



Science Advisory Committee

June 9th, 2023

In-person attendees: Please write your name and affiliation on the sign-in sheet

Virtual attendees: Please type your name and affiliation in the chat

Today's Agenda

- Welcome Back - SAC Co-chairs Drs. Dr. John Lehrter and Amy Hunter
- Review and Approval of Minutes
- Updates and Presentations
 - Science in Residence Candidate Interview presentations
 - Q+A session following each presentation
- Announcements
 - Announcement of upcoming SAC co-chair transition (September 2023) – Dr. John Lehrter, Dauphin Island Sea Lab, Dr. Amy Hunter, ADCNR-DWH Restoration
 - Other announcements
- Adjourn



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Science in Residence: RFQ Interview Presentation

Overview and Scope

Science in Residence RFQ Tasks

1. Coordinate the next *State of the Bay*
2. Lead the team developing the Western Shoreline Comprehensive Management Plan
3. Elevate the work of the Comprehensive Mobile Bay Watershed (Decadal) Study within the SAC
4. Expand the list of SAC participants and facilitate refinement of the SAC's charge within the MBNEP





Review Team

- Blair Morrison, MBNEP
 - Jason Kudulis, MBNEP
 - John Valentine, SAC
 - LaDon Swann, SAC
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- Today, the SAC membership has the opportunity to ask questions, discuss approach, and give feedback to candidates

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Science in Residence: Interview Presentation

Environmental Science Associates

MBNEP Science in Residence



SAC Meeting June 9, 2023



Barry Vittor &
Associates



Team

Environmental Science Associates (ESA)

Overall Approach

- Enhance the scientific expertise provided by the MBNEP related to project management and science communication efforts and improve support for the work of the SAC.
- Integrated and multidisciplinary team

KEY PERSONNEL	Task 1: State of Alabama's Estuaries and Coast	Task 2: Western Shoreline Comprehensive Management Plan Project Advisor	Task 3: Elevate the work of the Comprehensive Mobile Bay Watershed Study	Task 4: Expand the SAC participation of scientists including facilitating refinement of the SAC's charge within the MBNEP
Chris Warn	ü	ü	ü	ü
Tim Thibaut	ü	ü	ü	ü
Barry Vittor, PhD	ü	ü	ü	ü
Doug Robison, PWS	ü		ü	
Bryan Flynn, PE	ü	ü	ü	
Emily Keenan	ü		ü	
Bob Woithe, PhD, SPWS, CSE	ü		ü	
Lindsey Sheehan, PE	ü	ü	ü	
Matt Deniston	ü		ü	ü
Sheryl Schown	ü		ü	ü

Team



Chris Warn Firm: ESA Years of Experience: 25
Degree/Certifications: B.S. Earth Systems Science & Policy
Expertise: Project Management, watershed management, habitat restoration



Tim Thibaut Firm: BVA Years of Experience: 35
Degree/Certifications: M.S. Zoology; B.S. Marine Biology
Expertise: Aquatic ecosystem ecology, habitat restoration



Barry Vittor, PhD Firm: BVA Years of Experience: 52
Degree/Certifications: Ph.D. Ecology; M.S. Biology; B.S. Zoology
Expertise: Coastal ecology, habitat restoration

Team



Doug Robison, PWS Firm: ESA Years of Experience: 39
Degree/Certifications: M.S. Marine Science; B.S. Environmental Science; PWS
Expertise: Marine and freshwater ecology, water quality, habitat restoration



Bryan Flynn, PE Firm: ESA Years of Experience: 20
Degree/Certifications: M.E. Civil Engineering/Water Resources, B.S. Ocean Engineering; PE
Expertise: Coastal engineering, living shorelines, habitat restoration



Emily Keenan Firm: ESA Years of Experience: 17
Degree/Certifications: M.S. Oceanography and Coastal Sciences; B.S. Zoology
Expertise: Water quality

Team



Bob Woithe, PhD Firm: ESA Years of Experience: 30
Degree/Certifications: PhD & M.S. Systems Ecology & Environmental Engineering Sciences; B.S., Biology; SPWS, CSE
Expertise: Watershed management, water quality



Lindsey Sheehan, PE Firm: ESA Years of Experience: 12
Degree/Certifications: M.S., Environmental Fluid Mechanics and Hydrology; BS, Environmental Engineering; PE
Expertise: Climate vulnerability, habitat migration modeling



