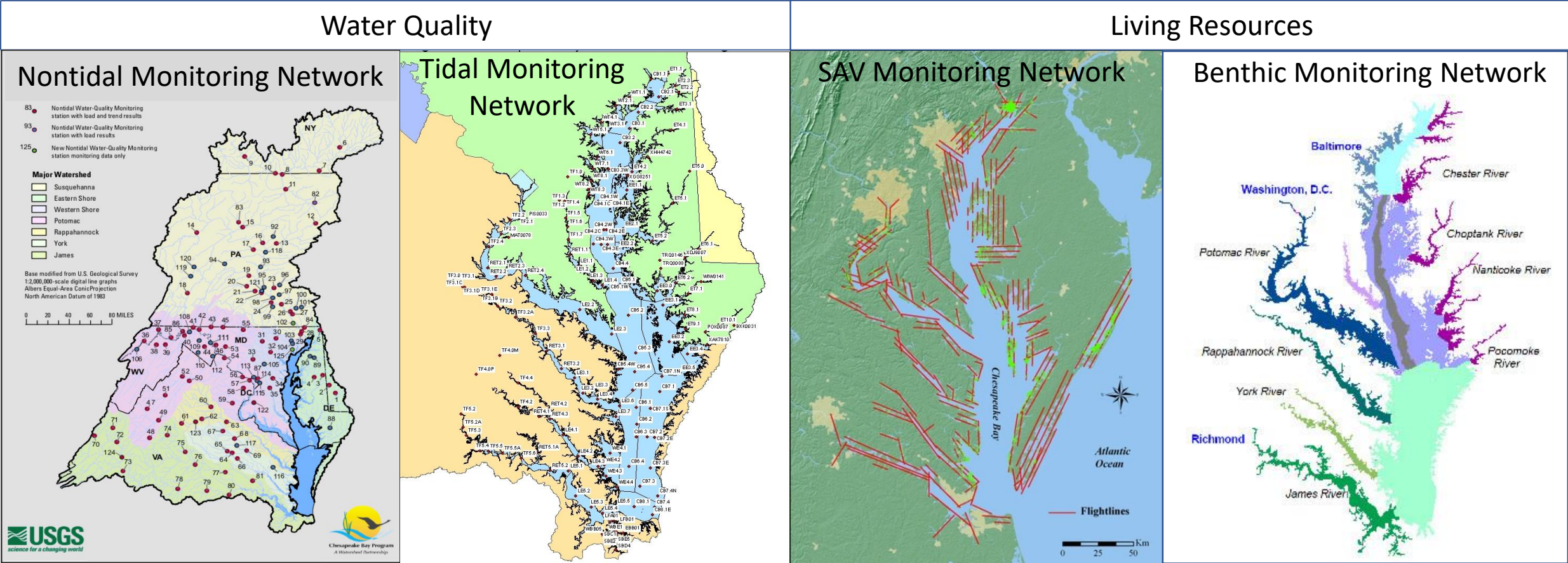




Chesapeake Bay Program Monitoring Budget: It takes a village

- Lee McDonnell – USEPA
- Chief, Science Branch, CBPO
- PSC Meeting
- March 2, 2021

