

APALACHICOLA BAY SYSTEM INITIATIVE

COMMUNITY ADVISORY BOARD PHASE IV MEETING II — 30 MARCH 2022

FACILITATOR'S SUMMARY REPORT

APPROVED UNANIMOUSLY 25 MAY 2022

APALACHICOLA NATIONAL ESTUARINE RESEARCH RESERVE
EASTPOINT, FLORIDA



MEETINGS FACILITATED AND SUMMARIZED BY JEFF A. BLAIR

**APALACHICOLA BAY SYSTEM INITIATIVE COMMUNITY ADVISORY BOARD
30 MARCH 2022 FACILITATOR’S MEETING SUMMARY REPORT**

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OVERVIEW OF APALACHICOLA BAY SYSTEM INITIATIVE COMMUNITY ADVISORY BOARD'S KEY ACTIONS

WEDNESDAY, MARCH 30, 2022

I. MEETING SUMMARY AND OVERVIEW

At the 30 March 2022 meeting conducted at the Apalachicola National Estuarine Research Reserve (ANERR) in Eastpoint, Florida the Apalachicola Bay System Initiative (ABSI) Community Advisory Board (CAB): received an overview of the updated Project Workplan and schedule; received an update on ABSI science and data collection; received reports and updates from the CAB Successor Group Subcommittee, Restoration Funding Working Group, and Community Outreach Subcommittee; provided guidance for the development of the Fisheries (Socioecological) Model developed by Ed Camp from the University of Florida; and engaged in a discussion with FWC staff on management strategies. Specific actions included: 1) Unanimously agreeing by consensus to approve and support the approach as recommended by the CAB for the Community Outreach Subcommittee's Community Outreach Initiative to provide community outreach and education, and opportunities for soliciting community feedback on the ABSI and the CAB's draft strategies for restoration and management; and 2) Unanimously agreeing by consensus to approve three initial scenarios for evaluation by the Fisheries (Socioecological) Model: A) Limited entry commercial oyster fishery; B) Active management of the oyster resource using an oyster abundance minimum density

threshold; and C) A combination of limited entry (Scenario A) and active management (Scenario B). Each of these scenarios will initially be evaluated with a spatially implicit model (for simplicity, time, and potential practicality should only a limited area be opened). This will require making assumptions about the area of submersed land that is open for oyster harvest and specifically that is being considered when making density calculations (for Scenario B). These areal measurements have not been assessed.

The CAB agreed to the following assumptions for use in evaluating the scenarios:

- 1) Oystermen will harvest oysters (fish) whenever the weather and regulation permit.
- 2) \$80,000 is the initial annual gross income level that oyster harvesters identified as requisite for earning a “good” living solely from oysters harvesting, and which would guarantee economic self-sufficiency*. Additional economic work to understand minimum income thresholds (annual and/or revenue per effort) will be empirically assessed in summer/fall 2022 as part of the economic surveys associated with Ed Camp’s FWC oyster project.
- 3) A likely bag limit of 5 – 6 bags/day, and a selling price of \$100/bushel of oysters.
- 4) Oyster harvest allowed 7-days/week during open times.
- 5) Oyster harvest allowed all months during open times and areas. Note: this is an initial assumption that can be altered or relaxed for future scenarios.
- 6) Use a range of 5% low to 30% high to account for illegal harvest, potentially related to changes in enforcement.
- 7) 200 bushels/acre metric as threshold for sustainable harvest/habitat.
- 8) The spatially implicit scenarios implies assuming the pre-closure amount of closed and thus open areas. However, there was some stakeholder support for considering an even more spatially limited fishery, at least initially.
- 9) Calculate the maximum number of participants the resource can sustain under different assumptions of income and bag limits. Initial scenario results will use income of \$80,000 annual gross and 5 bag/person/day limit, but of course changing these variables will affect maximum number of participants (less income, lower bag limits will generally allow more participants).
- 10) Run the initial simulations of the scenarios two ways with the overarching assumption that: 1) oyster habitat restoration works and improves the oyster population abundance specifically and the Bay generally to a threshold sufficient to support some level of sustainable commercial oyster harvesting; and 2) restoration of the Bay and oyster reef habitat does not work as predicated and the health of the Bay is not sufficiently improved to support a sustainable oyster reef habitat together with commercial oyster harvesting.
- 11) Additional assumptions not explicitly addressed include:
 - Assuming constant pathology that is subsumed by past estimates of natural mortality of oysters. That is, we’re not modeling changes in oyster disease right now.
 - Assuming natural mortality has not been dramatically altered by some unknown predator or environmental variable.
 - Latent effort (demand to harvest oysters) exists.

II. WELCOME AND INTRODUCTIONS

Jeff Blair, ABSI CAB Facilitator, opened the meeting at 8:30 AM and welcomed all participants.

SOCIAL SCIENCE SURVEY

The ABSI CAB members are participating in a Social Science Survey that is conducted at the beginning of each meeting to gauge participants' perspectives and attitudes regarding science and data, and stakeholder relationships throughout the ABSI CAB process. Ed Camp, University of Florida, is conducting the Survey that was first administered during the October 2020 meeting and will be continued throughout the duration of the ABSI CAB process. There was not a social science survey administered for the March meeting.

OYSTER DOCUMENTARY FILM

Chucha Barber Productions is making a documentary on oysters called *Unfiltered: The Truth About Oysters* and filmed footage of the ABSI CAB. They filmed the CAB on a couple of different occasions including the March meeting. Information on the film can be viewed at: <https://www.oyster.film/>

III. ABSI CAB MEETING PARTICIPATION

The following CAB members participated in the Wednesday, March 30, 2022 meeting conducted virtually via webinar and teleconference:

Georgia Ackerman, Jim Estes, *Frank Gidus*, Chad Hanson, Jenna Harper, Shannon Hartsfield, Gayle Johnson, Katie Konchar, Erik Lovestrand, *Chuck Marks*, Roger Mathis, Mike O'Connell, Steve Rash, Portia Sapp (Carrie Jones designated alternate), Chad Taylor, and *Paul Thurman*.

** Members who participated virtually are italicized.*

(16 of 22 members participated — 73%).

Absent CAB Members:

Mike Allen, Bert Boldt, Anita Grove, Alex Reed (Jenna Harper is also representing DEP), John Solomon, and TJ Ward.

PROJECT TEAM MEMBERS PARTICIPATING

Jeff Blair, Sandra Brooke, Ross Ellington, Joel Trexler, and Rachel Walsh.

(Attachment 2 — Meeting Participation)

MEETING FACILITATION

Meetings are facilitated and meeting reports prepared by Jeff Blair of Facilitated Solutions, LLC. Information at: <http://facilitatedsolutions.org>.



PROJECT WEBPAGE

Information on the Apalachicola Bay System Initiative project and the Community Advisory Board, including agenda packets, meeting reports, draft Plan frameworks, and related documents may be found at the ABSI CAB Webpage. Located at the following URL:

<https://marinelab.fsu.edu/the-apalachicola-bay-system-initiative/>

IV. AGENDA REVIEW AND APPROVAL

The ABSI CAB voted unanimously to approve the agenda for the 30 March 2022 meeting as presented. Following are the key agenda items approved for consideration:

- ✓ To Approve Regular Procedural Topics (Meeting Agenda and Summary Report)
- ✓ To Review Updated Workplan and Meeting Schedule
- ✓ To Receive Project Briefings and Updates
- ✓ To Receive To Receive Reports from CAB Successor Group, RFWG, and Community Outreach
- ✓ To Discuss and Approve Community Outreach Plan
- ✓ To Provide Guidance for Development of Ecological Model and Discussion with FWC
- ✓ To Identify Next Steps: Information, Presentations, Assignments, Agenda Items for Next Meeting

Amendments to the Posted Agenda:

None.

(Attachment 3 — 30 March 2022 ABSI CAB Agenda)

V. APPROVAL OF THE 26 JANUARY 2022 CAB MEETING FACILITATOR'S SUMMARY REPORTS

The ABSI CAB voted unanimously to approve the 26 January 2022 CAB Meeting Facilitator Summary Report as presented.

Amendments: None

VI. REVIEW OF UPDATED PROJECT WORKPLAN AND SCHEDULE

Jeff Blair provided the CAB with a review of the updated Project Workplan and Schedule and answered members' questions. Jeff noted that the ABSI CAB completed Phases I – III of the project culminating with the unanimous adoption of the CAB's Draft Adaptive Management and Restoration Plan Framework*. The 26 January 2022 meeting represented the initiation of Phase IV with the focus of evaluation of the Draft Adaptive Management and Restoration Plan Framework's prioritized restoration and management strategies, restoration projects selection and implementation, and funding planning.

The CAB will work with available and emerging research and data, which will be incorporated into and evaluated by decision support tools including predictive models. These tools will be used to evaluate the CAB's recommendations relative to specific performance measures and expected outcomes by forecasting the effects of policy actions on the likelihood of achieving oyster management and restoration objectives with the goal of implementing the best combination of management and restoration approaches, and

priority restoration projects, for achieving the overarching goal of the Apalachicola Bay System Initiative of restoring the health of the Apalachicola Bay System.

In addition, Phase IV will feature a public engagement initiative. The next CAB meeting is scheduled for May 25, 2022. Jeff reported as follows:

- Jeff noted that during Phase IV the CAB will work on evaluating the best combination of strategies that will achieve restoration and management objectives for the Bay using decision support tools including predictive models coupled with available and emerging data and research. The CAB will vet their draft recommendations with restoration and management agencies, and evaluate the priority and efficacy of strategies and actions, and identify specific recommended restoration projects and management approaches.
- The CAB's Community Outreach Subcommittee will initiate a community feedback initiative by soliciting and reviewing community input on the Plan Framework. The CAB's prioritized strategies will be vetted with the larger ABS community through multiple formats including a questionnaire administered through a variety of methods including Facebook, online via the ABSI website, and direct mailings. In addition, public workshops will be held in-person and/or virtually depending on the COVID-19 pandemic status.
- The CAB will conduct planning for transitioning to a Successor Group whose role will be to organize a group of key stakeholders committed to working collaboratively for the long-term once the CAB process is complete to ensure that the Plan is implemented, monitored, and adaptively managed over time with the support of the Community. The Community Outreach Committee will continue to communicate and meet with community stakeholders providing them with information and updates regarding the purpose and progress of the ABSI.
- In addition, during Phase IV, FSU will continue working with the Restoration Funding Working Group to seek resources and political, governmental, and organizational support for the CAB's priority recommendations.

Jeff noted that the Project Team will keep the CAB updated and share additional information as it becomes available.

**The Draft Plan Framework is available at the following URL: <https://marinelab.fsu.edu/absi/cab/>*

(Attachment 4 — Workplan, Schedule, and Project Flowchart)

VII. PROJECT BRIEFINGS AND REQUESTED PRESENTATIONS

ABSI SCIENCE AND DATA COLLECTION UPDATE

Sandra Brooke, FSUCML Faculty and ABSI Principal Investigator, provided the CAB with an update on ABSI science and data collection. A science and data update is provided at all CAB meetings.

Presentations are available on the project webpage: <https://marinelab.fsu.edu/absi/cab/>.

Summary and Overview of Presentation

The 30 March 2022 report was focused on updates of the ABSI oyster restoration experiments, oyster biology, sub-tidal monitoring, oyster ecology, system ecology and future priority tasks.

Oyster Biology

Effect of Salinity on Juvenile Oysters

- Laboratory experiments conducted by Donaven Baughman FSU graduate student.
- Oyster biology- salinity (low, med and high) and predation on juvenile oysters were evaluated.
- Survival was lower at high salinity.
- Added oyster drills; with the presence of predators the growth rate declined but shell thickness increased.