Sherryl Schown Firm: ESA Years of Experience: 28
Degree/Certifications: M.S. Systems Engineering; B.S. Business Administration
Expertise: Data management, communicating science



Matt Deniston Firm: ESA Years of Experience: 28
Degree/Certifications: B.S. Engineering
Expertise: Data management, communicating science

Project Components

1. State of the Alabama's Estuaries and Coast
2. Western Shoreline Comprehensive Management Plan
Project Advisor
3. Elevate the work of the Comprehensive Mobile Bay
Watershed Study
4. Assist with the refinement/expansion of the SAC

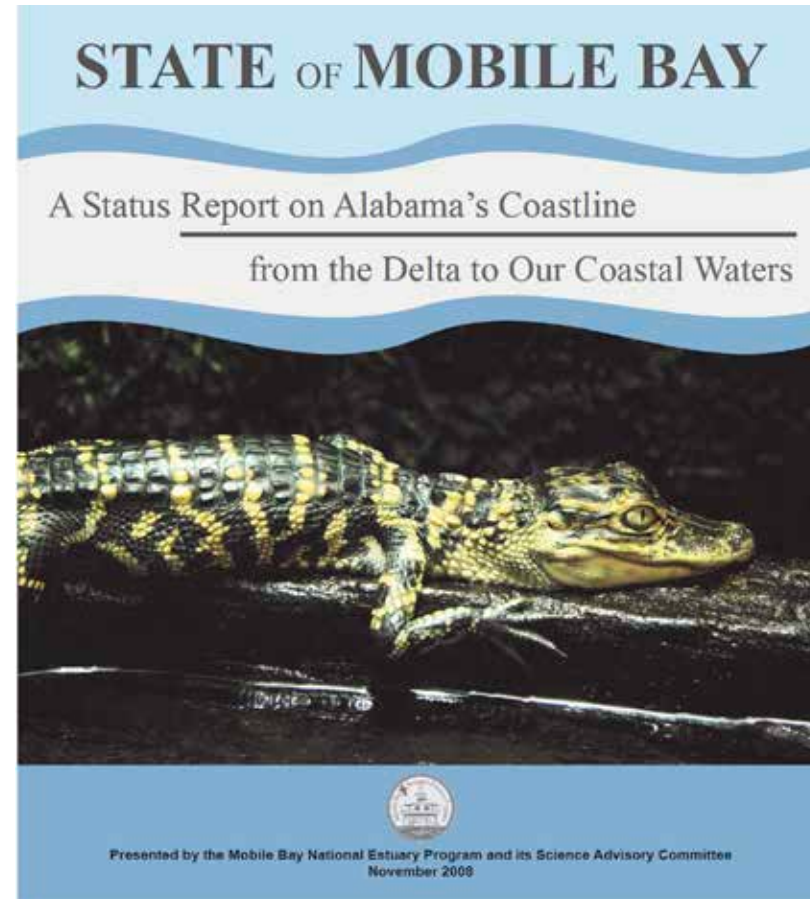


State of the Alabama's Estuaries and Coast

The last MBNEP State of the Bay report was published fourteen years ago.

Since then, there has been more development, leading to continued habitat loss and degradation.

Environmental conservation and restoration programs have been implemented and are ongoing.