CBP Partnership Monitoring Networks: Annual Monitoring

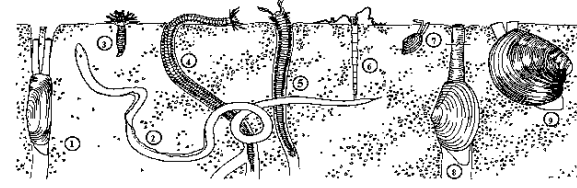


123 stations

156 stations

181 flight lines

250 sites





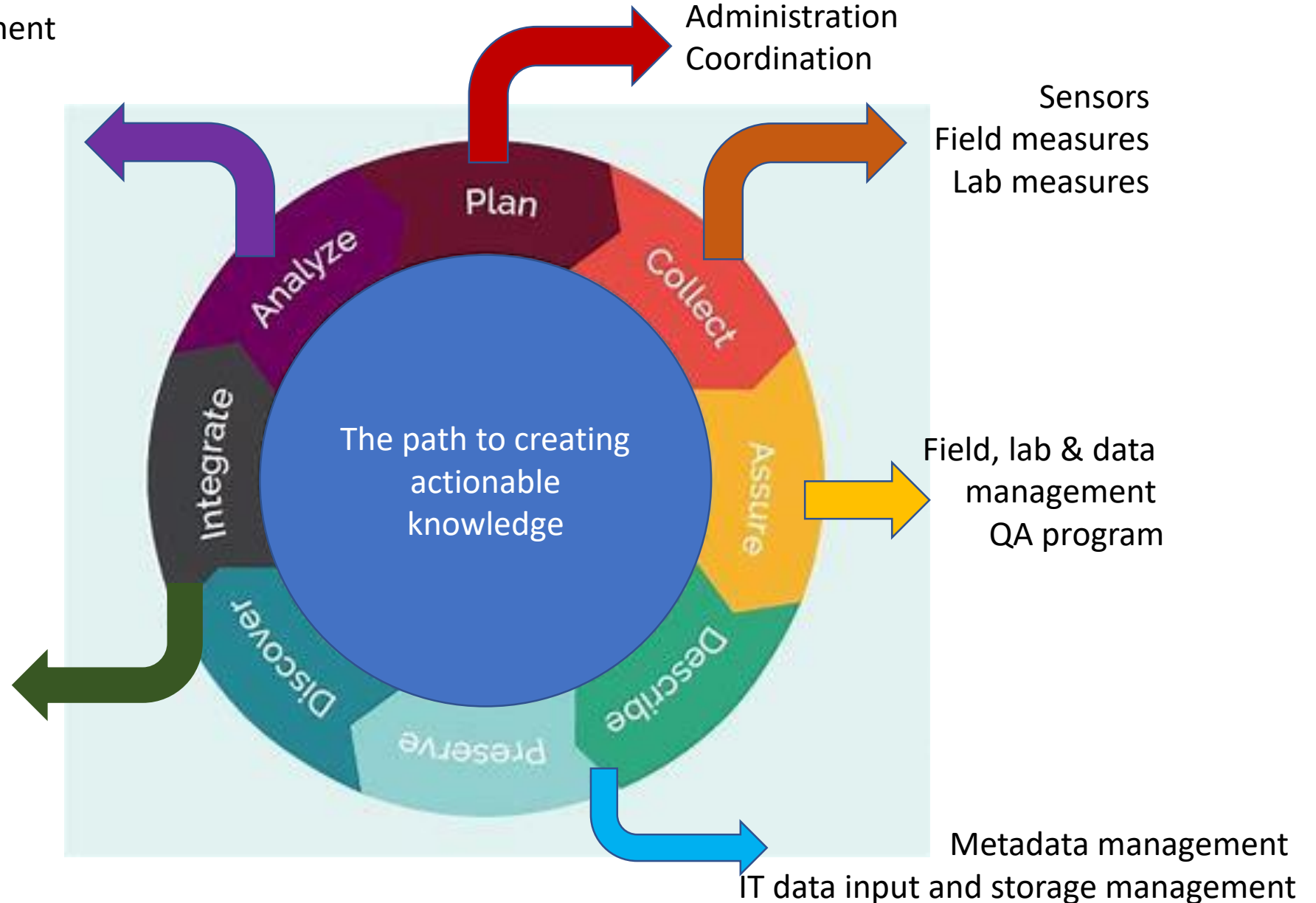
Adaptive Management Decision-Support: From planning to sample collection to actionable knowledge