Next Steps

- Summer Field surveys of drill abundance at sites with contrasting salinity regimes.
- Cage studies to assess predation rates, survival of outplant oysters.
- Follow up lab studies on drill consumption rates, survival, habitat use across salinity.

Disease and Other Stressors

- Research conducted by Dr. Tara Stewart Merrill.
- Oyster disease in the Apalachicola Bay: Infections as indicators of environmental change, ecosystem diversity, and human risk. Analysis of FWC disease and pest data indicate a negative relationship with condition index. This relationship is less pronounced in the intertidal oysters.

Spatial and Temporal Patterns of Intertidal Oyster Reefs

- Research conducted by Jenny Bueno, FSU graduate student.
- Used drones to capture high-resolution footage of intertidal habitats. Images were stitched together to make orthomosaics and oyster clusters were extracted from digital elevation models using ArcGIS pro.

Intertidal Recruitment

- Data collected on mean monthly spat counts from spat traps (3/reef, 5 reefs/site).
- Sites are AH – Alligator Harbor, CR – Carrabelle River, EC – East Cove, IL – Indian Lagoon.

Sub-Tidal Monitoring (2020-2021)

- Sampling with hand tongs to cover wide spatial extent
- Six replicate samples per site (3 each side of the vessel)
- Total volume of material/per tong sample
- Mean # live oysters, # boxes, # in each size class (<25, 25-75, > 75 mm)

Sub-Tidal Monitoring (2021-2022)

- Sampling with hand tongs to cover wide spatial extent
- Six replicate samples per site (3 each side of the vessel)
- Total volume of material/per tong sample
- Mean # per site of live oysters and boxes, and shell height of first 100 individuals measured.

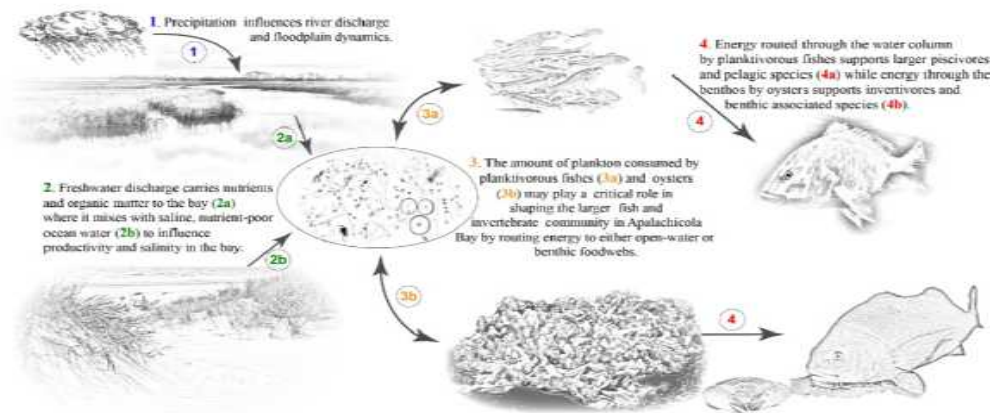
Oyster Ecology - Subtidal Recruitment

- Spat traps (3 per site) are being deployed and collected monthly at 26 sites in Apalachicola Bay and St George Sound.

Oyster Ecology - Impacts of Oyster Populations on Community Development

- Dr. Andrew Shantz is conducting the research.

- Dr. Shantz identified an inverse relationship between annual oyster CPUE and [Chl A] 2002-2020.
- B. CPUE for other commercial species dependent on benthic habitat (flounder, shrimp) was similar to oysters, but pelagic fishes (grouper and snapper) CPUE showed the reverse trend.



Oyster Ecology - Oyster Colonization and Community Experiments

- Dr. A Shantz and ABSI core team are conducting the research.
- 10 locations across the Bay
- 4 units of each type at each location
- Current meter and temp, salinity, oxygen data loggers
- Recovered periodically and replaced with new unit
- Development assessed using photogrammetry

Community Development (Invertebrates and Fishes)

- Trays placed at experimental site
- Lined with mesh screen which is closed before recovery

System Ecology - Apalachicola Bay Food Web and Sediments 1994 vs. 2020 /2021

- Dr Jeff Chanton, FSU conducting the research.
- Sediment ¹³C values indicate higher terrestrial input in 2021 vs 1994
- NSD between food sources of demersal and pelagic fish species from 2021 vs 1994

System Ecology - Influence of Oysters on Function and Change in Coastal Systems

- Dr. Josh Breithaupt conducting the research.
- Investigating changing benthic sediment characteristics in Apalachicola Bay
Sediment organic carbon has increased since 1960s
- Oyster Shell Dissolution Dynamics in Apalachicola Bay Region
Oyster shells dissolve faster in mesocosms with mangrove soil and subtidal mud
- Coastal carbon dynamics occurring because of mangrove replacement of regional tidal marshes
Mangroves are not altering soil carbon storage – yet...
- Vulnerability of regional wetlands to sea-level rise and changing sediment delivery from Apalachicola River
Regional wetland surface elevation dynamics vary by geomorphic setting

System Ecology - Apalachicola Bay Environmental Evolution and Pollutant Status

- Dr Martinez Colon, FAMU is conducting the research.
- Assess concentrations of heavy metals and pesticides in sediment cores.
- Assess temporal changes in foraminifera (bio-indicators) over time.
- Data on heat maps of sediment heavy metal concentrations show differences in distribution of the different heavy metals.

Future Priority Tasks

- Integrate models to run climate and management scenarios
- Design and deploy a new restoration experiment
- Repeat spat deployment experiment with adjusted methods
- Deploy additional spat on restoration sites
- Develop options for interactive tools

Summary of Questions, Responses, and Comments:

(Note initials are only used to identify ABSI Team members and partners, presenters, and state agency representatives)

- Large rocks deployed by FWC seem to be working; any chance that ABSI can deploy these rocks?
- SB: in response, we are using some large rocks. FWC's rocks are producing oysters but not optimally. New habitats are being used to answer questions about reef height and other issues to provide insight into the final restoration strategy.
- JE: FWC's deployed rocks are showing life but there has not been sufficient time to see mature oyster growth; FWC is doing a balancing act between getting the method right and actually deploying the material.
- I have concerns about timelines for the project and the ABSI budget.
- SB: in response, we are expecting a no-cost extension, and can modify timelines if necessary.
- Are the spat study results consistent with literature results?
- SB: in response, physiologically, something seems to be going on at high salinities for both juveniles and adults; negative impact on fitness, the underlying mechanism[s] are unclear.
- JT: follow up response, complementary experiments will provide data that can help explain outcomes, both positive and negative, for the large restoration efforts.
- Aquaculture efforts show highly variable results.
- SB: in response, ABSI is working with several groups holding leases to look at survival issues and to review their data.

VIII. WORKING GROUP AND SUBCOMMITTEE UPDATES AND REPORTS

A. CAB SUCCESSOR GROUP SUBCOMMITTEE

Shannon Hartsfield reported that the Subcommittee is in a holding pattern and there was nothing new to report. It was reported at a previous meeting that the Subcommittee has discussed the type of members needed (stakeholder representation) and the structure, format, and key issues for the Subcommittee. In addition, the Subcommittee is collecting ideas and information for use once they are convened at the conclusion of the ABSI CAB process.

Summary of Questions, Responses, and Comments:

(Note initials are only used to identify ABSI Team members, presenters, and state agency representatives)

- Jeff Blair, CAB Facilitator, noted that there was no expectation for any specific action from the CAB Successor Group Subcommittee since it is premature to move forward at this point in the ABSI process.

B. RESTORATION FUNDING WORKING GROUP

Overview. The ABSI proposal contemplates a 15-year commitment from FSU, 10 years beyond the 5 years of funding provided by the TRIUMPH Board. The Restoration Funding Working Group (RFGW) will be a team of local, state, private, and NGO stakeholders focused on developing plans for long-term funding of the broader effort; the goal at the end of the 5-year ABSI period is to have a funding pipeline for restoration secured. Joel reported as follows for the 30 March 2022 CAB meeting update on the RFGW:

- The RFGW met three times to date (Dec 6, 2021; Jan 24, 2022; March 22, 2022).
- We have broad representation.
- The RFGW reviewed the ABSI Restoration and Management Plan Framework and identified the specific strategies and related actions which would require funding.
- The Working Group's charge has been identified.
- Mapping actions with potential funding sources and approximate funding amounts needed.
- Interacting and coordinating with the FWC NFWF-2 restoration project team.
- Potential funding is already in place for some CAB recommended actions.
- We understand that it is critical to identify gaps in funding and work to fill the gaps.

Summary of Questions, Responses, and Comments:

(Note initials are only used to identify ABSI Team members, presenters, and state agency representatives)

- Can you clarify the process going from framework to the Plan?
- JT: in response, the process will take time but we have to move forward to identify funding sources before the Plan is fully developed. We have enough information to evaluate funding mechanisms and sources.
- I agree, we cannot wait until the full Plan is developed before seeking funding.

C. COMMUNITY OUTREACH SUBCOMMITTEE

Subcommittee Charge:

- To work with ABSI leadership to inform the public of who we are and what we are doing.
- To create outreach & community engagement strategies that attract stakeholders and the general public to actively inform the public about the Apalachicola Bay System Initiative's goals and actions.
- To measure effectiveness of these strategies through direct participation in achieving actions (as well as web analytics and media stories).

Chad Hanson reported that the Community Outreach Subcommittee (COC) has been active and they are working on a variety of initiatives. Chad reported as follows for the 30 March 2022 CAB meeting update on community outreach initiatives:

- The Committee plans to provide updates to the commissions every 6 months.

- The Committee plans to meet with community leaders individually to keep them updated.
- The COS met during the week of March 21, 2022.

Public Presentations Update:

- SGI Civic Club – Sandra presented on March 17th
- Apalachicola City Commission Meeting – Presentation scheduled on May 3rd
- Franklin County Commission Meeting? – Mike will talk to Ricky Jones
- Franklin County Public Libraries? – Rachel followed up with them and is waiting to hear back
- Sandra and Mike met with Smokey Parrish
- We should also meet with Noah Lockley and Bert Boldt, Franklin County Commissioners

Other Upcoming Outreach Events Update:

- Sopchoppy Worm Grunting Festival – Apr 9th
- Carrabelle Riverfront Festival – Apr 23rd
- ANERR Estuaries Day – May 6th
- FSUCML will be tabling at these events and will include ABSI information.

The COC will discuss creating a new op-ed to distribute/publish at their next meeting.

Summary of Questions, Responses, and Comments:

(Note initials are only used to identify ABSI Team members and partners, presenters, and state agency representatives)

- Sandra Brooke presented an update on ABSI to the ACF Stakeholders Governing Board on March 22, 2022.
- Of note from the ACFS meeting, potential dredging of the Apalachicola River could be impactful to the ABS and to ABSI.

IX. COMMUNITY OUTREACH APPROACH APPROVAL

Chad Hanson, Community Outreach Subcommittee Chair, indicated that the Community Outreach Subcommittee wanted the CAB's feedback on the Subcommittee's proposed Community Outreach strategy and approach. Chad requested feedback from the CAB on the following considerations/approaches for Community Outreach:

- Should there be an education oriented, a gathering of feedback oriented, or a hybrid of both approaches for community engagement?
- Should we use a survey or have meetings in-person with small groups and ask fewer questions than the Questionnaire administered to CAB members by the Facilitator prior to the CAB's first meeting?
- Should we conduct workshops in the Community?
- What locations and venues should the COC use to have Community workshops?

