One-stop-shop for CBP science needs - Overview of the Strategic Science & Research Framework (SSRF) and Database
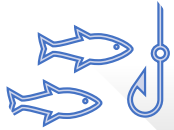
Chesapeake Bay Program
Science. Restoration. Partnership.

Allison Welch and Gabriel Duran, STAR Staffers (CRC)

Breck Sullivan, STAR Coordinator (USGS)

July STAR Meeting
7/24/2025

10 Watershed Agreement Goals

Sustainable Fisheries

Climate Resiliency

Vital Habitats

Land Conservation

Water Quality

Stewardship

Toxic Contaminants

Public Access

Healthy Watersheds

Environmental Literacy

A vast amount of science is required
to support achievement of CBP goals and outcomes.

The Strategic Science & Research Framework was developed to leverage, enhance, and expand science the CBP needs

The Strategic Science and Research Framework (SSRF) provides a strategic approach to:

1.) **Gather, track, and maintain** science needs identified for supporting progress towards achieving each outcome

2.) Focus **existing resources** to help address the science needs

3.) Identify work priorities for applying **new resources**

4). **Expand CBP science capacity** through more partnerships

- There was no single place to refer to for tracking and accounting of science needs across the CB Partnership's vast amount of work

- There was no clear Adaptive Management Framework guiding the restoration process

- The lack of such structure meant that multiple groups could be simultaneously working on the same issue, competing for the same limited resources, without their knowledge or coordination.

- Coincidentally, some priority science needs went unmet because they were not well known or understood to be in need of action and of importance in providing critical decision support to the CBP

Before the SSRF and Strategy Review System…

- There was no single place to refer to for tracking and accounting of scienceand data needs across the CB Partnerships vast amount of work

- There was no clear Adaptive Management Framework guiding the restoration process

- The lack of such structure meant that multiple groups could be simultaneously working on the same issue, competing for the same limited resources, without coordination.

- Coincidentally, other priority science and data needs went unmet because they were not well known or understood to be in need of action as important to provide critical decision support to the CBP

The adoption and application of SSRF and SRS by CBP directly addressed ineffectiveness and inefficiency issues recognized as affecting productivity in the work of the CBP towards achieving Bay restoration goals and outcomes.

Why was SSRF Developed?

Developed in response to a Management Board request in 2018 to understand the science needs of the outcomes being generated from the **Strategy Review System** activities:

August 2018 Request from MB:

"The SRS small group will compile into a list the SRS data and science needs requests. This list will be shared with STAR and STAC leadership and the CBP associate directors for input. The Management Board will review the 2017-18 SRS requests to prioritize science and data needs. The Management Board will present their prioritization during the 2019 SRS Biennial meeting."

Why was SSRF Developed?

