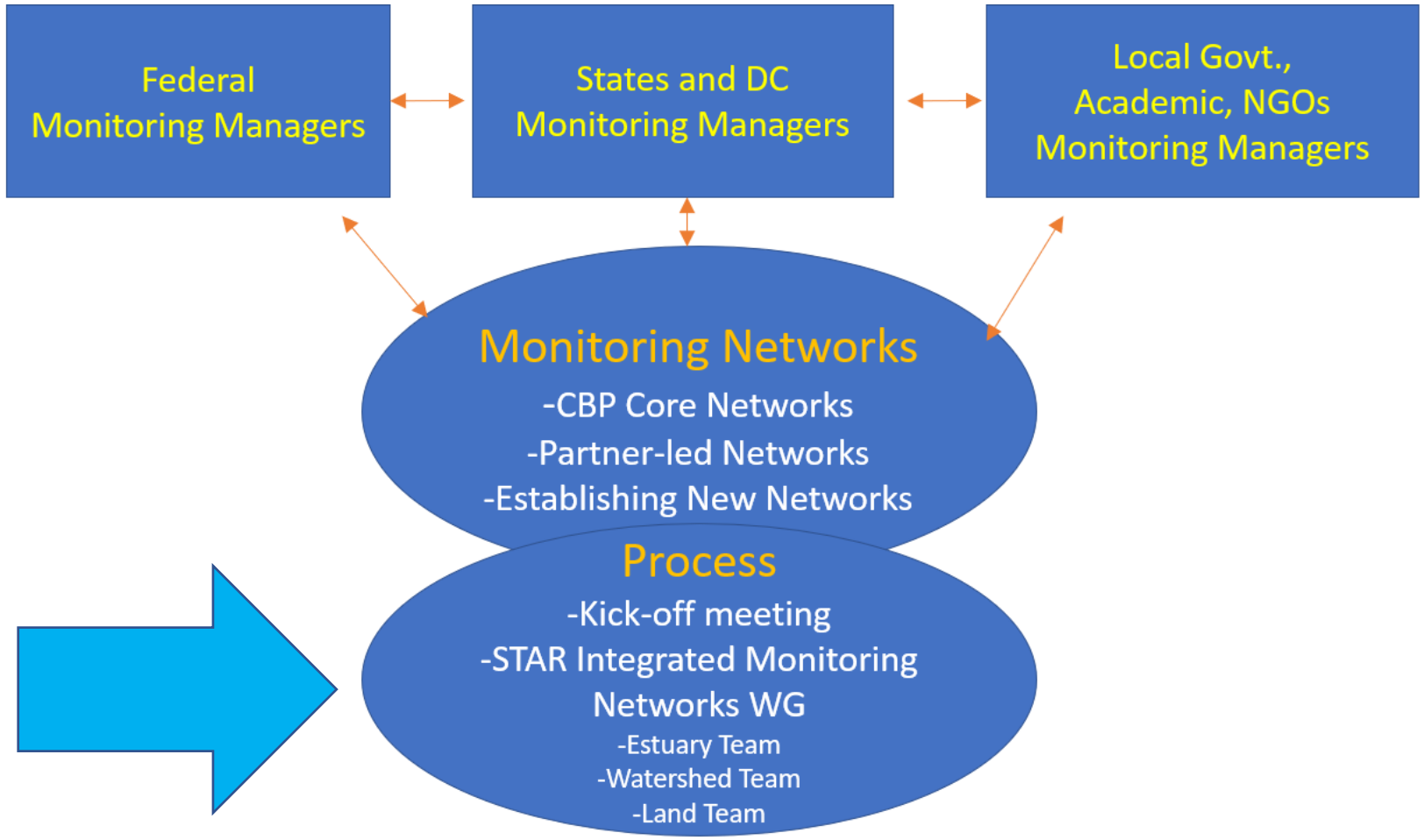
- **Land Use Land Cover $**
  - High resolution imagery



- **Community Science $**
  - Database enhancement for SAV
  - SAV and nitrate field monitoring