Following Chad's overview of the COC's approaches discussed for providing education and receiving feedback from the Community on ABSI and the CAB's initial draft restoration and management recommendations, the Facilitator asked CAB members for their feedback on the approach for community engagement. Following is a summary of input to the COC from the CAB:

- There should be a hybrid approach to community engagement that includes providing information on the ABSI, the current status of the Bay, and the CAB's draft restoration and management recommendations, and soliciting feedback from the community on the recommendations.
- A survey is not the best format for seeking feedback or providing education on ABSI. However, a short easy to understand questionnaire would be useful.
- The COC should conduct workshops in the Community with an approximately 80% education and information sharing component and a 20% soliciting community feedback component.
- Information on ABSI, the current status of the Bay (science), and the CAB's draft recommendations for restoration and management strategies should be simplified and easy to understand and communicate to the general public (intended audience).
- A short community feedback solicitation form should be prepared and available at the workshops and other community engagement opportunities to encourage people to provide written feedback to the CAB.
- The Community Engagement Workshops should start at 5:30 PM and provide food.
- Initially the COC should conduct two workshop as follows:
 - Apalachicola at the Community Center or Court Annex.
 - Eastpoint at the Fire House.
- The COC should continue to update and distribute op-eds and other similar education and information sharing methods on ABSI including using radio, newspapers, and brochures/rack-cards to get the message out to the Community.
- The COC should move forward with Community Outreach (engagement and education) as quickly as possible and does not need further approval from the CAB. The COC should report back to the CAB at the May 25, 2022 meeting.

Following the opportunity provided for questions and answers, and Community Advisory Board discussion, the ABSI CAB took the following actions on a test for consensus initiated by the Facilitator:

Community Advisory Board Action:

ACTION—The Community Advisory Board unanimously agreed by consensus to approve and support the approach as recommended by the CAB for the Community Outreach Subcommittee's Community Outreach Initiative to provide community outreach and education, and opportunities for soliciting community feedback on the ABSI and the CAB's draft strategies for restoration and management.

Summary of Questions, Responses, and Comments:

(Note initials are only used to identify ABSI Team members and partners, presenters, and state agency representatives)

- The COC should seek to determine what the community likes and doesn't like about the Plan Framework.
- The approach should provide education on the Plan and on ABSI.
- Best approach is to go to where folks are and meet them in person.
- Seafood industry: how much word is out there? Most people don't like CAB and think it is responsible for the Bay Closure to oystering.
- What can we do to change their minds about ABSI should be communicated in the outreach efforts.
- Folks feel negative about ABSI because the closure impacted their livelihoods.
- What about the oystermen's workshops, did they help?
- There were not enough oystermen participating to have a larger positive impact.

- It's hard to get folks to attend.
- We need to sell ABSI and the Plan to the Community.
- Everyone has an opinion – waste of time seeking feedback – need to sell Plan to community.
- Get community to participate and learn; give them the facts.
- Those most upset about the closure – have they had opportunity to provide feedback and they need to know that the CAB understands how the Bay's failure and subsequent closure to oyster harvesting affects them - losing jobs.
- How many people made living oystering before Bay closed? Jobs were already lost and by the time the Bay was closed there were only a few oystermen still harvesting.
- Seafood workers – how do we get to them, what is the best venue/place and time?
- After work 5:30 PM Eastpoint and Apalachicola are different, and need to go to both places.
- Let public know what the Plan is and get feedback.
- Consider multiple locations and multiple times for workshops.
- Firehouse in Eastpoint at 5:30 PM is best.
- Need to ask locals to attend, people who have been here and know what is going on.
- Apalachicola at the community center or court annex is a good location.
- Provide food.
- Sell community on what ABSI is doing.
- Provide a way for people to provide written comments.
- Workshop Approach: Provide information 80% of time and 20% of time to provide feedback during workshops.
- Timing: ASAP subcommittee should move forward and report back in May.
- Need to simplify the language of the strategies.
- Information on the status of Bay should be provided by the scientists.
- Talk about what needs to happen for the Bay to open.
- Talk about the Successor Group and the long-term commitment to the Bay.
- Implementation Plan for the Plan is needed.
- Let the community know that the CAB is not making decisions, and that they are presenting recommendations to FWC.
- Continue with updated op-eds and other efforts, radio, and newspaper, etc.
- Ed Camp can provide good graphs on data for use in communicating to the public.

X. FISHERIES (SOCIOECOLOGICAL) MODEL GUIDANCE AND DISCUSSION WITH FWC ON MANAGEMENT STRATEGIES

Jeff Blair, Facilitator, stated that the purpose of this agenda item was to discuss and evaluate potential management strategies and alternatives with FWC, and concurrently to provide guidance to Ed Camp, UF, for development of his Fisheries (Socioecological) model. The CAB will answer questions and provide feedback to Ed on the initial scenarios (strategies/options) and associated assumptions to be used for running simulations using Ed's Oyster Model. The results of these simulations will include expected outcomes of specific performance measures (e.g., oyster populations, harvest, etc.), and should help inform policy decisions to achieve oyster management and restoration objectives, and overall restoration of the Apalachicola Bay System. Strategies/scenarios will be evaluated based on whether their implementation is

predicted to improve the status quo* conditions of the Bay, and only considered further if the status quo is improved on by implementation of the strategy/action.

** The baseline management regulations and fishery conditions that existed prior to the collapse of the oyster fishery.*

Subsequently, Jeff reviewed the CAB's initial proposed strategies for restoration and management noting there are 8 restoration strategies with 19 associated actions, and 12 management strategies with 44 associated actions included as components of the CAB's adopted Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan Framework. Jeff noted that the strategies are numbered sequentially by Goal area based on the CAB's prioritization of the strategies ranked on a 10-point scale, and further categorized as Priority 1 (priority ranking between 10 – 8), Priority 2 (priority ranking between 7 – 5), and Priority 3 (priority ranking between 4 – 1).

(Attachment 7 — ABSI CAB Restoration and Management Strategies)

Jim Estes, FWC, offered the following strategies and alternatives for discussion purposes:

- Spatial management
 - A number of possibilities with this
 - Quadrants
- Temporal and spatial management
 - A number of possibilities with this
 - Quadrants at different times of the year
- Change in bag limit
 - Difference spatially would be challenging to enforce
- Change in size limit
- Change in cull tolerance
 - Currently two types
 - Attached oysters-no more than 15%
 - Unattached-no more than 5%
- Limited entry fishery
 - Many ways to do this
 - Preference for locals
 - Restrict certain fishers based on citation history
 - Could combine with spatial and/or temporal management
 - Lottery
 - Could be transferable, creating value
- Professionalize the fishery
 - Require additional training and/or education
 - Restrict certain fishers, depending on citations
- In and on water possession

Jim noted that FWC will work with fishermen and stakeholders to evaluate options proposed by the ABSI CAB, and there will be extensive vetting prior to implementation of any of the CAB's Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan recommendations once they are finalized.

Summary of Strategies Jim Identified for Further Evaluation and Refinement:

- Jim indicated he would like to see a professional workforce that can make money off the oyster industry with consideration for ecosystem services given in the cost-benefit-analysis.
- Professionalism in fishery would help with sustainability for wild oyster harvesting and the cultural importance of it to Apalachicola Bay/Franklin County residents.
- Training should be required for entry into the fishery to explain why regulations are important and the science behind the requirements for sustaining the resource.
- Manage spatially – location, size, quadrants etc.
- Seasons in different spaces
- Bag limit change based on oyster abundance.
- Size limit considerations.
- 3” maximum yield. This is not bad biologically.
- Tolerance (15% tolerance allowed if connected, and a 5% tolerance if the oysters are separated).
- If you cull do it over the reef (not under bridge where you lose the oyster and the shell). Increase penalties to discourage this behavior.
- Education requirements should be considered.
- Limited entry fishery – need to make entry fair and maximize potential for oystermen to make a living.
- Once tagged by oystermen and the dealers have oysters enforcement is an issue. FWC should be allowed to go into coolers and look for illegal oysters.
- Enhanced penalties would help.

Jeff explained to the CAB that all strategies should be evaluated and measured in relation to the status quo. Strategies and actions that don't perform better than the status quo should not be considered.

Ed Camp, UF, requested that the CAB provide feedback and guidance regarding restoration and management scenarios and performance measures for development of the Fisheries (Socioecological) Model. The CAB provided feedback regarding the Ecological Model, and concurrently the CAB engaged in a comprehensive review and discussion on draft management strategies with FWC Division of Marine Fisheries Management staff.

CAB approved Guidance for Initial Scenarios and Associated Assumptions for Evaluation by the Fisheries (Socioecological) Model.

Following the opportunity provided for questions and answers, and Community Advisory Board discussion, the ABSI CAB took the following action on a test for consensus initiated by the Facilitator for the initial scenarios and associated assumptions for evaluation by the Fisheries (Socioecological) Model:

Community Advisory Board Action:

ACTION—The Community Advisory Board unanimously agreed by consensus to approve three initial scenarios for evaluation by the Fisheries (Socioecological) Model: A) Limited entry commercial oyster fishery; B) Active management of the oyster resource using an oyster abundance minimum density threshold; and C) A combination of limited entry (Scenario A) and active management (Scenario B). Each of these scenarios will initially be evaluated with a spatially implicit model (for simplicity, time, and potential practicality should only a limited area be opened). This will require making assumptions about the area of submersed land that is open for oyster harvest and specifically that is being considered when making density calculations (for Scenario B). These areal measurements have not been assessed.

The CAB agreed to the following assumptions for use in evaluating the scenarios:

- 1) Oystermen will harvest oysters (fish) whenever the weather and regulation permit.
- 2) \$80,000 is the initial annual gross income level that oyster harvesters identified as requisite for earning a “good” living solely from oysters harvesting, and which would guarantee economic self-sufficiency*. Additional economic work to understand minimum income thresholds (annual and/or revenue per effort) will be empirically assessed in summer/fall 2022 as part of the economic surveys associated with Ed Camp’s FWC oyster project.
- 3) A likely bag limit of 5 – 6 bags/day, and a selling price of \$100/bushel of oysters.
- 4) Oyster harvest allowed 7-days/week during open times.
- 5) Oyster harvest allowed all months during open times and areas. Note: this is an initial assumption that can be altered or relaxed for future scenarios.
- 6) Use a range of 5% low to 30% high to account for illegal harvest, potentially related to changes in enforcement.
- 7) 200 bushels/acre metric as threshold for sustainable harvest/habitat.
- 8) The spatially implicit scenarios implies assuming the pre-closure amount of closed and thus open areas. However, there was some stakeholder support for considering an even more spatially limited fishery, at least initially.
- 9) Calculate the maximum number of participants the resource can sustain under different assumptions of income and bag limits. Initial scenario results will use income of \$80,000 annual gross and 5 bag/person/day limit, but of course changing these variables will affect maximum number of participants (less income, lower bag limits will generally allow more participants).
- 10) Run the initial simulations of the scenarios two ways with the overarching assumption that: 1) oyster habitat restoration works and improves the oyster population abundance specifically and the Bay generally to a threshold sufficient to support some level of sustainable commercial oyster harvesting; and 2) restoration of the Bay and oyster reef habitat does not work as predicated and the health of the Bay is not sufficiently improved to support a sustainable oyster reef habitat together with commercial oyster harvesting.
- 11) Additional assumptions not explicitly addressed include:
 - Assuming constant pathology that is subsumed by past estimates of natural mortality of oysters. That is, we’re not modeling changes in oyster disease right now.
 - Assuming natural mortality has not been dramatically altered by some unknown predator or environmental variable.
 - Latent effort (demand to harvest oysters) exists.

**Economic self-sufficiency is a sufficiency of economic resources to meet physical needs. It is the ability of individuals and families to maintain sufficient income to consistently meet their basic needs – including food, housing, utilities, health care, transportation, taxes, dependent care, and clothing – with no or minimal financial assistance or subsidies from private or public organizations.*

Future Scenarios and Assumptions

When the model can be extended to a spatially explicit platform, evaluate:

- Opening and closing specific oyster bars and potentially even parts of specific oyster bars based on the metrics for sustainability of the resource (e.g., oyster density).
- Different scenarios with the Bay wide-open and various areas of the Bay closed.