- 2018 Solicited Feedback from STAC and GITs:
  - The science needs and the strategy to address them should be connected to the decision framework and the SRS process
  - We need to look strategically at the science needs on a regular basis – suggest developing a process repeatable every 2 years with SRS reviews (Strategic Science & Research Framework)
  - Need to take into account operational vs. fundamental science
  - Incorporate STAC workshop recommendations into the list
  - Don't prioritize numerically like we do for cross-GIT funding
  - Look holistically at whole list to see where there are common themes, where there are gaps in resources and opportunities to address
  - MB can help identify opportunities to address gaps
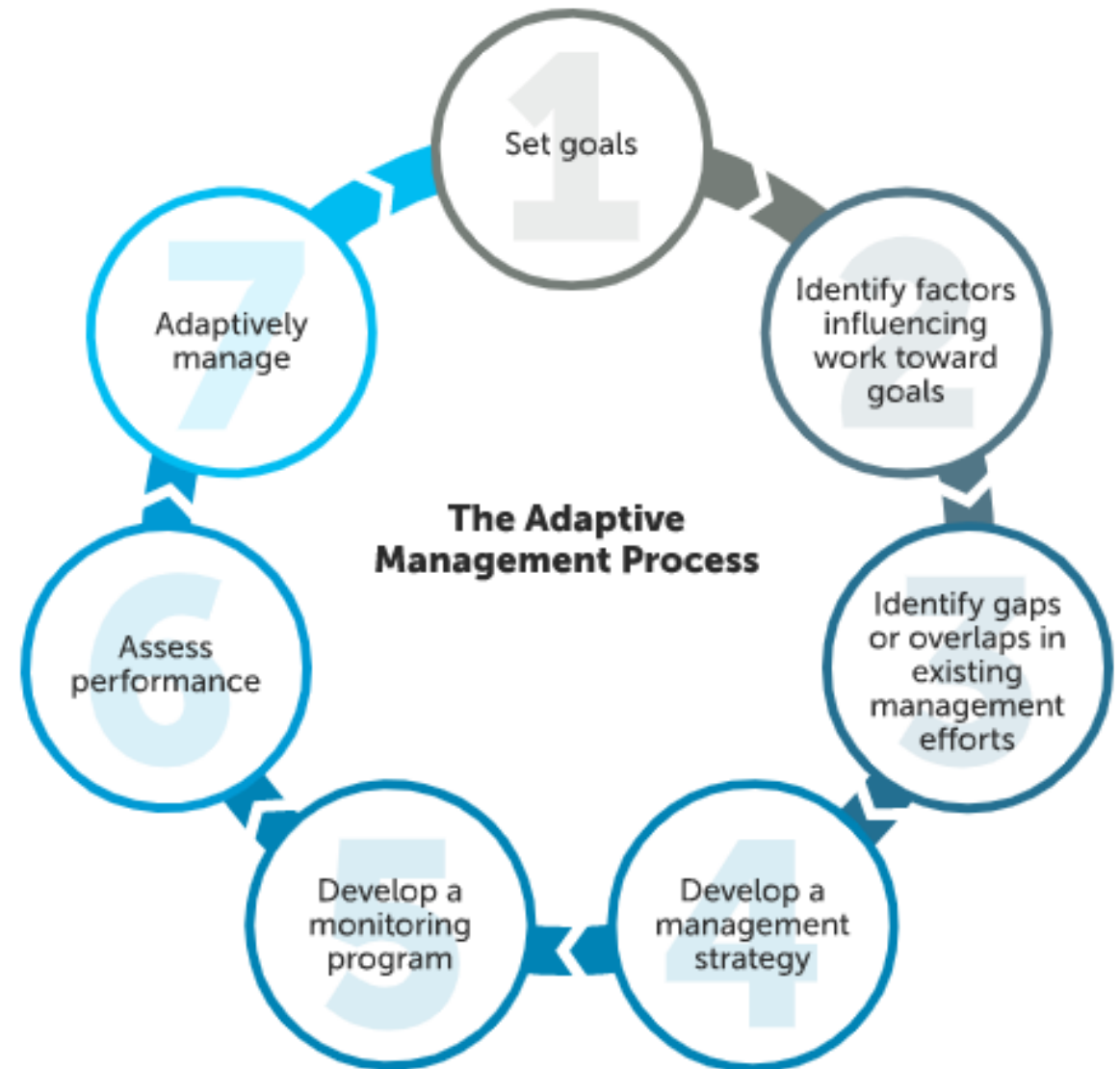
SSRF is managed by STAR

STAR offers:

- Close interaction with GITs and input from STAC
- Science support
- Management of Database
- Support toward identifying opportunities with other science providers
- Support identifying needs through SRS
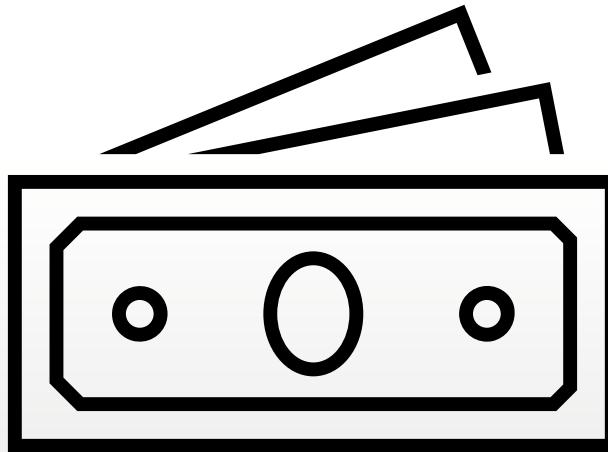- Meeting support connected to SRS