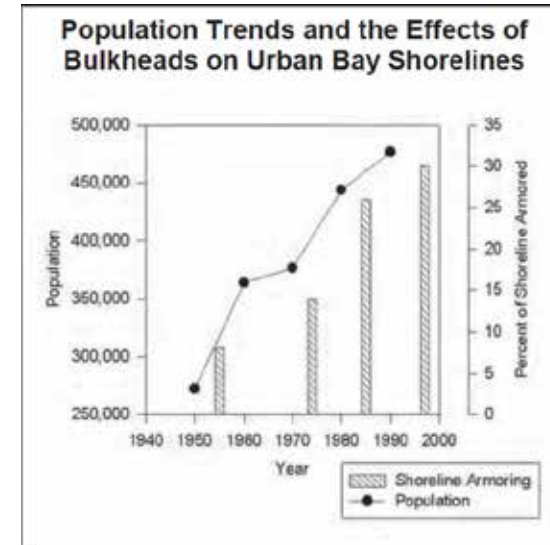
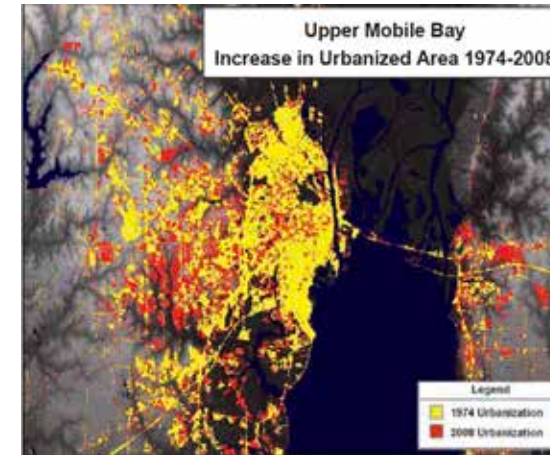
State of the Alabama's Estuaries and Coast

Human Impacts: Changing Our Alabama Coast

Indicator #1: Population Change—Is it impacting the Alabama Coast?

Indicator #2: Land Use Change—Are land use changes impacting the Alabama coast?

Indicator #3: Hydrologic and Bathymetric Changes—Has the extent of physical/chemical alteration of the watershed been reduced or managed?



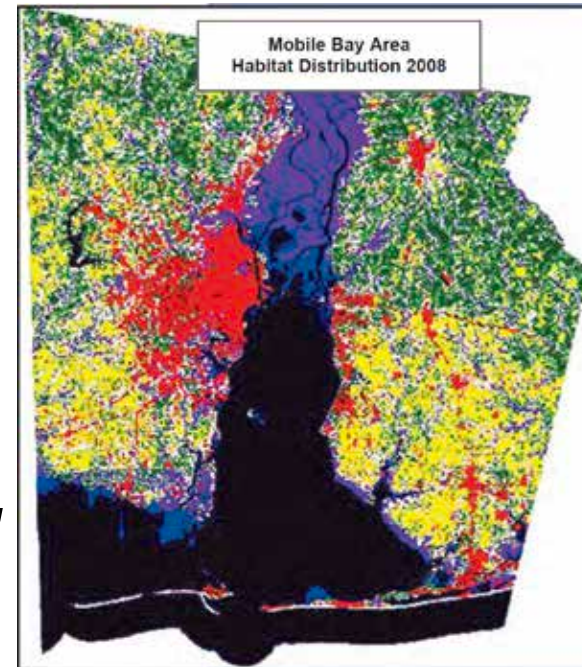
State of the Alabama's Estuaries and Coast

Habitats: Maintaining Our Coastal Quality of Life

Indicator #4: Acres of Habitat by Type—Are natural habitats being managed to maintain sufficient populations, diversity, distribution, connectivity, and natural functions?

Indicator #5: Acres of Habitat Protected or Restored—Is progress being made to conserve, protect, and restore our coastal habitats?

Indicator #6: Shoreline Change—Has the extent of shoreline change been reduced or managed?



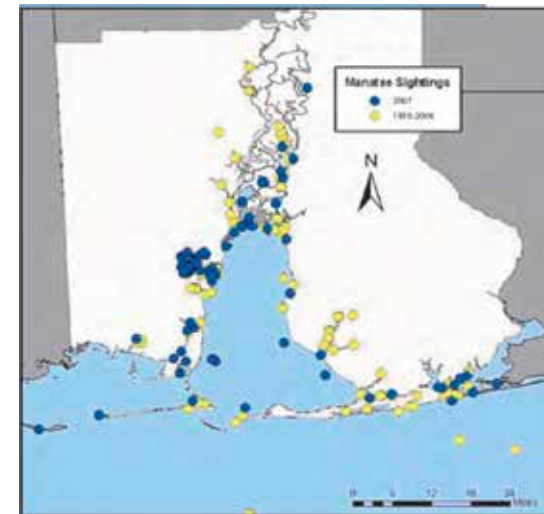
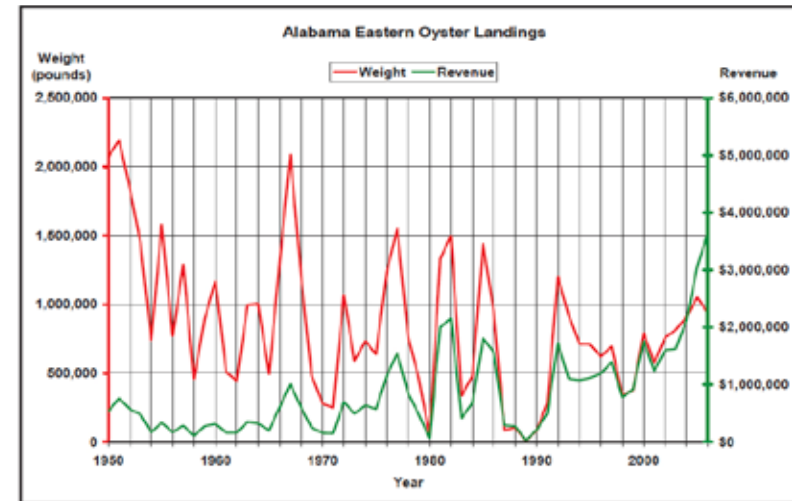
State of the Alabama's Estuaries and Coast