- Develop and maintain one area of the Bay (e.g., Cat Point) for high intensity commercial oyster harvesting, and the rest of the Bay will be set aside as protected areas (MPA/Sanctuaries) to provide ecosystem services such as water filtration and marine species habitat, and also to provide brood stock/spat source for the system.
- Updated periodic oyster population evaluations are being conducted and used as the metric for how much and when harvesting is allowed.
- Total Allowable Catch (TAC) as a component of a limited entry and/or minimum density active managed scenarios.
- Seasonal closures.
- Consider the size, spatial configuration, amount and location for oyster reef habitat restoration initiatives.
- Much of the above will require adding some larval transport and dispersal assumptions to spatially explicit modeling.

Summary of Questions, Responses, and Comments:

(Note initials are only used to identify ABSI Team members and partners, presenters, and state agency representatives)

- Ed Camp, UF (EC): asked what the CAB wants him to show them at the next and subsequent CAB meetings.
- EC: suggested the CAB start with limited entry.
- This should be considered even though we have concerns about this approach.
- This is the only solution, will have to have some form of limited entry.
- Most fishermen out on the water ca. 2017 had other sources of income
- Modeling results will define the scenarios for defining parameters for limited access.
- EC: how many bags per week can create a viable living?
- This is hard to answer.
- Jeff Blair, Facilitator (JB): need to research economic costs at the local level, specific to Apalachicola.
- EC: how much income is needed to make a living? \$65-\$80K gross income is a reasonable number (consensus among group).
- EC: will use \$80K income for model.
- JB: scenarios and assumptions discussed today: limited entry, 5 days per week, closed during the summer with \$80K per year the income level required to make a living.
- EC: ultimately what we need to determine is the number of fishers could be supported in a limited entry system.
- EC: will determine how many days/effort required before determining how many people are supportable.
- EC: will community adhere to limited entry?
- JB: In the Chesapeake they use 5% to account for illegal harvesting.
- Limited entry will be totally new if implemented and it is unclear as to what type of compliance we will see.
- Also, many folks are out of the business and likely won't return once the Bay is open so hard to tell how many will want to work as commercial fishermen.
- Jim Estes, FWC (JE): suggested a 10% non-compliance.

- Any metric has to be tied to the extent of the resource (which may be temporally dynamic). Perhaps a threshold density should be used. There has to be a healthy habitat and fishing at a level to sustain the fishery and the habitat.
- JB: the modeling will tell us what a sustainable level for the fishery is based on the health of the resource; we are looking for the sweet spot – harvesting and healthy ecosystem/habitat.
- Getting real time stock assessments is critical.
- JE: stock assessments can be done on a more a less timely basis.
- EC: important points: income per year, stock level, we can you backwards and forwards in the model to make decisions.
- EC: the simulations will run under two scenarios: (a) Bay has been restored and (b) Bay has been only partially recovered [The Bay not being close to what it was in 2010].
- Oysters are difficult to make accurate decisions on since they are susceptible to high mortality events.
- JB: need to determine how much restoration is needed to be able to implement the proposed management strategies for a sustainable resource and fishery.
- JB: not just the fishery, but the ecosystems services provided by oyster reefs is important.
- I agree.
- EC: active management is another scenario to consider; establishing a threshold below which harvest can't take place and fishing would stop. What is that threshold? Would like to use average oyster density; it would not be partitioned spatially at this point.
- Sandra Brooke, FSUCML (SB): how do you integrate spatial heterogeneity of density?
- EC: lots of assumptions will have to be made, but this will not interfere with the higher-level conclusions based on running management simulations.
- SB: fine scale approach would give more accurate results.
- EC: more spatially defined models will be developed as the project progresses.
- JB: what will the model's dashboard include?
- EC: it will show the best of several strategies and combination of some; ideally, we'll want to identify strategies for which if we are wrong on certain assumptions, the predicted outcome will not be severely impacted.
- SB: Alabama has divided harvesting areas into grids. Sampling allows the agency to shift fishers from depleted grids (based on density falling below some threshold) to more productive grids Would like to invite AL person and oystermen to present to the CAB.
- How fine of a scale can we model? Future Bay fisheries will likely be very different from the past; fine scale management may be needed.
- JB: do you want a presentation on AL management approach?
- CAB consensus was yes.
- EC: I will first run the simulations using the whole Bay as the scale.
- Joel Trexler, FSUCML (JT): for the active management approach to work, there will need to be multiple areas available to rotate fishing around. This has to be considered in restoration actions. Many smaller reefs for example would need to be restored.
- Implementation of AL type strategy would have to take place in the mid- to long-term.
- There are competing goals with this approach. If you spread fishing out to improve the Bay ecosystem may impact the sustainability of the oyster resource/habitat. Might be better to concentrate the effort in one location such as Cat point and maintain the area for commercial harvesting.

- JB: the goal should be to maintain a healthy oyster resource/habitat and provide for some level of sustainable oyster harvesting.
- EC: there are inherent trade-offs between improvement in ecosystem services and sustainable harvesting; it is worth considering by separating competing objectives but will have to wait until later to do this.
- JB: is the CAB satisfied with EC's initial scenarios and assumptions?
- CAB consensus was yes.
- EC: will do his best to bring in greater spatial scale as soon as possible.
- EC: if summer closure happens, will this impact the intensity of fishing during the open seasons?
- We are not sure this will increase intensity of harvesting the rest of the year, especially if bag limits are in place.
- It takes about a \$10K investment to get into fishery initially – boat/motor/etc.
- 30-45 year-olds will be the ones to get license and work oyster fishery.
- Many of us will be too old when the Bay reopens.
- There may be fewer people who want to oyster so this could make it easier to implement limited entry.
- There were summer bars and winter bars; summer harvest is constrained by 11 AM limit for landing of oysters, summer is when dealers and restaurants sell the most oysters.
- EC: do you want me to model summer closure?
- Is there a biological rationale for a particular closing season (reproductive season)?
- EC: If we have summer time closures, what are the other management options tied to it?
- The entire Bay is open during harvesting season is the trade-off for summer closure.
- Carrie Jones, FDACS (CJ): opening up all of the summer bars is not feasible due to water quality, but limited areas could be opened.
- JE: Apalachicola Bay is the only place in Florida with summer reefs; is there a reason for not taking oysters around the reproductive season?
- EC: not really to the above question.
- SB: what about in a depleted population scenario?
- EC: no, as long as size limits are adhered to.
- EC- would like to initially NOT use fine-tuned details (days of week) for initial modeling simulations.
- EC: what about bag limits?
- Limits should be linked to the market value of oysters so we can harvest enough bags to make a living.
- Probably 4-6 bushels per day is a good starting point.
- Where do sanctuary reefs fit into the picture? If you factor this in, how does this impact the modeling?
- Some sanctuary reefs already exist; there are the small permanently closed bars due to food safety issues; historically these oysters were relayed to other harvestable areas.
- EC: this can be fitted easily into the spatial model and possibly- with greater difficulty- in the Bay-wide model.
- EC: sanctuary reefs could be modeled, but confidence is not high without data on larval transport and other parameters; scientifically it is an important factor to have sanctuary reefs but keep in mind that this reduces harvestable oyster areas.
- I think we should develop one area (like Cat Point) for high intensity harvest with other areas set aside as a spat source.
- We need a metric on the water - effort vs. resource (i.e., acres and bushels of oysters per acre).

- JB: this is exactly what they are doing in the Chesapeake; if replicated here most of Apalachicola Bay would be a sanctuary.
- Restoration approaches will depend on the goal: harvest or spat source sanctuary.
- Might consider managing on fishing mortality rate or harvest rate yield (not actually same metric).
- EC: how much recreational fishery take should we assume for scenarios?
- JE: it has a minimal impact.
- JT: recreational harvesters are mostly taking oysters from intertidal bars.
- EC: it still impacts the system as a whole; it can be taken into account in the model as needed
- JE: there is no monitoring program for recreational oysters so take must be assumed.
- JB: based on experience and FWC's analysis let's assume recreational impact is small.
- Many of our assumptions for determining how much harvest there could be and how much restoration is needed will depend on the social behavior on the water.
- The CAB agreed with this.
- EC: we will initially model limited-entry, active management based on density with future consideration of spatial issues, and a combination of these two scenarios. Will start with a simple Bay-wide model with the hope of delivering results for the May CAB meeting.

Next Steps

- Ed will provide model simulation results using the CAB's approved initial scenarios and associated assumptions and provide results for discussion and evaluation during the CAB's May 25, 2022 meeting.
- The CAB will evaluate the model simulation results and determine the next suite of scenarios and associated assumptions for evaluation by the Fisheries (Socioecological) model. This will be done iteratively throughout this phase of the project
- Ed will continue to communicate with stakeholders between meetings to solicit their individual feedback on information used for the development of the Fisheries (Socioecological) as needed.
- Ed will review the draft scenarios and associated model results with the SMARRT group after the CAB provides their feedback, and do this iteratively throughout this phase of the project.

(Attachment 7 — ABSI CAB Restoration and Management Strategies)

XI. PUBLIC COMMENT

The facilitator invited members of the public to provide comments.

Public Comments:

- Wayne Williams: Stated that in his opinion the Bay is getting better, and a limited entry oyster fishery is bad for independent commercial fisherman. Indicated that the Bay needed as many people as possible working it. Noted that Restricted Species (RS) Endorsements have been lost since many commercial fishermen in Franklin County rely on oyster harvesting landings to meet the qualifying requirements for maintaining their endorsements. Indicated that the collapse of the oyster fishery was what caused people to seek other types of employment other than commercial fishing, and that commercial fishermen should be provided a method to retain their endorsements so they can fish once the Bay is open for oystering. Also stated that there are already permanently closed areas in the Bay.

- Jim Estes, FWC: replied that he agreed they should find a way to requalify commercial fishermen who lost their RS Endorsements due to not being able to harvest oysters. Jim stated that he would consult with FWC staff and call Wayne in the next couple of days with the results.

XII. NEXT MEETING OVERVIEW AND ISSUES

The 25 May 2022 meeting will focus on member-requested presentations, and ABSI science and data collection and decision support tools update. Sub-committee reports. Review and discussion of model simulation results for initial priority Fisheries Management (Goal B) strategies. Agreement on next suite of scenarios for model simulations. Public Engagement Initiative results review. Public comment.

NEXT STEPS AND AGENDA ITEMS

- Review of updated Workplan and Meeting Schedule.
- Science and data collection update.
- Subcommittees and Working Group updates.
- Public Engagement Initiative update.
- Alabama active oyster management approach presentation.
- Review and discussion of model simulation results for initial priority Fisheries Management (Goal B) strategies.
- Agreement on next suite of scenarios and associated assumptions for model simulations.

MEETING CHAT COMMENTS

Meeting participants were able to provide comments during the meeting through the on-line Chat function. The results are compiled and included as *Attachment 5* of this Summary Report.
(*Attachment 5 — Meeting Zoom Chat Summary*)

MEETING EVALUATION AND ONLINE SURVEY RESULTS

The CAB members were requested to complete a meeting evaluation. The results are compiled and included as *Attachment 6* of this Summary Report.
(*Attachment 6 — Meeting Zoom Poll and Written Evaluation Results*)

ADJOURNMENT

The Facilitator thanked CAB members, ABSI Project Team members, and the public for their participation, and adjourned the meeting at 2:39 PM on Wednesday, March 30, 2022.