Strategy Review System
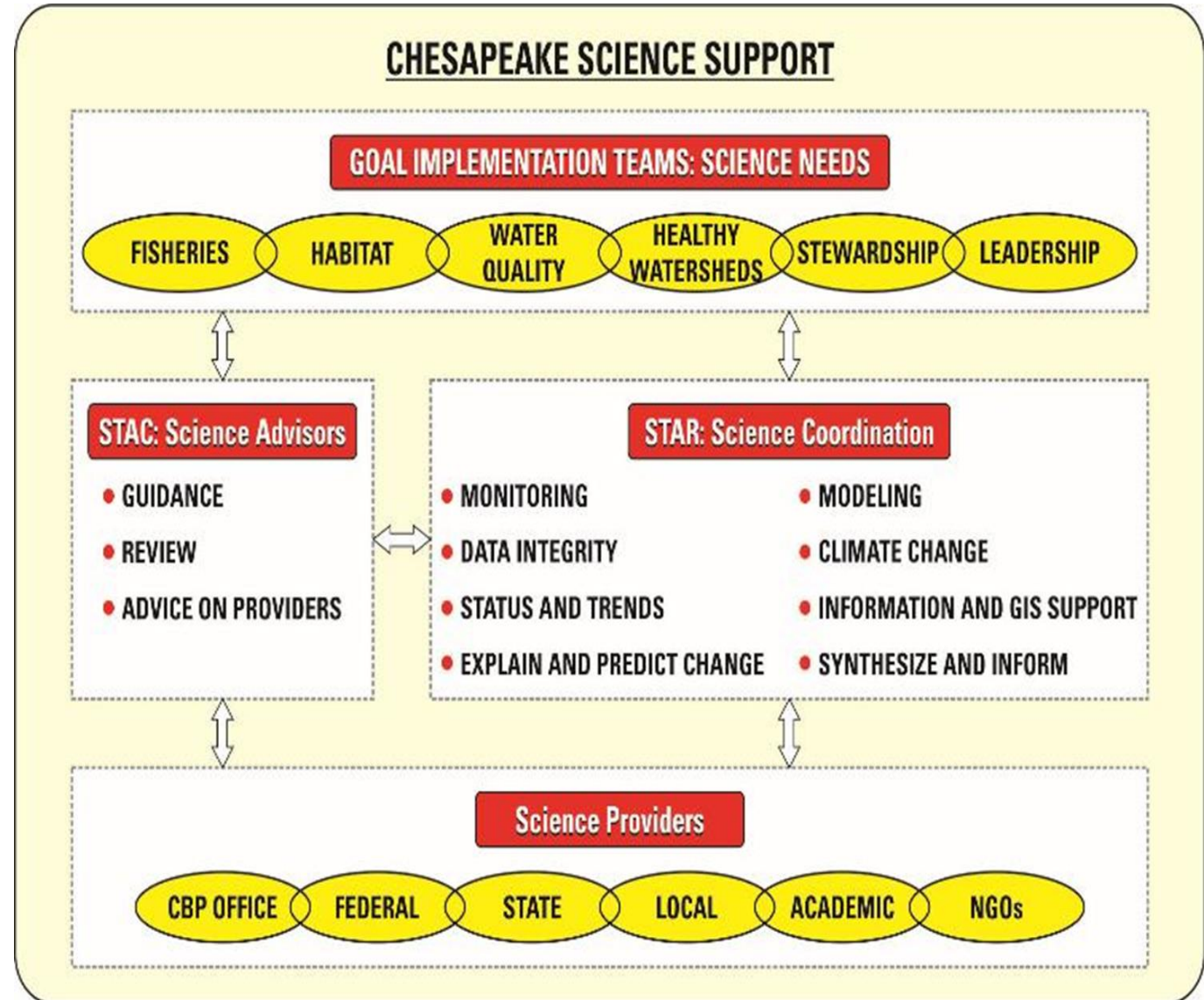
Adaptive Management Framework:

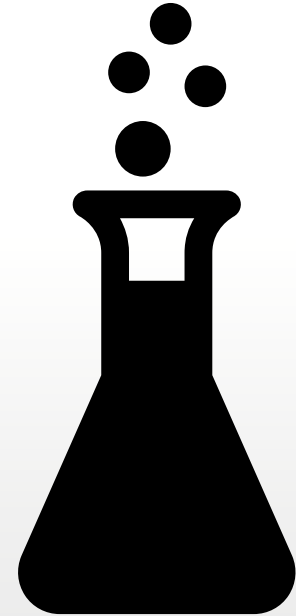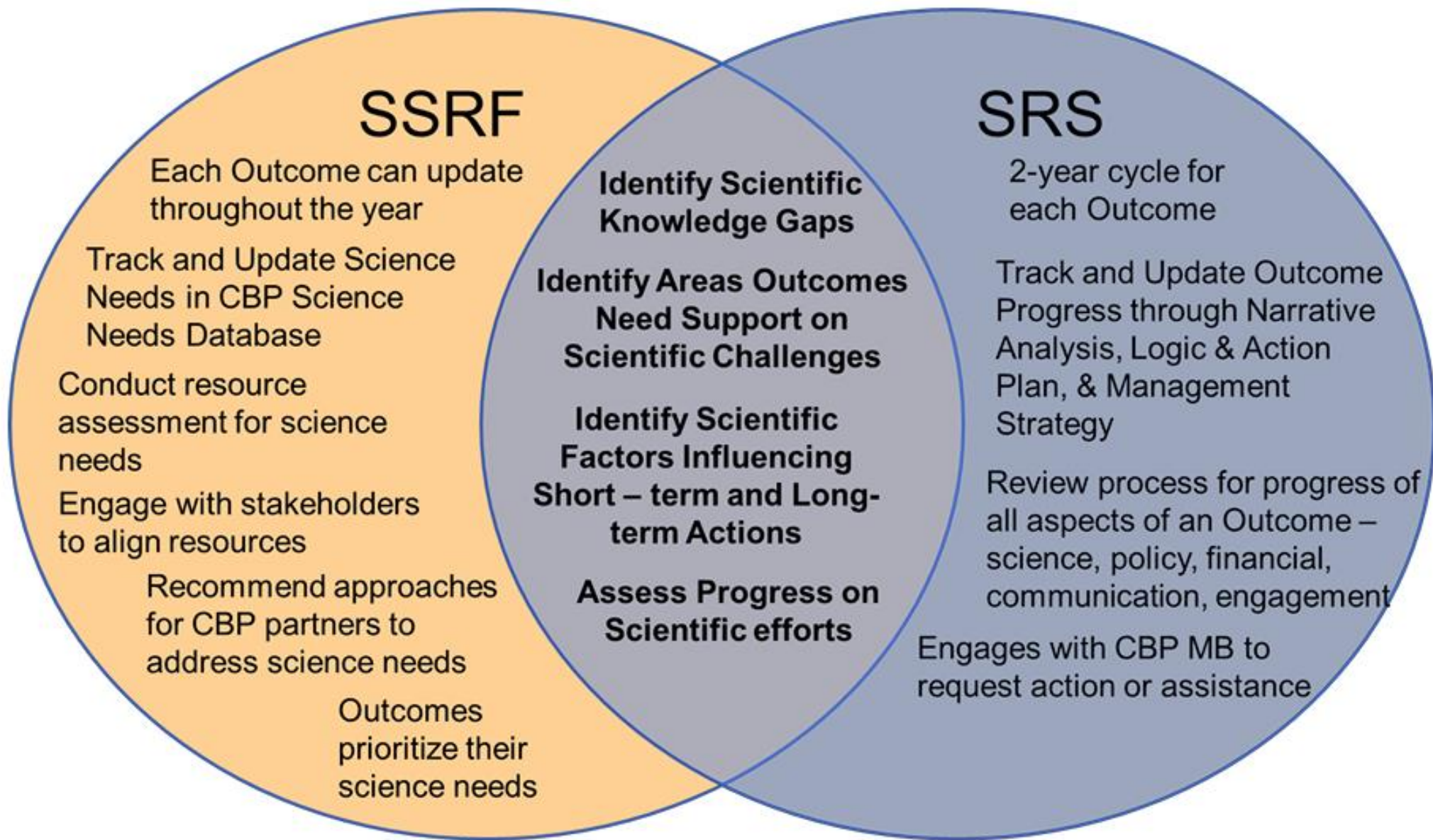Allows the CBP to take action, monitor results, assess progress, and adjust efforts as needed

The Adaptive Management Process

1. Set goals
2. Identify factors influencing work toward goals
3. Identify gaps or overlaps in existing management efforts
4. Develop a management strategy
5. Develop a monitoring program
6. Assess performance
7. Adaptively manage

Policy	Finance	Science

Chesapeake Bay Program: Science Needs Database

All science needs are available on the database:
https://star.chesapeakebay.net/

Used by science providers to **identify projects of interest on which to engage CBP** and help inform decision-making, management, and policy needs.