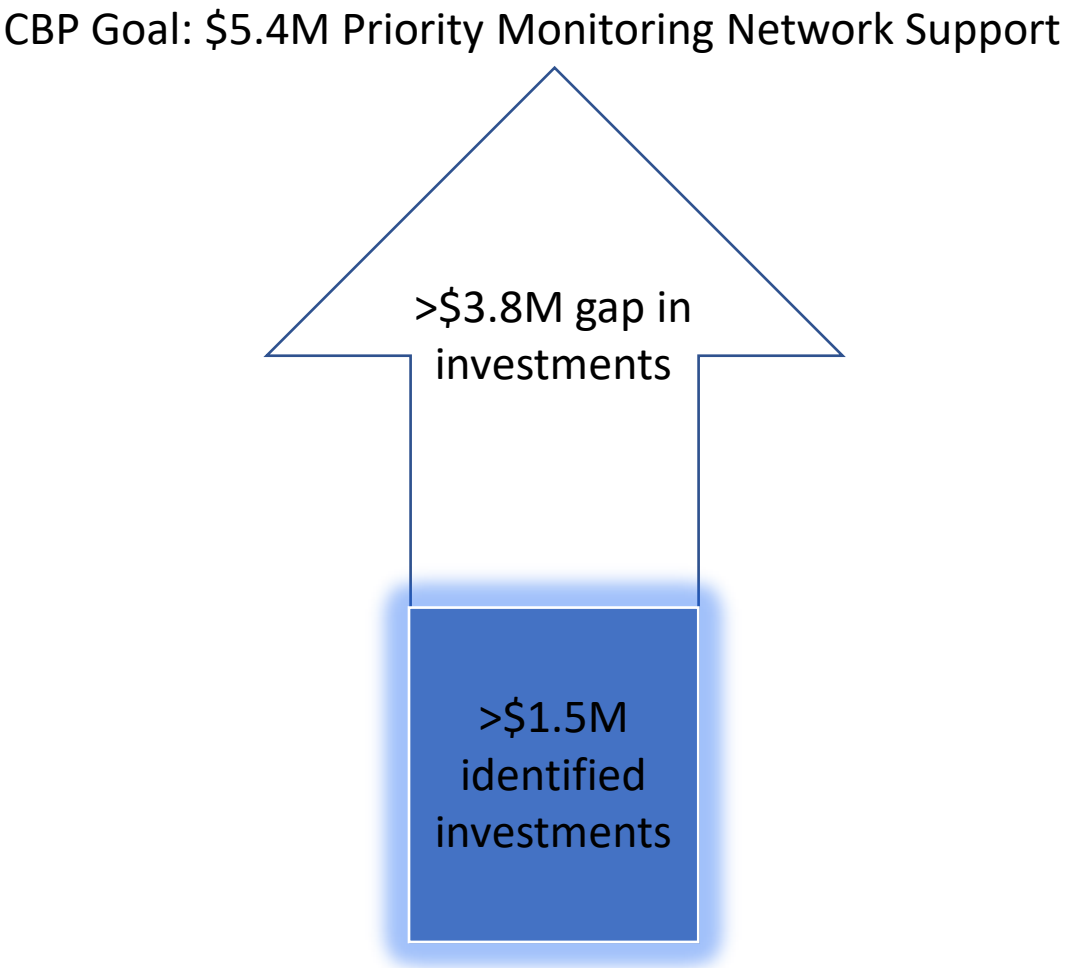
Today's request of the PSC

- *Need MB/PSC to identify high-level monitoring program managers to attend*



2022 Funding progress on identified needs

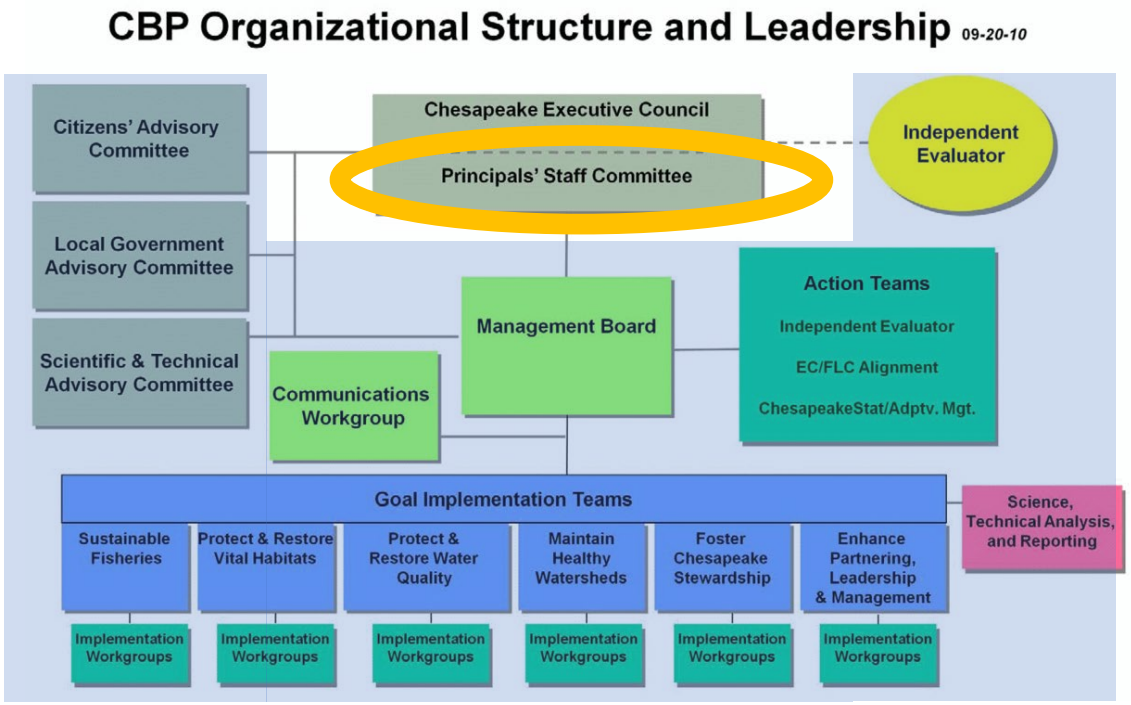
- Partner investing since March 2022 PSC presentation:
- >$1.5M identified funding toward goal
- Gap shows target for partnering efforts



Extra Slides

Principal Staff Committee Request

- Provide information to improve CBP monitoring networks, including:
  - (1) Current status and threats to the networks
  - (2) what is needed to improve the monitoring sustainability, and
  - (3) what is already available to address monitoring and assessment capacity shortfalls
- STAR will Coordinate Response
  - Deliver network assessment and recommendations in 2022



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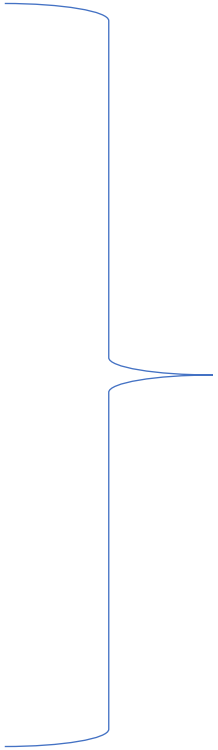