ATTACHMENT 1
KEY TO COMMON PROJECT ABBREVIATIONS

ABBREVIATION	DEFINITION
ABS	Apalachicola Bay System
ABSI	Apalachicola Bay System Initiative
ACFS	Apalachicola-Chattahoochee-Flint Stakeholders
ANERR	Apalachicola National Estuarine Research Reserve
CAB	Community Advisory Board (ABSI)
County	Franklin County
DACS or FDACS	Florida Department of Agriculture and Consumer Services
DEP or FDEP	Florida Department of Environmental Protection
DOH or FDOH	Florida Department of Health
EPA	U.S. Environmental Protection Agency
FDOT	Florida Department of Transportation
FSU	Florida State University
FSUCML	Florida State University Coastal and Marine Laboratory
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	FWC Fish and Wildlife Research Institute
NGO	Non-Governmental Organization
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resource Conservation Service
NWFWMD	Northwest Florida Water Management District
Plan	Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan
RESTORE	Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast Act of 2012
RCSG	Riparian County Stakeholder Coalition
RPC	Regional Planning Council
SAB	Science Advisory Board (ABSI)
SAV	Submerged Aquatic Vegetation
TNC	The Nature Conservancy
UF	University of Florida
UWF	University of West Florida

ATTACHMENT 2
MEETING PARTICIPATION LIST

MEMBER	AFFILIATION
AGRICULTURE/ACF STAKEHOLDERS/RIPARIAN COUNTIES	
1. Chad Taylor	Riparian County Stakeholder Coalition/ACF Stakeholders/Agriculture
BUSINESS/REAL ESTATE/ECONOMIC DEVELOPMENT/TOURISM	
2. Chuck Marks	Business (Insurance Industry)
3. Mike O'Connell	SGI Civic Club/SGI 2025 Vision
4. John Solomon	Apalachicola Bay Chamber of Commerce
ENVIRONMENTAL/CITIZEN GROUPS	
5. Georgia Ackerman	Apalachicola Riverkeeper
6. Chad Hanson	The Pew Charitable Trusts
LOCAL GOVERNMENT	
7. Bert Boldt	Franklin County Commissioner
8. Anita Grove	Apalachicola City Commissioner
RECREATIONAL FISHING	
9. Frank Gidus	CCA Florida
SEAFOOD INDUSTRY	
10. Shannon Hartsfield	Seafood Management Assistance, Resource Recovery Team (SMARRT) and Oysterman
11. Gayle Johnson	Apalachicola Oyster Company
12. Roger Mathis	Oysterman and Seafood Dealer (R.D.'s Seafood)
13. Steve Rash	Water Street Seafood
14. TJ Ward	Buddy Ward & Sons Seafood
STATE GOVERNMENT	
15. Jenna Harper	ANERR/DEP
16. Jim Estes	FWC Division of Marine Fisheries Management
17. Katie Konchar	FWC Division of Habitat and Species Conservation
18. Alex Reed	FDEP Office of Resilience & Coastal Protection
19. Portia Sapp	FDACS Division of Aquaculture
20. Paul Thurman	NFWFMD
UNIVERSITY/RESEARCHERS/SCIENTISTS	
21. Mike Allen	Scientist: Director of UF/IFAS Nature Coast Biological Station (NCBS)
22. Erik Lovestrand	UF/IFAS/Florida Sea Grant/Franklin County Extension
The names of CAB members attending the meeting are indicated in bold font.	
*CAB members who participated virtually are indicated in red font.	
<i>* Members whose designated alternates participated for them.</i>	

PROJECT TEAM AND CAB FACILITATOR	
FLORIDA STATE UNIVERSITY	
Sandra Brooke	Marine Biologist
Ross Ellington	Professor Emeritus of Biological Science
Joel Trexler	FSUCML Director
Rachel Walsh	Outreach and Education
FACILITATED SOLUTIONS, LLC	
Jeff Blair	Community Advisory Board Facilitator
<i>The names of Project Team members participating in the meeting are indicated in bold font.</i>	

ALTERNATES FOR CAB MEMBERS	
Alternate	CAB Member
Carrie Jones	Portia Sapp
<i>The names of CAB member's alternates participating in the meeting are indicated in bold font.</i>	

MEMBERS OF THE PUBLIC	
1. Chucha Barber	Chucha Barber Productions
2. Ed Camp	University of Florida (UF)
3. Josh McLawhorn	Level Up Media
4. <i>Tara Stewart Merrill</i>	ABSI Assistant Research Faculty
5. Kennedy Hanson	ANERR IT Staff
6. <i>Benton Jaco</i>	ABSI Hatchery Technician
7. Carrie Jones	FDACS
8. Kevin Resko	FWC
9. <i>Joe Rocco</i>	ABSI Hatchery Manager
10. <i>Wayne Williams</i>	Oystermen
<i>*The names of members of the public attending virtually are italicized.</i>	

ATTACHMENT 3
30 MARCH 2022 MEETING AGENDA

ABSI COMMUNITY ADVISORY BOARD PHASE IV MEETING II OBJECTIVES

- ✓ To Approve Regular Procedural Topics (Meeting Agenda and Summary Report)
- ✓ To Review Updated Workplan and Meeting Schedule
- ✓ To Receive Project Briefings and Updates
- ✓ To Receive To Receive Reports from RFWG, Community Outreach, and CAB Successor Group
- ✓ To Discuss and Approve Community Outreach Plan
- ✓ To Provide Guidance for Development of Ecological Model and Discussion with FWC
- ✓ To Identify Next Steps: Information, Presentations, Assignments, Agenda Items for Next Meeting

ABSI COMMUNITY ADVISORY BOARD PHASE IV MEETING II AGENDA — 30 MARCH 2022

All Agenda Times—including Public Comment and Adjournment—are Approximate and Subject to Change

1.)	8:30 AM	WELCOME AND ROLL CALL
2.)	8:35	SOCIAL SCIENCE SURVEY
3.)	8:40	AGENDA REVIEW AND MEETING OBJECTIVES
4.)	8:45	APPROVAL OF FACILITATOR’S SUMMARY REPORT (JAN. 26, 2022)
5.)	8:50	REVIEW OF UPDATED PROJECT MEETING SCHEDULE AND WORKPLAN
6.)	9:00	PROJECT BRIEFING <i>ABSI Science and Data Collection Update. Sandra Brooke, FSUCML (15)</i>
7.)	9:15	WORKING GROUP AND SUBCOMMITTEE UPDATES <ul style="list-style-type: none"> • <i>Restoration Funding Working Group Update. Joel Trexler (5)</i> • <i>Community Outreach Subcommittee Update. Chad Hanson (5)</i> • <i>Successor Group Subcommittee Update. Anita Grove and Shannon Hartsfield (5)</i>
<i>~9:45 AM</i>		BREAK
8.)	10:00	COMMUNITY OUTREACH PLAN DISCUSSION
9.)	10:30	GUIDANCE FOR DEVELOPMENT OF ECOLOGICAL (OYSTER) MODEL AND DISCUSSION WITH FWC ON MANAGEMENT STRATEGIES
<i>~12:00 PM</i>		LUNCH — ON CAMPUS
9.)	12:30	GUIDANCE FOR DEVELOPMENT OF ECOLOGICAL (OYSTER) MODEL AND DISCUSSION WITH FWC ON MANAGEMENT STRATEGIES — CONTINUED
10.)	<i>~2:30 PM</i>	PUBLIC COMMENT
11.)	<i>~2:50</i>	NEXT STEPS AND AGENDA ITEMS FOR THE NEXT MEETING <ul style="list-style-type: none"> • Review of Action Items and Assignments • Identify Agenda Items and Needed Information and Presentations for the May 25, 2022 CAB Meeting • Meeting Evaluation
<i>~3:00 PM</i>		ADJOURN

ATTACHMENT 4 WORKPLAN AND SCHEDULE

UPDATED AS OF THE 30 MARCH 2022 CAB MEETING

PHASE I (2019) — STANDING UP AND ORGANIZATION OF THE ABSI CAB — *Status Complete*

May 2019 – December 2019 (Assessment Process, Questionnaire, and 2 CAB Meetings)

PHASE II (2020) — SCOPING OF ISSUES, IDENTIFICATION OF PERFORMANCE MEASURES & STRATEGIES — *Status Complete*

Jan. 2020 – Dec. 2020 (7 CAB Meeting & 1 Oystermen’s Workshop)

PHASE III (2021) — BUILDING CONSENSUS ON CAB RECOMMENDATIONS FOR THE ABS ECOSYSTEM-BASED ADAPTIVE MANAGEMENT AND RESTORATION PLAN

Adoption of Final Draft Management and Restoration Plan Framework

for Phase IV Evaluation — *Status Complete*

Jan. 2021 – Nov. 2021 (7 CAB Meeting & 2 Oystermen’s Workshops)

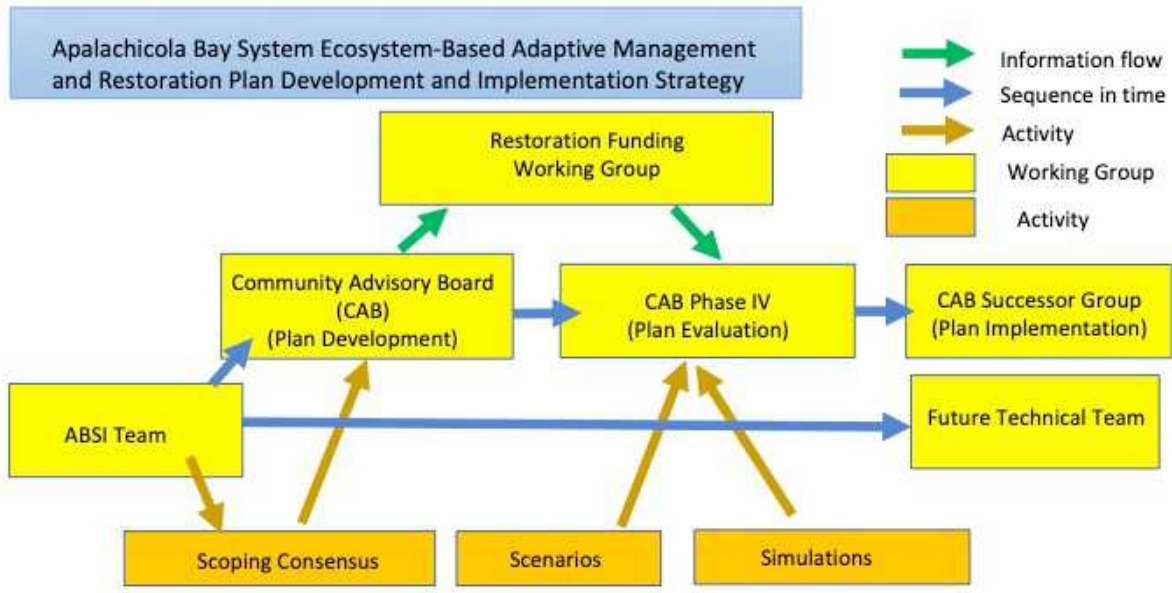
PHASE IV (2022) — EVALUATION OF DRAFT ADAPTIVE MANAGEMENT AND RESTORATION PLAN FRAMEWORK’S RESTORATION AND MANAGEMENT STRATEGIES, RESTORATION PROJECTS SELECTION AND IMPLEMENTATION, AND FUNDING PLANNING — *Status Initiated*

Dec. 2021 – Dec. 2022 (6 CAB Meetings, Public Workshops)

1. **COMMUNITY ADVISORY BOARD (CAB).** The CAB initiated Phase IV in December of 2021 and is currently evaluating the best combination of strategies predicted to achieve restoration and management objectives for the Bay using decision support tools including predictive socio-economic and ecological models coupled with available and emerging data and research. The scenarios are being evaluated with the overarching goal of restoring oyster reef habitat to a level that can sustainably provide needed ecosystem services for the System, and concurrently provide for a sustainable and economically viable level of commercial oyster harvesting. During the course of the project the CAB will vet their recommendations with restoration and management agencies to gauge support and feasibility of implementation. The CAB will evaluate the priority and efficacy of strategies and actions and identify specific recommended restoration projects and management approaches for inclusion in the Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan (Plan). *Status Initiated*
2. **COMMUNITY OUTREACH SUBCOMMITTEE - PUBLIC ENGAGEMENT IN 2022.** The CAB working with the Community Outreach Subcommittee initiated a community feedback initiative by providing information and seeking community input on the Plan Framework. The CAB will vet the results of their prioritized strategies with the larger ABS community through multiple formats including questionnaires administered through a variety of methods including Facebook, online via the ABSI website, and direct mailings. In addition, public workshops will be conducted in multiple locations to provide information on ABSI and solicit community feedback. *Status Initiated*
3. **RESTORATION FUNDING WORKING GROUP (RFWG).** Initiated in late 2021 the Restoration Funding Working Group’s role is to seek resources and political, governmental, and organizational support for the CAB’s priority recommendations. *Status Initiated*
4. **CAB SUCCESSOR GROUP.** The CAB Successor Group will be ready to convene when the CAB completes their work on the Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan. The Successor Group’s role will be to organize a group of key stakeholders committed to working collaboratively for the long-term, and once the CAB process is complete (~June 2024), to ensure that the Plan is implemented, monitored, and adaptively managed over time and has the support of the Community.