Living Resources: Ensuring Species Richness

Indicator #7: Sustaining Fishery Populations—Are fish populations stable?

Indicator #8: Threatened / Endangered Species—Are threatened and endangered species rebounding?

Indicator #9: Invasive Species—Are introduced, non-native species a problem?



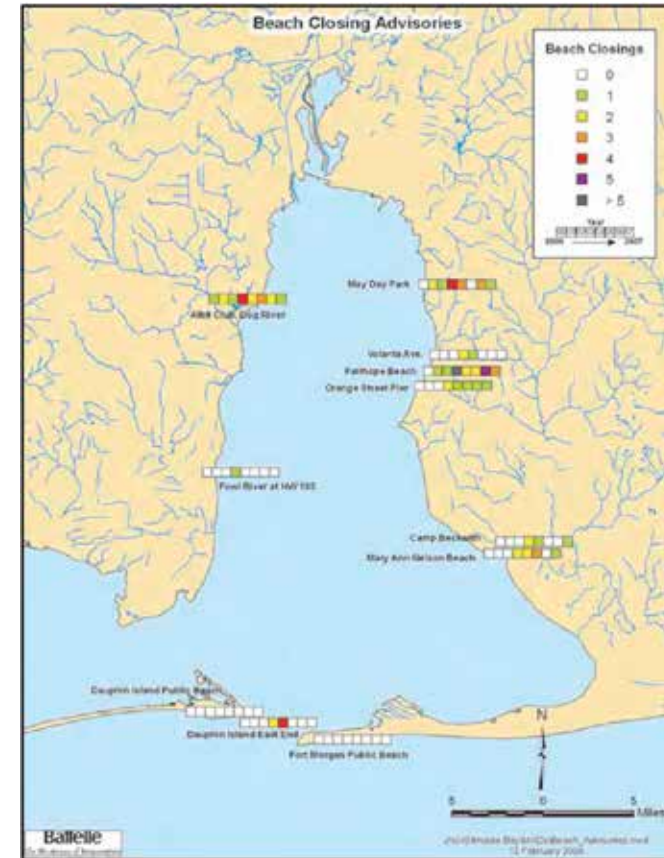
State of the Alabama's Estuaries and Coast

Water Quality: Protecting Our Primary Resource

Indicator #10: Toxicity—Are concentrations of toxic substances a cause for concern?

Indicator #11: Pathogens: Coliform and *Enterococcus*—Is the water safe for bodily contact?

Indicator #12: Nutrients—Is water quality sufficient to sustain aquatic life? Is water clarity changing over time?



State of the Alabama's Estuaries and Coast

Water Quality: Protecting Our Primary Resource

Indicator #13: Municipal Wastewater Permit Violations—Does the quality of our waters impact its use?

Indicator #14: 303(d)-listed Streams—Are our coastal waters impaired?