ACTIONABLE KNOWLEDGE

Method development
Synthesize
Translate
Data visualization
Report
Communicate

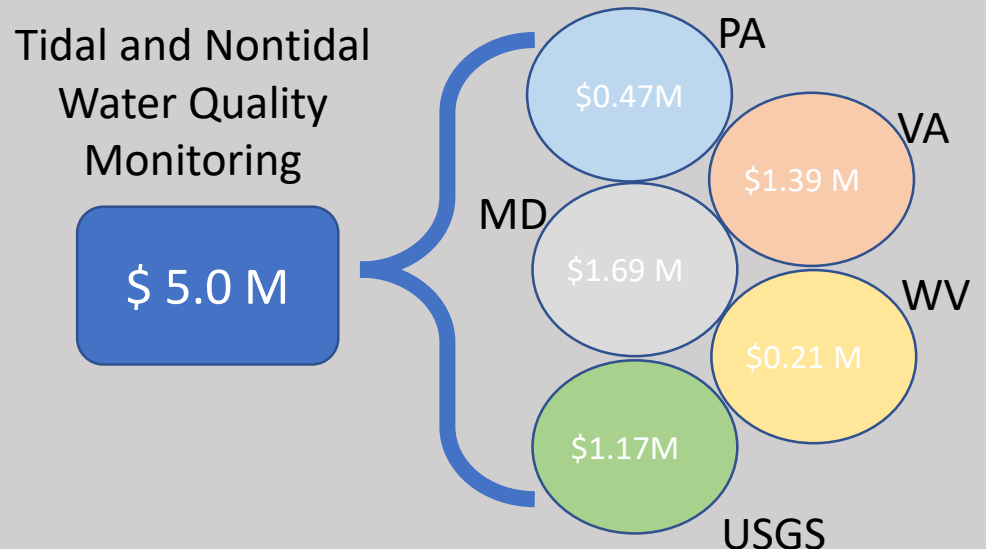
Administration
Coordination

Sensors
Field measures
Lab measures



INFORMATION

Integrated partner contributions: It takes a village.