Meeting I. Virtual	Jan. 26, 2022 <ul style="list-style-type: none"> Review of Predictive Models 	Initiation of Phase IV of ABSI. Overview of scope and goals for Phase IV. Briefing on collaborative modeling and CAB process for Phase IV. Briefing on ABSI predicative models (Ecological/Oyster, Hydrologic, Hydrodynamic, and Riverine). Public Comment.
Meeting II. ANERR	Mar. 30, 2022 <ul style="list-style-type: none"> Fisheries (Socioecological) Model Guidance Management Strategies discussion with FWC 	ABSI Science and data collection update. Sub-committee reports. Public Engagement Initiative strategy and plan discussion and approval of approach. Guidance regarding restoration and management scenarios and performance measures for development of the Fisheries (Socioecological) Model. Comprehensive review and discussion on draft management strategies with FWC Division of Marine Fisheries Management. Public comment.
Meeting III. ANERR	May 25, 2022 <ul style="list-style-type: none"> TBD: Fisheries Model Simulation Results & Scenarios Refinements Feedback from FDACS on harvest closure areas relative to proposed draft management strategies 	Alabama Management and Restoration Approach presentation, and ABSI science and data collection and decision support tools update. Sub-committee reports. Review and discussion of model simulation results for initial priority Fisheries Management (Goal B) strategies. Agreement on next suite of scenarios for Fisheries Model simulations. (Dependent on model development status) Feedback as needed from FDACS Division of Aquaculture on harvest/closure areas likely impacts on proposed draft management scenarios (strategies). Public Engagement Initiative results review. Public comment.
Meeting IV. ANERR	July 27, 2022 <ul style="list-style-type: none"> Model Simulation Results & Scenarios Refinements Discussion with FWC/DEP/ANERR on Restoration Strategies 	Restoration approaches presentation(s), and ABSI science and data collection and decision support tools update. Sub-committee reports. Comprehensive review and discussion on draft restoration approaches (strategies), and CAB discussion and feedback from FWC Division of Habitat and Species Conservation/ANERR/DEP Office of Resilience & Coastal Protection on proposed restoration scenarios (strategies). Review and discussion of model simulation results for initial priority Habitat Restoration (Goal A) and Fisheries Management (Goal B) strategies. Agreement on next suite of scenarios for model simulations. Public Engagement Initiative results review. Public comment.
Meeting V. ANERR	Sept. 28, 2022 <ul style="list-style-type: none"> Model Simulation Results & Scenarios Refinements 	Member-requested presentations, and ABSI science and data collection and decision support tools update. Sub-committee reports. Review and discussion of model simulation results for initial priority Habitat Restoration (Goal A) and Fisheries Management (Goal B) strategies. Agreement on next suite of scenarios for model simulations. Public comment.
Meeting VI. ANERR	Nov. 30, 2022 <ul style="list-style-type: none"> Model Simulation Results & Scenarios Refinements 	Member-requested presentations, and ABSI science and data collection and decision support tools update. Sub-committee reports. Review and discussion of model simulation results for initial priority Habitat Restoration (Goal A) and Fisheries Management (Goal B) strategies. Agreement on next suite of scenarios for model simulations. Public comment.

ABSI CAB PROCESS FLOWCHART AND PROJECT AREA MAP



Notes
 1. Yellow boxes are groups of people. Blue arrows connecting yellow boxes indicate some or all of the people in one group may comprise the next group in time sequence



ABSI Project Area Map

ATTACHMENT 5
MEETING CHAT SUMMARY (ZOOM)

MEETING CHAT

00:03:28 **Rachel Walsh to Everyone:**

Can everyone see and hear the meeting room?

00:07:45 **Tara Stewart Merrill (she/her/hers) to Everyone:**

Yes!

00:10:45 **Rachel Walsh to Everyone:**

Thanks!

00:22:52 **Tara Stewart Merrill (she/her/hers) to Everyone:**

Thank you for accommodating us

00:23:11 **Georgia Ackerman I Apalachicola Riverkeeper to Everyone:**

Will do thank you

00:24:05 **Georgia Ackerman I Apalachicola Riverkeeper to Everyone:**

if it's too tricky to zoom the presentation for group in room, we can listen and then view later

01:21:10 **Georgia Ackerman I Apalachicola Riverkeeper to Everyone:**

Thanks Chad Hanson.

01:46:48 **Georgia Ackerman I Apalachicola Riverkeeper to Everyone:**

I'm here.

02:13:08 **Georgia Ackerman I Apalachicola Riverkeeper to Everyone:**

Eastpoint firehouse is good location.

02:31:49 **Rachel Walsh to Everyone:**

If a CAB member wants to say something, raise your hand or mention it in the chat! Thanks!

03:30:19 **Wayne Williams to Everyone:**

I have a few things to say please if I can at the end of the meeting.. Thank you

03:31:05 **Rachel Walsh to Everyone:**

Hi Wayne, there will be an opportunity at the end for you to give comments. Thanks!

03:31:28 **Rachel Walsh to Everyone:**

Public comment begins around 2:30pm.

06:10:19 **Rachel Walsh to Everyone:**

There is a Zoom poll open for CAB members. Please go ahead and fill it out, thanks!

06:11:33 **Rachel Walsh to Everyone:**

Thank you everyone for a great second meeting of CAB Phase IV! Please answer the following questions, feel free to DM me directly. Thanks!

ATTACHMENT 6
MEETING EVALUATION RESULTS (ZOOM POLL AND WRITTEN EVALUATIONS)

CAB Members used a 5-point polling scale where a 1 meant “Strongly Disagree” and a 5 meant “Strongly Agree.” The evaluation summary reflects average rating scores and comments from respondents participating virtually.

1.) The meeting objectives were clearly communicated at the beginning

<i>Average Rating</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
5 of 5	1	0	0	0	0

2.) The meeting objectives were met.

<i>Average Rating</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
5 of 5	1	0	0	0	0

3.) The presentations were effective and informative.

<i>Average Rating</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
5 of 5	1	0	0	0	0

4.) The facilitation of the meeting was effective for achieving the stated objectives

<i>Average Rating</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
5 of 5	1	0	0	0	0

5.) Follow-up actions were clearly summarized at the end of the meeting

<i>Average Rating</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
5 of 5	1	0	0	0	0

6.) The facilitator accurately documented CAB Member input

<i>Average Rating</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
5 of 5	1	0	0	0	0

7.) The meeting was the appropriate length of time.

<i>Average Rating</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
5 of 5	1	0	0	0	0

8.) CAB Members had the opportunity to participate and be heard.

<i>Average Rating</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
5 of 5	1	0	0	0	0

WRITTEN MEETING EVALUATION RESULTS

30 MARCH 2022 — EASTPOINT, FLORIDA

Average rank using a 0 to 10 scale, where 0 means totally disagree and 10 means totally agree.

Number of Respondents: 12 of 15* (80% response rate) CAB members attending the meeting completed meeting evaluations.

**16 members participated but 1 completed the On-line Survey Poll leaving 12 of 15 to potentially complete the evaluation.*

1. OVERALL MEETING ASSESSMENT.

8.8 The agenda packet was very useful.

9.3 The objectives for the meeting were stated at the outset.

9.2 Overall, the objectives of the meeting were fully achieved.

2. CAB MEMBERS LEVEL OF AGREEMENT THAT THE MEETING OBJECTIVES WERE ACHIEVED.

9.1 Project Briefings and Updates.

9.8 Working Group and Subcommittee Reports and Updates.

8.8 Community Outreach Plan Review and Approval.

9.3 Development of Ecological Model Guidance and Management Strategies Discussion with FWC.

9.0 Next Steps, Schedule, and Assignments Review and Identification.

3. HOW WELL THE FACILITATOR HELPED THE CAB ENGAGE IN THE MEETING.

9.2 The members followed the direction of the Facilitator.

9.3 The Facilitator made sure the concerns of all members were heard.

9.2 The Facilitator helped us arrange our time well.

9.5 Participant input was documented accurately in Facilitator's Report (previous summary report).

4. CAB MEMBERS LEVEL OF SATISFACTION WITH THE MEETING

9.1 Overall, I am very satisfied with the meeting.

9.1 I was very satisfied with the services provided by the Facilitator.

9.0 I am satisfied with the outcome of the meeting.

5. HOW WELL THE NEXT STEPS WERE COMMUNICATED.

9.3 I know what the next steps following this meeting will be.

9.3 I know who is responsible for the next steps.

6. WHAT CAB MEMBERS LIKED BEST ABOUT THE MEETING.

- Facilitator allowed for good discussion amongst all.
- Personal interaction.
- Good discussion.
- Open discussions.
- Talked about specific restoration plans.
- Getting to the meat of the modeling stuff.
- Grilling Ed about model components – model development discussion.

7. COMMENTS REGARDING HOW THE MEETING COULD HAVE BEEN IMPROVED.

- Nothing comes to mind.
- Make presentations content better to see graphs.
- Consolidate time.
- Don't know.

8. OTHER COMMENTS.

- *None Offered*

SUGGESTIONS FOR IMPROVEMENTS FROM THE COMMENTS PROVIDED ABOVE.

- Enhance the viewability of graphs and diagrams in the presentations.

ATTACHMENT 7
RESTORATION AND MANAGEMENT STRATEGIES
A COMPONENT OF THE ABSI PLAN FRAMEWORK — ADOPTED 16 NOVEMBER 2021

APALACHICOLA BAY SYSTEM ECOSYSTEM-BASED ADAPTIVE MANAGEMENT AND RESTORATION PLAN — GOAL A
A HEALTHY AND PRODUCTIVE BAY ECOSYSTEM
ELEMENTS TO BE CONSIDERED FOR THE PLAN

GOAL A: The Apalachicola Bay System is a healthy and productive ecosystem that supports a vibrant and sustainable oyster fishery and other economically viable activities.

GOAL A PRIORITIZED STRATEGIES

PRIORITY 1 STRATEGIES

- 1) Restore and create reef structures suitable for sustained oyster settlement that enhance ecosystem services in designated restoration areas.
 - *Action 1-A.):* Design and implement projects to achieve multiple ecosystem service targets (e.g., commercial and recreational fishing, shoreline protection).
 - *Action 1-B.):* Implement restoration projects simultaneously rather than sequentially.
 - *Action 1-C.):* Relay live oysters to jump start restoration experiments by moving oysters within the same general location and applying them to form a shallow layer of oysters over existing healthy reefs (not recommended as a management approach).