303(d)-Listed (Impaired) Waterbodies in Mobile and Baldwin Counties 19

<i>Waterbody</i>	<i>County</i>	<i>Cause</i>	<i>Date Listed</i>
Baker Branch	Baldwin	OE/DO	2006
Bay Minette Creek	Baldwin	Hg	2000
Bayou La Batre River	Mobile	N, pH, OE/DO, O&G, P	1996
Blackwater River	Baldwin	Hg	1998
Boggy Branch	Mobile	Fe, P	1998
Bolton Branch (1 st seg)	Mobile	P	2004
Bolton Branch (2 nd seg)	Mobile	P	2006
Bon Secour Bay	Baldwin	P	1998
Bon Secour River (1 st seg)	Baldwin	Hg	2006
Bon Secour River (2 nd seg)	Baldwin	Hg	2006
Caney Branch	Baldwin	P	1998
Chickasaw Creek (1 st seg)	Mobile	pH, Hg	1998
Chickasaw Creek (2 nd seg)	Mobile	Hg	2004
Chickasaw Creek (3 rd seg)	Mobile	Hg	2004
Cold Creek Swamp	Mobile	Hg	1996
Collins Creek	Mobile	P, As	2000
Dog River (1 st seg)	Mobile	N, pH, OE/DO ^{TML} , P ^{TML}	1994
Dog River (2 nd seg)	Mobile	OE/DO ^{TML} , P ^{TML}	2004
E. Fowl River/Fowl River	Mobile	Hg	1996
Eight Mile Creek	Mobile	p ^{TMDL}	1998
Escatawpa River	Mobile	Hg	2000
Eslava Creek	Mobile	P	2004
Fish River	Baldwin	pH, Hg, P	1996

State of the Alabama's Estuaries and Coast

Community Involvement: Changing the Future

Indicator #15: Outreach and Education—Are there opportunities for citizens to take action to help restore and/or protect the bay



Western Shoreline Comprehensive Management Plan Project Advisor

The Western Shore WMP recommended development of a comprehensive management plan focusing on the Western Shoreline, an area highly impacted by erosion and loss of natural habitat due to residential development.



The main goal of the Western Shoreline Comprehensive Management Plan is to provide nature-based alternatives to hardened seawalls and bulkheads to protect shoreline property against waves.

Western Shoreline Comprehensive Management Plan Project Advisor

Assist the MBNEP and the selected contractor with project planning and provide scientific and engineering advice and expertise to assure the recommendations put forward in the plan are based on the best available science, balancing resource protection with community uses and values.



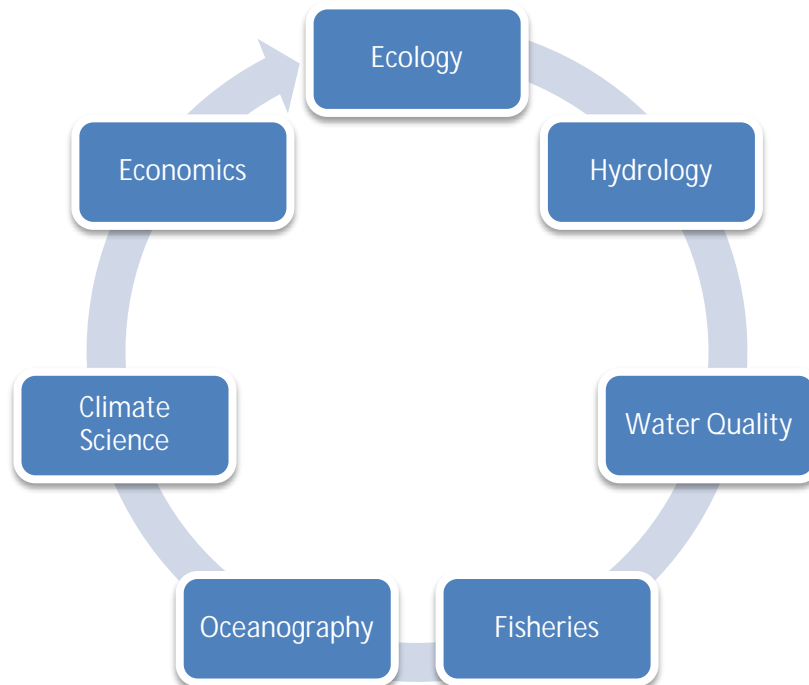
Elevate the Work of the Comprehensive Mobile Bay Watershed Study

The goals of the CMBWS project are:

- (1) To improve understanding of how human-induced stressors affect three flagship species of commercial and recreational fisheries in the Northern Gulf of Mexico, i.e., oyster, blue crab, and spotted seatrout; and
- (2) Based on the improved understanding, devise management policies to ensure the resilience and sustainability of these fisheries.