\$ 400 K

SAV

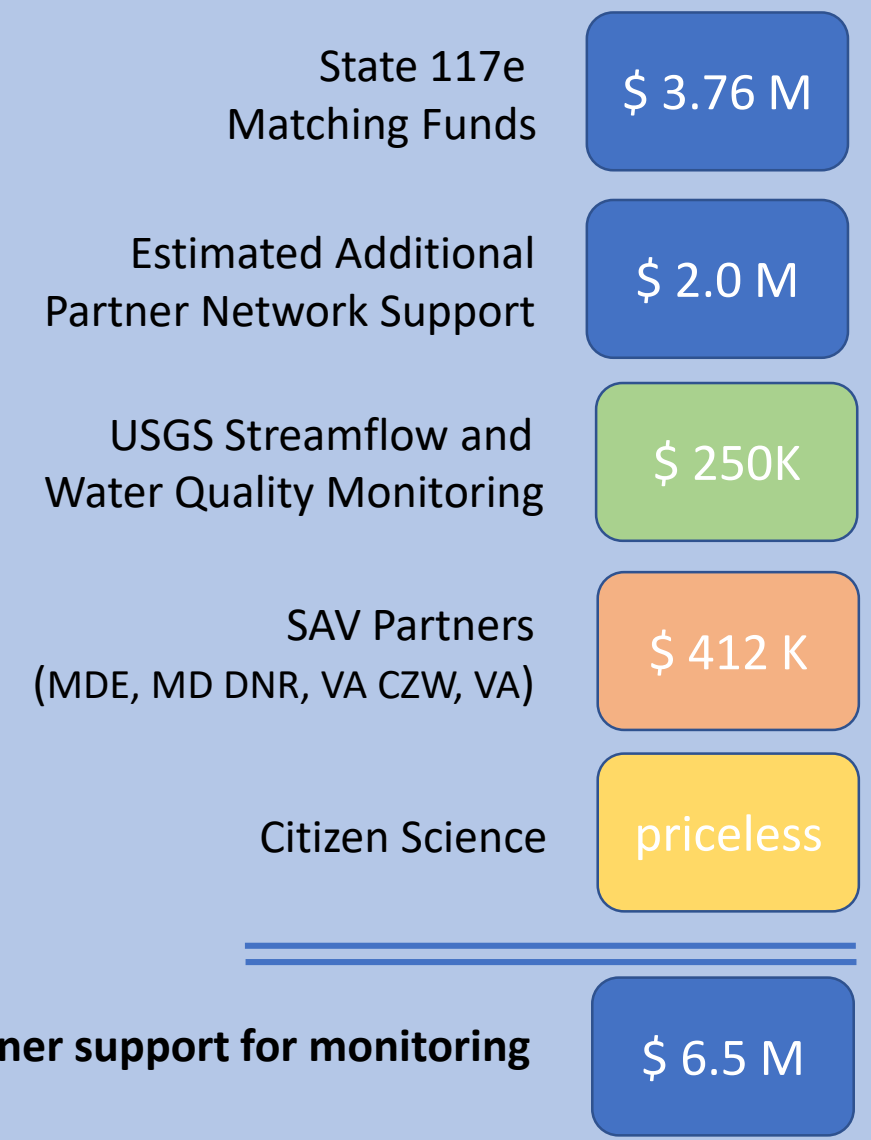
\$ 450 K

Citizen Science

\$ 5.85 M

CBPO Support for monitoring

>\$ 12M
Chesapeake
Monitoring
Program
Partnership
Investment



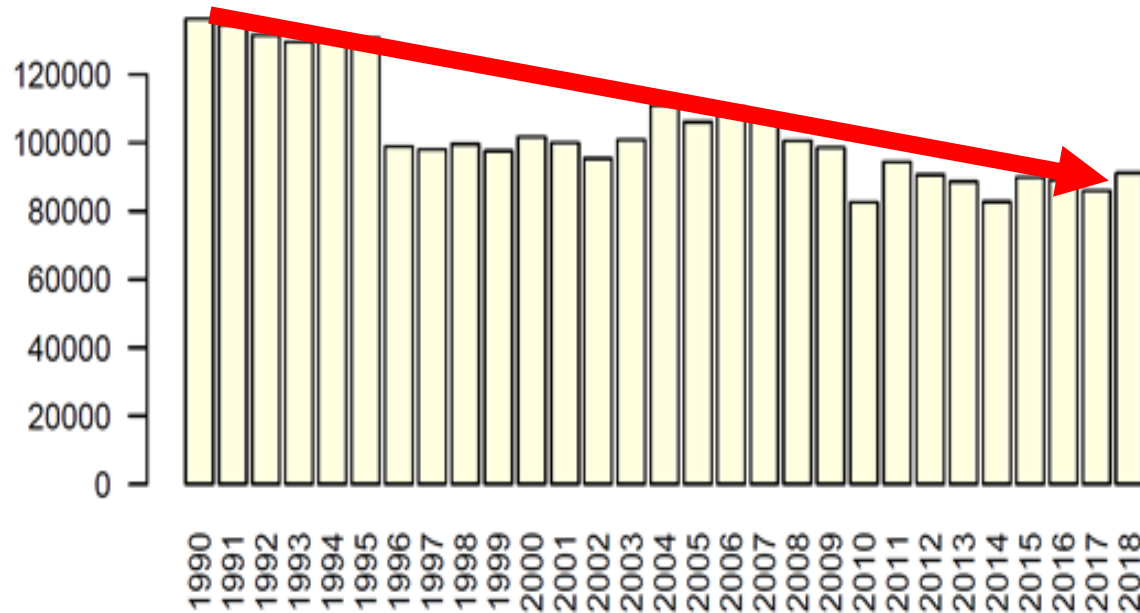
Partner support for monitoring

Chesapeake Bay Monitoring Program Capacity Status?

Traditional Monitoring Program Capacity: Good/**Fair**/Poor



Count of Tidal Water-quality Samples



- Traditional capacity is highly stressed and declining

~20 years: Tidal data monitoring remains “marginal”

Nontidal data collection “adequate” for the watershed load estimates, station losses ahead

Flat funding ignores inflation/COLAs translating to station and data losses.

Impending SAV program cost increases may challenge program after 2021

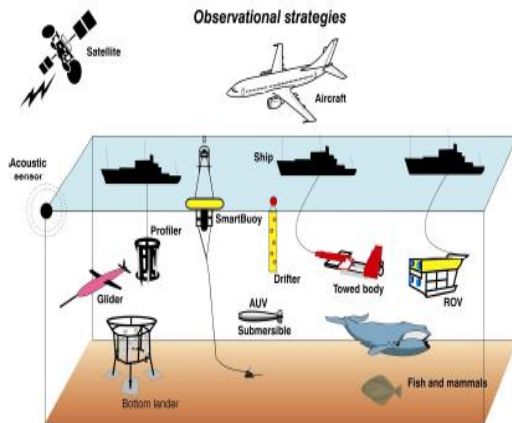
Moving forward: Expanding capacity with and beyond EPA funding

New sensors, new data sources, new interpretation tools



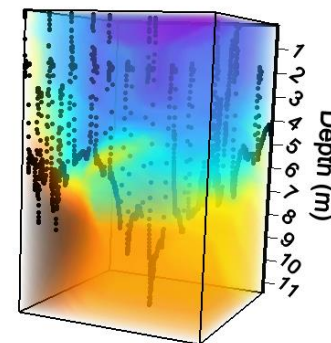
Integrated monitoring and assessment

- Traditional data collection
- Advanced collections
 - Satellite (SAV, clarity, chlorophyll)
 - Citizen Sci (SAV, Dissolved oxygen)
 - Fisheries (Dissolved oxygen)
 - Vertical profilers (Dissolved oxygen)



Updated assessment tools

- Artificial Intelligence assessment algorithms (NASA, NOAA, EPA, USGS)
- 4-dimensional water quality estimator (EPA-CBPO+)



Gap filling data needs

- Water quality standards
- Fish Habitat

Improved assessments

- Complete accounting
- Annualized accounting

Reduced uncertainty in status and trends

- Better explain habitat response to management

Cost efficiencies

- Free satellite imagery