Lead: FWC	Partners: FSU, UF, FDACS, local Gov., FDOT, NGOs, coastal property owners, CAB
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- 2) Use experimental evidence and habitat suitability analyses to determine the most suitable substrate (e.g., limestone, granite, spat-on-shell, artificial structures) for restoring, enhancing, and/or developing new reef structures that will increase productivity in the Apalachicola Bay oyster ecosystem.
 - *Action 2-A.):* Conduct restoration experiments to test efficacy of different materials.
 - *Action 2-B.):* Use knowledge gained from experiments to recommend best practices for broad scale restoration in the ABS.

Lead: FSU	Partners: UF, FWC, FDACS, CAB
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- 3) Determine area (acres or km²) of oyster reefs that currently support live oysters as well as the area needed to ensure sufficient spat production that will support sustainability of oyster reefs and sustainability of a wild oyster fishery throughout the ABS.
 - *Action 3-A.):* Map existing oyster reefs using multibeam sonar and backscatter, and ground-truth for accuracy.

- *Action 3-B.):* Apply model that uses reproductive output, recruitment, natural mortality rates and fishery harvest to assess oyster population dynamics.

Lead: FWC	Partners: FDACS, FSU, UF
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4) Develop criteria for restoring specific reefs or reef systems damaged by environmental conditions or natural disasters.

- *Action 4-A.):* Evaluate degree of damage and potential for recovery.
- *Action 4-B.):* Develop an approach for mitigating damage (e.g., physical repair, spat supplements, or some combination of both).
- *Action 4-C.):* Determine periodicity of hatchery-produced spat addition (e.g., annually or longer) with a specific timeline for continuing the approach. This approach is not intended to create a put-and-take fishery.

Lead: FSU	Partners: UF, FWC, FDACS, CAB
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5) Identify monitoring needs for assessing the health of oyster populations (including disease) and detecting changes in environmental conditions and habitat quality (for oysters and other reef-associated species) over time.

Action 5-A.): Continue monitoring intertidal and begin monitoring sub-tidal reefs/habitat monthly and bi-annually using same protocols as FWC sub-tidal monitoring. Adjust to add metrics as needed. Data will be shared between FWC and ABSI.

Action 5-B.): Conduct ‘spot-checks’ at a large number (TBD) of different locations in the Bay to supplement the more intensive monitoring data. Document volume of rock/shell/oysters, number of spat, medium and market sized live oysters and boxes together with environmental data.

Action 5-C.): Collect long-term in situ environmental data using ABSI instruments and integrate ANERR environmental and nutrient data as correlates with oyster metrics.

Action 5-D.): Generate health indicators for ABSI using monitoring data, and other ecological factors (e.g., oyster-associated communities and structural complexity).

Lead: FSU	Partners: FWC, FDACS, ANERR
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PRIORITY 2 STRATEGIES

6) Develop ecosystem models that forecast future environmental conditions and oyster population status.

- *Action 6-A.):* Collect data needed by the models, and follow up with testing the models to refine accuracy of output.
- *Action 6-B.):* Coordinate with appropriate state and federal agencies, pertinent out of state user groups, and other initiatives working on both geographically-constrained and basin-wide water-flow alterations and management strategies that contribute positively to the health of the ABS.

Lead: UF	Partners: FWC, FDACS, FSU
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7) Assess existing ecosystem services metrics used for other oyster studies, and develop a list of ABSI specific metrics to assess change over time.

- *Action 7-A.):* Conduct literature review and work with Florida Oyster Recovery Science (FORS) working group to identify measurable indicators of changes in ecosystem services
- *Action 7-B.):* Integrate ecosystem services metrics into monitoring program.

Lead: FSU	Partners: UF, FWC, FDACS, universities, government agencies
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PRIORITY 3 STRATEGIES

- 8) Seagrass and other submerged aquatic vegetation (SAV), and wetland and riparian habitat should be restored concurrently on appropriate substrate/bottom to work synergistically with oyster habitat restoration to enhance restoration of the ABS.

Lead: DEP

Partners: Franklin Co., FSU, UF, FWC, FDACS

APALACHICOLA BAY SYSTEM ECOSYSTEM-BASED ADAPTIVE MANAGEMENT AND RESTORATION PLAN — GOAL B

SUSTAINABLE MANAGEMENT OF OYSTER RESOURCES

ELEMENTS TO BE CONSIDERED FOR THE PLAN

GOAL B: productive, sustainably, and adaptively managed Apalachicola Bay System supports sustainable oyster resources.

GOAL B PRIORITIZED STRATEGIES

PRIORITY 1 STRATEGIES

1. Evaluate a suite of management approaches that in combination achieve the goal of maintaining a sustainable wild oyster fishery as measured in relation to relevant performance metrics for determining success.
 - *Action 1-A.):* Evaluate and develop standards for a potential limited-entry fishery that would be managed adaptively with the number of entrants in the fishery based on the current sustainable harvest level. Evaluate the potential for establishing a limited-entry oyster fishery program and various management strategies through a transparent representative stakeholder driven consensus-building process that includes vetting the plan with local oystermen and FWC law enforcement.
 - *Action 1-B.):* Implement a Bay-wide summer wild harvest fishery closure.
 - *Action 1-C.):* Provide daily harvest limits in conjunction with a Monday – Friday five-day harvest week.
 - *Action 1-D.):* Implement a recreational wild oyster harvest limit of for example, one 5-gallon bucket of oysters, and allow recreational harvest during the same season the fishery is open to commercial harvest using the same gear.
 - *Action 1-E.):* Manage harvest areas to prevent the concentration of effort in specific locations by allowing all of the legal and approved (FDACS) harvest areas of the Bay to be open during the harvest season and harvesting hours (Strategy 10-B and 10-C above).
 - *Action 1-F.):* Establish the 5% undersize oyster limit for both harvesters and dealers.
 - *Action 1-G.):* Clarify that it is an allowable practice for oystermen to weigh oyster bags while on the water to ensure the bags meet the weight limit regulations.

- *Action 1-H.):* Implement stock-based temporary wild harvest closures in conjunction with regular stock assessments of the oyster density.
- *Action 1-I.):* Evaluate and determine a metric used to manage oyster reef harvest at a sustainable threshold. Consider a graduated set of thresholds.
- *Action 1-J.):* Implement an annual stock assessment using fisheries dependent and independent data, with data collection methods and site selection done in collaboration with oystermen, for determining a sustainable level of wild oyster harvest for each season.

Lead: FSU/UF

Partners: FWC, stakeholders

2. Recommend specific criteria and/or conditions, with related performance measures for the reopening of Apalachicola Bay to limited wild oyster harvesting.
 - *Action 2-A.):* Use ABSI ecosystem health metrics and FWC/UF models to develop criteria for opening and closing wild oyster harvest and for determining sustainable harvest.
 - *Action 2-B.):* Work with FWC and FDACS to ensure that definitions of oyster population health are not only based on harvest metrics.

3. Conduct an oyster stock assessment for the ABS with periodic updates.

Lead: FWC

Partners: FSU, UF, NGOs, citizen scientists, watermen

4. Manage the commercial oyster industry and recreational oyster fishing to provide for sustainable spat production and the recovery of oyster populations.
 - *Action 4-A.):* Evaluate management scenarios (e.g., seasonal (summer) closure to wild harvesting, rotational closures, 5-day work weeks, non-harvested spawning reefs (permanent closures), limited entry, transferable license program, closures based on stock levels (stock assessment), reduced bag limits, bag tags, relaying oysters to better habitat, additional enforcement presence, manage harvest areas to prevent the concentration of effort in specific locations (open larger areas).
 - *Action 4-B.):* Develop strategies to limit oyster harvest to periods outside of peak spawning season.
 - *Action 4-C.):* Evaluate existing allowable and minimally destructive alternative gear type options and harvest methods, including the use of experimental gear for wild oyster harvesting.

Lead: FWC

Partners: oystermen, FSU, UF, Sea Grant

5. Work with FWC Law Enforcement to develop enforcement strategies and appropriate penalties sufficient to deter harvest or sale of undersized oysters as well as violations that harm wild or leased oyster reefs and other natural resources, and that will support restoration efforts in the ABS.
 - *Action 5-A.):* Develop strategies to increase FWC enforcement presence and number of checkpoints to provide a deterrent to illegal activities.
 - Provide law enforcement presence during peak harvesting periods, and on the water during harvest season hours.
 - *Action 5-B.):* Develop strategies to ensure consistent practices are used for enforcement of regulations regarding the harvestable and marketable size of oysters. (See Actions 5-F and 5-G)
 - *Action 5-C.):* Revise statutes and/or rules as needed to require FWC to check harvested oysters for size-limit enforcement* before they are washed and processed. Once processed, enforcement of oyster size-limits should be limited to oysters under 2.75” because processing changes shell height.

* *Sampling and other data collection activities shall not be impacted by this recommendation.*

- *Action 5-D.):* Evaluate and enhance, as needed, the regulations and enforcement practices to ensure dealers accurately identify the source of oysters after processing and packaging.
- *Action 5-E.):* Evaluate and revise, as needed, the statutory and/or regulatory requirements to ensure that FWC has authority to enforce oyster regulations at the dealers’ location.
- *Action 5-F.):* Work with FWC and FDACS to implement recommended enforcement changes.
- *Action 5-G.):* Work with oystermen to evaluate current rules and regulations to ensure they are enforced consistently, fairly, and practically with an understanding of real-world on-the-water harvesting practices and constraints.
- *Action 5-H.):* Evaluate and seek authority to implement a tiered system of penalties for purposeful violators (increased fines and license suspensions ranging from increased length of suspension to the permanent loss of license) to keep purposeful violators out of the industry.
- *Action 5-I.):* Encourage community and industry support for consistent judicial imposition of penalties within the existing penalties framework for oyster harvest violations, including imposing stricter penalties for habitual and willful violators.
- *Action 5-J.):* Prior to the opening of each harvest season FWC should conduct a joint workshop between FWC law enforcement and the oystermen to review the current rule and regulations, identify any changes, discuss enforcement approaches relative to harvest practices and constraints on the water, and to provide mutual two-way education, and enhance communication and collaboration between FWC and oystermen.
- *Action 5-K.):* Work together and with other stakeholders to seek funds to support the recommended increased law enforcement presence in the Bay.

Lead: FWC/FDACS	Partners: FSU-CAB, CAB Successor Group, oystermen, oyster dealers
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6. Evaluate the development of a policy that would require setting sustainable harvest goals and placing limitations on or a complete closure to harvesting based on the results of data (e.g., stock assessment) collected and evaluated under a comprehensive monitoring program designed to sustainably manage the resource.
 - *Action 6-A.):* Convene a co-management advisory committee comprised of state and federal agencies, and other appropriate experts, to assess and make recommendations on oyster habitat needs in conjunction with harvest management strategies.
 - *Action 6-B.):* Convene an Oyster Advisory Board within FWC to review and make recommendations on management and enforcement of the oyster fishery once wild oyster harvesting resumes in Apalachicola Bay.

Lead: FWC	Partners: FDACS, FSU, UF, local governments
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7. Restore and create reef structures suitable in size, location, and substrate type for healthy and sustainable oyster settlement, production, and harvesting.
 - *Action 7-A.):* Include oystermen in discussions to evaluate cultching techniques and materials for growing oysters (e.g., historical non-traditional, trees), adding spat on shell or other substrates.
 - *Action 7-B.):* Include oystermen in discussions on spatial configuration of reefs (height, width, contours, etc.), locations (existing reefs and hard bottom), use of larger rock to protect restored reefs from siltation and sedimentation from prevailing currents and storms.

Lead: FWC	Partners: FSU, UF, Sea Grant, watermen & aquaculture organizations, local county programs
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- *Action 7-C.):* Design and implement restoration projects to achieve oyster fishery production targets.
- *Action 7-D.):* Design restoration projects that include both fished and non-fished reefs.