New Feature!

Outcomes can now directly add their own science need to the database!

SSRF: Increasing Science Capacity

Chesapeake Bay Program

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Chesapeake Bay Program Office:
STAR

SSRF: Increasing Science Capacity

Chesapeake Bay Program
Science. Restoration. Partnership.

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│ Chesapeake Bay Program Office:       │
│ STAR                                 │
└─────────────────────────────────────┘
        │            │            │
  ┌──────────┐  ┌──────────┐  ┌──────┐
  │ Modeling │  │Monitoring│  │ GIS  │
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  │          │  │ Analysis │  │      │
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SSRF: Increasing Science Capacity
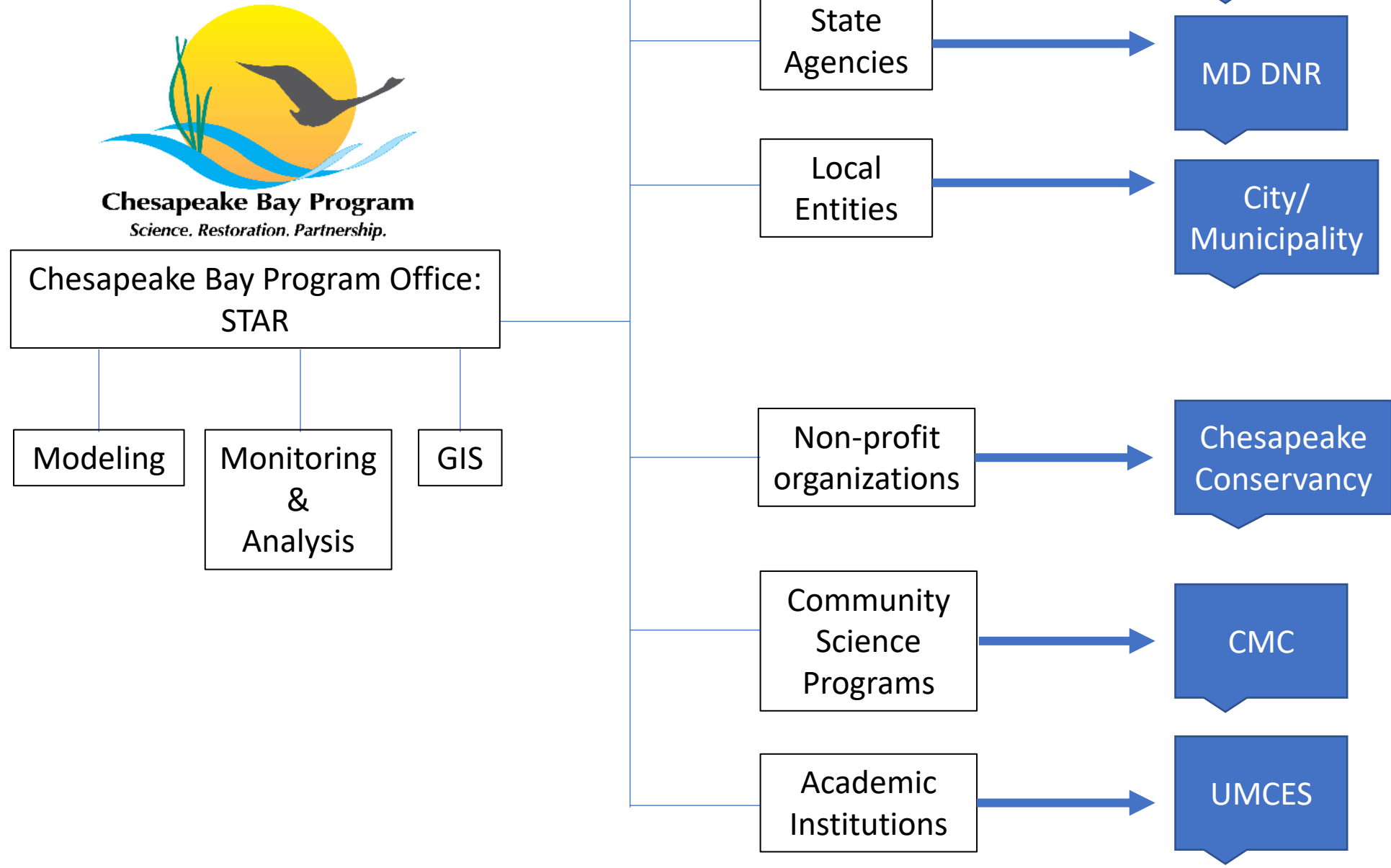
Chesapeake Bay Program