See Appendix A in the PSC report

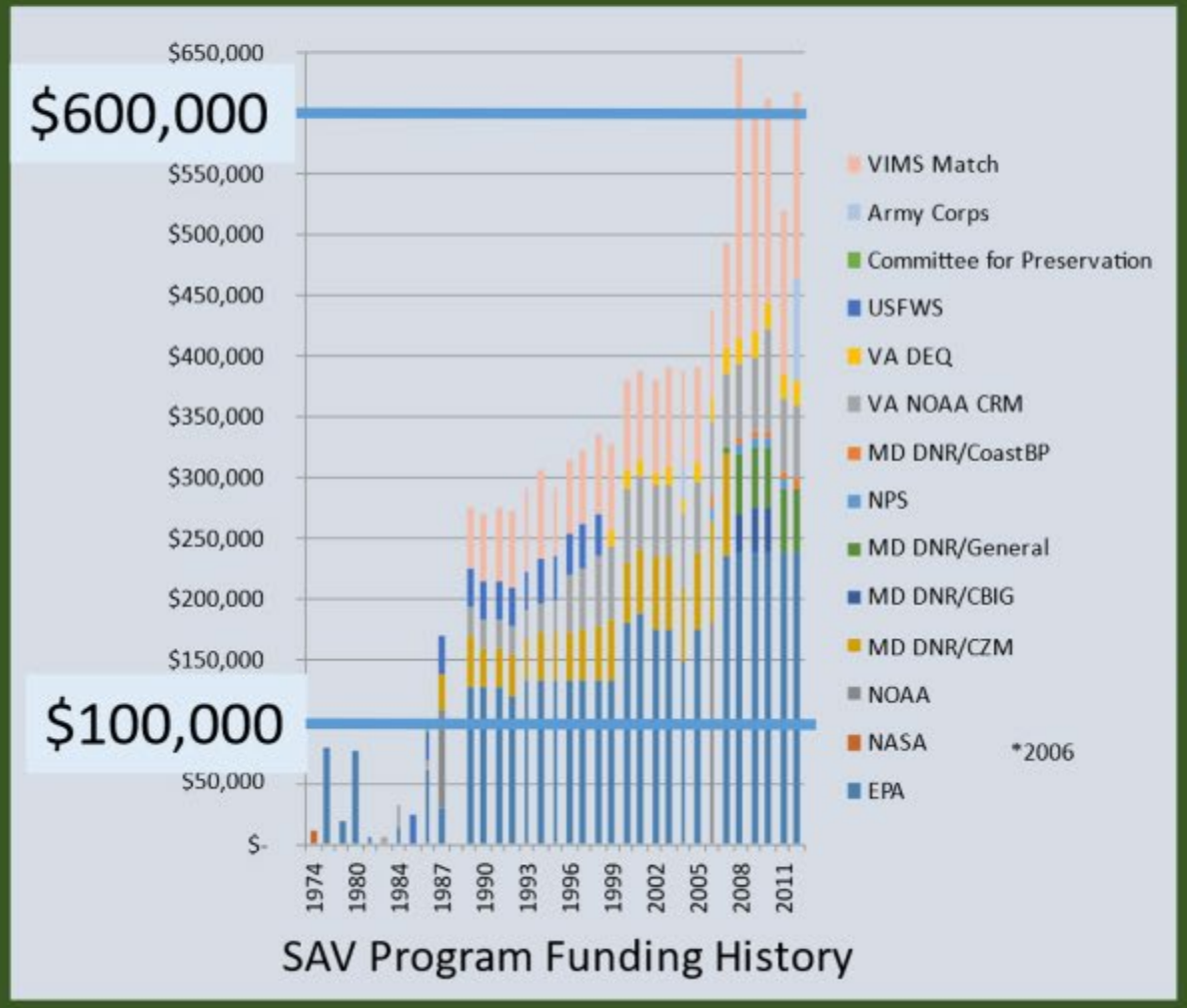
Community responses to the original 8 questions

2022 PSC Report: Summary menu of $5.4M in identified priority needs for monitoring support

Options on priority investments to maintain, enhance and establish monitoring networks

2014 Watershed Agreement Goal	Outcome	Application gap	Data need	Costs	
				One-time capital costs	O&M
Water Quality	Water Quality Standards Attainment and Monitoring	Capacity to assess water quality standards	Dissolved oxygen/ salinity/temperature	$825K	$901K
			SAV cover	$380K	$200K
			Summer benthic macrofauna	N/A	$3K
		Track and communicate progress in response to watershed management	Nutrient limitation	N/A	$275K
			Nontidal water quality	$551K	$674K
Vital Habitats	SAV	Assess progress towards 185K acre goal	Field verification calibration data	$40K	$250K
Land Conservation	Land Use methods and metrics development outcome	Land change monitoring time series	Year 1 to support time series imagery to assess land change	N/A	$1.0M
Toxics	Toxics Prevention and Policy	PCB assessment	Lab analyses of field samples	N/A	$276K
Totals				**$1.8M**	**$3.6M**

Additional funding is necessary for the underwater grasses annual survey.



- 1970s Costs <$100,000
- 2010s costs >600,00 per year
- Many agencies have helped contribute money to support the survey.