Elevate the Work of the Comprehensive Mobile Bay Watershed Study

- The team of investigators in the CMBWS is large and diverse.
- Meeting the goals of the CMBWS requires cross-disciplinary collaboration.



Elevate the Work of the Comprehensive Mobile Bay Watershed Study

To assure the project generates tangible products applicable to specific management needs, the larger project team includes local managers and stakeholders, including:

- Alabama Department of Conservation and Natural Resources (ADCNR)
- ADCNR Division of Marine Resources
- The Nature Conservancy (Alabama Chapter)
- The MBNEP, and
- NOAA technical monitors overseeing the project's progress

Elevate the Work of the Comprehensive Mobile Bay Watershed Study

Our Team will compile and analyze information in collaboration with the SAC and gain feedback, working in close coordination with Dr. John Lehrter as the Principal Investigator of the CMBWS.



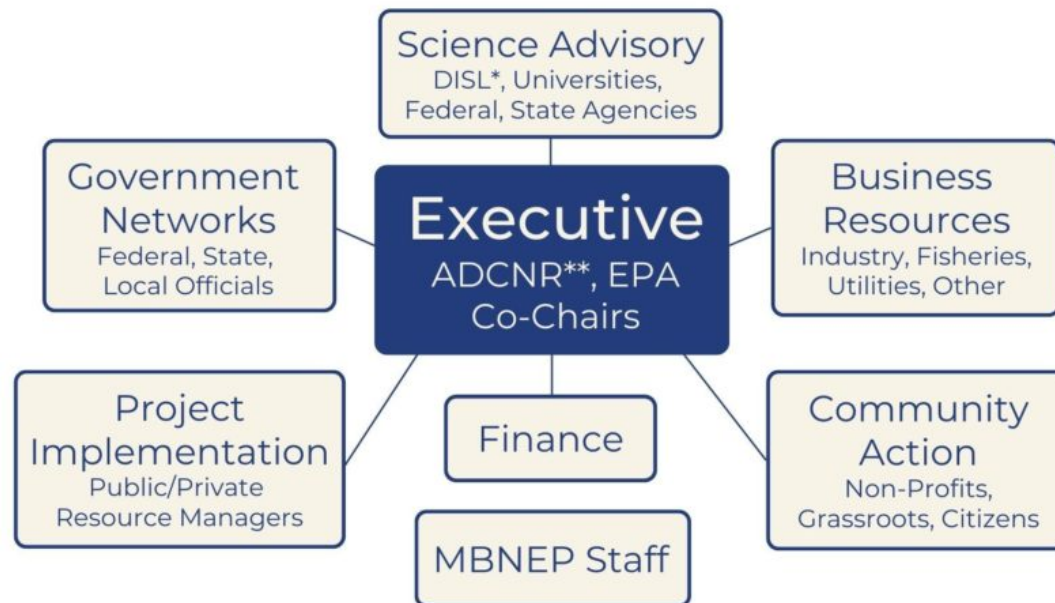
Elevate the Work of the Comprehensive Mobile Bay Watershed Study

The ESA Team will periodically meet with the SAC on the latest progress with the CMBWS, with the following objectives:

1. SAC members who are not investigators in the project will offer another layer of peer review, or quality control/quality assurance, helping vet the results and conclusions of the study.
2. The SAC, armed with new information provided by the CMBWS, will be better suited to use this information for their work, and also spread it through their networks so the results from the study can be used by parties beyond the SAC.
3. We will solicit input from the SAC as to how to develop and implement the CCMP using the information generated with the CMBWS.

Assist With the Refinement/Expansion of the SAC

The ESA Team will work in close coordination and consultation with the MBNEP and SAC to refine the charge of the SAC and to actively recruit or re-engage targeted expertise to the SAC to better advise the MBNEP and Management Conference.



Assist With the Refinement/ Expansion of the SAC

- The SAC will play an essential role in the composition and publication of the State of Alabama's Estuaries and Coast report.
- The SAC will have the opportunity to provide input to the Western Shoreline Comprehensive Management Plan, significantly contributing to its success.
- The SAC will have important roles to elevate the relevance, impact, and overall effectiveness of the CMBWS.
- The SAC will have the opportunity to provide input as to how the results from the CMBWS can be used to implement the next CCMP, thereby having a direct say in its structure, applicability, and reach.