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Chesapeake Bay Program Office: STAR

- Modeling
- Monitoring & Analysis
- GIS

- Federal Agencies → USGS
- State Agencies → MD DNR
- Local Entities → City/ Municipality

- Non-profit organizations → Chesapeake Conservancy
- Community Science Programs → CMC
- Academic Institutions → UMCES

SSRF: Increasing Science Capacity

1.) EPA Office of Research and Development ROAR proposals

2.) GIT Funding (Previously)

3.) Academic Institution Faculty Member

4.) NOAA Fisheries Grants

5.) Environmental Management Career Development Program

6.) Interns
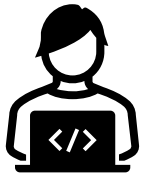
Increasing Capacity: Examples of Additional Resources

Outcome	Need	Resource
Toxics Contaminant	PCB Storymap	CBP GIS Team and STAR Staffer
Water Quality Standards Attainment	Tidal Trends Analysis and Tributary Summary updates	C-StREAM and Franklin and Marshall Interns
SAV	Aquaculture impacts on SAV in MD and VA	St. Mary's College of Maryland and VIMS (Academia)
Monitoring and Assessment	Quantification of carbon sequestration from tidal wetlands and SAV and potential application of restoration efforts in carbon market	EPA ROAR

1) PSC Monitoring Report

2) STAC Rising Water Temperature Workshop

3) USGS Science Strategy

The CBP needs support from partners and strategic direction from science even more now, but there is no clear structure on how science needs are included in CBP decisions.

Leading the Partnership

The Chesapeake Bay Program includes three levels of leadership that are designed to carry out the partnership's vision for the Chesapeake Bay watershed.

Chesapeake Executive Council

Principals' Staff Committee

Management Board

SSRF Summary

- SSRF provides a way to gather, track, and maintain a record of science needs highlighted for supporting achievement for each outcome
- Addressing all the science needs identified to help achieve Watershed Agreement outcomes exceeds the current capacity of our GITs/WGs.
- GIT Funding served as a guaranteed resource for GITs to address their science needs, however, GIT Funding is no longer available.
- Identifying science needs closely aligns with the SRS process and timeline.
- Science needs have guided decisions in prioritizing funding and CBP work efforts.
- Utilizing the database/needs from GITs needs to be more strategically included in CBP decisions.

- **Planning our work:** What aspects of identifying science needs did you like/not like through SRS? What touch points would you want with STAR? How will science needs be shared across the partnership?

- **Prioritizing our work:** How can science needs be utilized to prioritize our work? How can it be a part of the decision-making/resource allocation process?

- **Managing our work:** What aspects of the database do you like/not like?

- **Reviewing our work:** When is reviewing/identifying the science needs best done and to what degree of frequency?

Mentimeter Survey

Menti link

MB & their agencies: MB can suggest how collective resources should evolve; agencies represented can identify their own resources to address needs; Consult with SSRF as part of drafting RFAs

GITs: Can identify projects for GIT RFPs; can determine common needs; represented agencies can identify how to evolve efforts

CBP Office: Evolve EPA grants and contracts to address needs; evolve focus of CBP modeling, monitoring, research, GIS; Consult with SSRF as part of your analysis and prioritization when making budget decisions.

STAR: Updates activities and workgroups to address science priorities to support GITs; evolve directions of CMC; identify science providers to address needs

STAC: inform STAC research priorities and selection of workshops; individual researchers can be providers