Questions?



ESA



SAC Meeting

June 9, 2023



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Associates





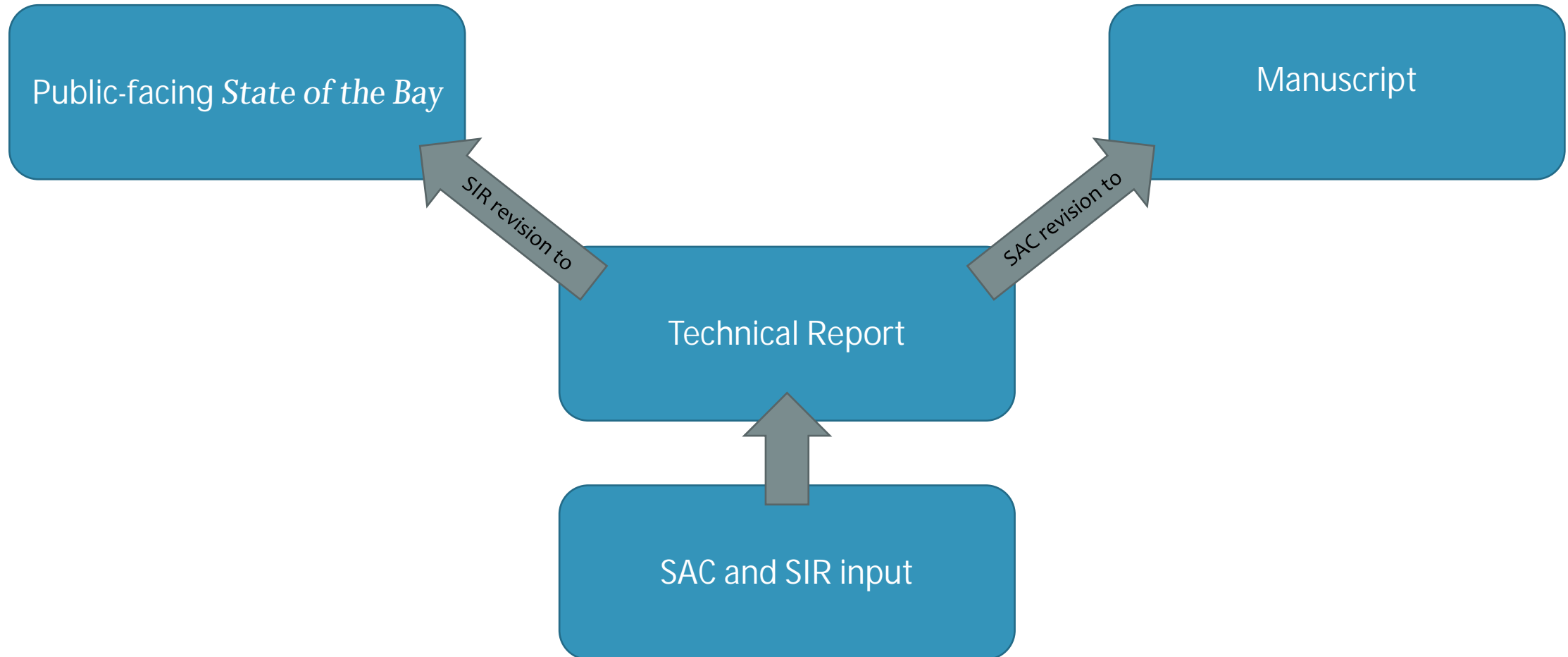
Q+A Session

Off-cycle Meeting to Discuss Plan for *State of the Bay*

- Science in Residence Team, SAC members, additional scientists, and MBNEP staff
- 1-day Workshop to discuss format/structure of *State of the Bay document*, indicators, working groups, and project timeline
- Will send a Doodle poll for scheduling



Potential Workflow



Announcements

- *Upcoming SAC Co-chair Transition*
- *Baykeeper Scope – September Agenda Item*
 - *Future SAC meetings @ USA?*
 - *Baldwin Co. Monitoring Meeting*
 - *Other Announcements*



Thank You For Attending!