Lead: FWC	Partners: FSU, UF, NOAA for funding
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PRIORITY 2 STRATEGIES

8. Recommend policies and actions that retain and recycle shell for habitat replenishment in the ABS.
 - *Action 8-A.):* Develop agency rules and policies that require shell retention and recycling for habitat replenishment through a fee or incentive program.
 - *Action 8-B.):* Obtain legislative support for statutes that support or require shell recycling and oyster habitat replenishment. (e.g., Texas House Bill 51 (2017); [North Carolina General Statute §130A-309.10](#) (2010); Maryland House Bill 184; Chapter 157, F.S. (McClellan 1881).
 - *Action 7-C.):* Establish and/or expand partnerships with local organizations, stakeholder groups, industry, and universities in shell recycling programs.

9. Use decision-support tools to develop a system of potential closed areas that are well defined in terms of size, location, and longevity and include rotational and seasonal harvest areas, as well as long-term closed areas in strategic locations to provide habitat for year-round protection for brood stock and enhanced spawning opportunities.
 - *Action 9-A.):* Engage local stakeholders in determining total coverage (how much to protect), placement (where to protect), and size (how large) of all types of potential closed areas using gridded maps as well as distributions of selected fishery and ecologically important species.

10. Use ecological quantitative modeling and other decision support tools to evaluate strategies and actions, and define performance criteria for an oyster population that can sustain a pre-determined level of wild oyster harvest, with a stipulated number of harvesters (limited entry), and protocols to ensure sustainability.
 - *Action 10-A.):* Use model outputs to identify the oyster population abundance that can support sustainable harvest.
 - *Action 10-B.):* Use model outputs to identify percentage of the total reef area that is sufficiently productive to support sustainable harvest.
 - *Action 10-C.):* Use model outputs to identify annual; recruitment required to support sustainable harvest.
 - *Action 10-D.):* Use model outputs to determine amount and frequency of habitat replacement to maintain productive oyster reefs.

Lead: FSU/UF	Partners: FWC, stakeholders
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11. Work with FDACS to ensure that oyster aquaculture practices and locations in the Bay are compatible with the goals and strategies for restoration and management of the ecosystem and are compatible with wild fisheries and the important cultural role of a working waterfront and seafood industry.
 - *Action 11-A.):* Develop maps using FDACs data showing all aquaculture activities in the ABS, superimposed on existing maps of essential fish habitat, fishing activities, seagrass beds, and natural existing hard bottom (reefs/bars) to identify potential conflicts.
 - *Action 11-B.):* Utilize habitat and activity maps from *Action 5. A.* to identify potential new oyster restoration areas and areas that could be used as spawning reefs to enhance recruitment and productivity nearby harvested reefs.

Lead: FDACS	Partners: FSU, UF, FWC, oystermen
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12. Investigate oyster shell and oyster relay programs to move both cultch and live oysters to more favorable habitat (relay programs are recommended to only be used for restoration experiments).
- *Action 12-A.*): Use model and mapping information on larval source areas and environmental conditions to inform the potential programs.
 - *Action 12-B.*): Research similar relay programs in other areas for potential models and cautions.

Lead: FDACS/FWC	Partners: FSU, UF, Sea Grant, FDEP, FDOH, stakeholders (oystermen)
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PRIORITY OF STRATEGIES BY GOAL AREA	
ALL STRATEGIES WITHIN EACH PRIORITY LEVEL (1 – 3) ARE OF EQUAL PRIORITY AND WILL BE IMPLEMENTED BASED ON A LOGICAL SEQUENCING	
Priority 1 Strategies (Prioritization ranking between 10 and 8) = Important To Do Now	
GOAL A	GOAL B
1.) Restore and create reef structures suitable for sustained oyster settlement that enhance ecosystem services in designated restoration areas. (#1 – 9.6) <i>(#1 overall rank for Goal A – 9.6 mean/average)</i>	1.) Evaluate a suite of management approaches that in combination achieve the goal of maintaining a sustainable wild oyster fishery as measured in relation to relevant performance metrics for determining success. (#1 – 9.3) <i>(#1 overall rank for Goal B – 9.3 mean/average)</i>
2.) Use experimental evidence and habitat suitability analyses to determine the most suitable substrate (e.g., limestone, granite, spat-on-shell, artificial structures) for restoring, enhancing, and/or developing new reef structures that will increase productivity in the Apalachicola Bay oyster ecosystem. (#2 - 8.7)	2.) Recommend specific criteria and/or conditions, with related performance measures for the reopening of Apalachicola Bay to limited wild oyster harvesting. (#2 – 9.0)
3.) Determine area (acres or km ²) of oyster reefs that currently support live oysters as well as the area needed to ensure sufficient spat production that will support sustainability of oyster reefs and sustainability of a wild oyster fishery throughout the ABS. (#3 - 8.6)	3.) Conduct an oyster stock assessment for the ABS with periodic updates. (#3 – 8.8)
4.) [^] Develop criteria for restoring specific reefs or reef systems damaged by environmental conditions or natural disasters. (#4 – 8.2)	4.) Manage the commercial oyster industry and recreational oyster fishing to provide for sustainable spat production and the recovery of oyster populations. (#4 – 8.75)
5.) [^] Identify monitoring needs for assessing the health of oyster populations (including disease), and detecting changes in environmental conditions and habitat quality (for oysters and other reef-associated species) over time. (#4 – 8.2)	5.) Work with FWC Law Enforcement to develop enforcement strategies and appropriate penalties sufficient to deter harvest or sale of undersized oysters as well as violations that harm wild or leased oyster reefs and other natural resources, and that will support restoration efforts in the ABS. (#5 – 8.6)
[^] Priority #4 and #5 above received the same ranking.	6.) Evaluate the development of a policy that would require setting sustainable harvest goals and placing limitations on or a complete closure to harvesting based on the results of data (e.g., stock assessment)

	collected and evaluated under a comprehensive monitoring program designed to sustainably manage the resource. (#6 – 8.5)
	7.) Restore and create reef structures suitable in size, location, and substrate type for healthy and sustainable oyster settlement and production, and harvesting. (#7 – 8.3)
Priority 2 Strategies (Prioritization ranking between 7 and 5) = Important But Less Time Sensitive	
GOAL A	GOAL B
6.) Develop ecosystem models that forecast future environmental conditions and oyster population status. (#6 – 7.2)	8.) Recommend policies and actions that retain and recycle shell for habitat replenishment in the ABS. (#8 – 7.7)
7.) Assess existing ecosystem services metrics used for other oyster studies and develop a list of ABSI specific metrics to assess change over time. (#7 – 6.7)	9.) Use decision-support tools to develop a system of potential closed areas that are well defined in terms of size, location, and longevity and include rotational and seasonal harvest areas, as well as long-term closed areas in strategic locations to provide habitat for year-round protection for brood stock and enhanced spawning opportunities. (#9 – 7.6)
	10.) Use ecological quantitative modeling and other decision support tools to evaluate strategies and actions, and define performance criteria for an oyster population that can sustain a pre-determined level of wild oyster harvest, with a stipulated number of harvesters (limited entry), and protocols to ensure sustainability. (#10 – 7.5)
	11.) Work with FDACS to ensure that oyster aquaculture practices and locations in the Bay are compatible with the goals and strategies for restoration and management of the ecosystem and are compatible with a wild fisheries and the important cultural role of a working waterfront and seafood industry. (#11 – 6.8)
	12.) Investigate oyster shell and oyster relay programs to move both cultch and live oysters to more favorable habitat (relay programs are recommended to only be used for restoration experiments). (#12 – 5.9)
Priority 3 Strategies (Prioritization ranking between 4 and 1) = As Time and Resources Allow	
GOAL A	GOAL B
8.) Seagrass and other SAV, and wetland and riparian habitat should be restored concurrently on appropriate substrate/bottom to work synergistically with oyster habitat restoration to enhance restoration of the ABS. (#8 – 4.73)	

ATTACHMENT 8
STAKEHOLDER RESOURCES IN SUPPORT OF ABSI

STAKEHOLDER RESOURCES AVAILABLE AND COLLABORATION INITIATIVES
IN SUPPORT OF ABSI — UPDATED 16 NOVEMBER 2021

ORGANIZATION	RESOURCES AVAILABLE AND COLLABORATION INITIATIVES
Riparian County Stakeholder Coalition (RCSC)	<ul style="list-style-type: none"> • Staff assistance (Ken Jones, coordinator and engineer). • Request funds from the 6 RCSC counties for funding specific stipulated projects. • Established working stakeholder relationships including working with the Apalachicola-Chattahoochee-Flint Stakeholders (ACFS) group on a Sustainable Water Management Plan for the equitable distribution of water to the Basin. • Collaborating with the ABSI on water flow metrics development in the Basin. • Working with stakeholders including Tri-Rivers Commission on navigation issues for the tri-rivers region (ACF).
Florida Fish and Wildlife Conservation Commission (FWC)	<ul style="list-style-type: none"> • Implementing Bay oyster restoration project funded by NFWF. • Potential funding for future smaller restoration projects. • Restoration design and monitoring assistance. • Collaborating with the ABSI on water flow metrics development in the Basin. • Science, data, and research support.
City of Apalachicola	<ul style="list-style-type: none"> • Committed to serving on the ABSI CAB for at least 4 more years to help guide the development of the Bay Management Plan. • Help with convening the CAB Successor Group that will help oversee the implementation of the Bay Management Plan. • Agree to uphold current local regulations that help ensure Apalachicola Bay is free of pollution and allows commercial fishermen to use city boat ramps to access the water.
Apalachicola Riverkeeper	<ul style="list-style-type: none"> • Nimble and can move fast to take action as needed. • Assist with public outreach initiatives including meeting with and educating stakeholders on issues. • Provide field trips to take stakeholders and decision-makers to see locations and issues in the field. • Social media support and communications. • Assist with collaborative initiatives such as working and coordinating with existing partners including Apalachicola-Chattahoochee-Flint Stakeholders (ACFS) and the Riparian County Stakeholder Coalition (RCSC). • Working on watershed restoration initiatives including the current Apalachicola River Slough Restoration project that also includes collaborating with ANERR and other stakeholders. • Share science and data with stakeholders.
Florida Department of Agriculture and Consumer Services (FDACS)	<ul style="list-style-type: none"> • Assist with collaboration and communication between stakeholders. • Staff assistance.

	<ul style="list-style-type: none"> • Field office and laboratory support. • Provide data and research including water quality sampling data and monitoring.
The Pew Charitable Trusts	<ul style="list-style-type: none"> • Working on various management plans across the Region. • Working with National Estuarine Research Reserves (NERR) across the Country • Resources including staffing, funding, research, and data. • Committed to funding the facilitation of ABSI for initial part of Phase IV. • Committed to the development of a broader state-wide oyster management plan. • Committed to staying involved in the development and implementation of the ABS Plan. • Staff to assist with communication, analysis of data and issues, social media and blogs. • Committed to working and communicating with other stakeholders including The Nature Conservancy (TNC). • Pew has an extensive network of stakeholder partners and a national presence. • Assist with funding for projects and in identifying other funding sources. • Funding of economic assistance initiatives such as purchasing farm-raised oysters for restoration projects.
Water Street Seafood	<ul style="list-style-type: none"> • Operational oyster processing house. • Water-side facilities and dock to assist with the project. • Can provide oyster shells at market price or donate on a limited basis. Have experienced staff that could assist.
Apalachicola National Estuarine Research Reserve (ANERR)	<ul style="list-style-type: none"> • Research and monitoring support. • Education, outreach, and training support. • Education to local schools. • Opportunities working with the Conservation Corps of the Forgotten Coast. • Aquaculture education grants. • Relationships and working with agencies. • Working with partner agencies to receive NOAA funding. • Mapping support from existing coastal mapping program, and that could be potentially developed into a single state-wide GIS layer.

ATTACHMENT 9
ABSI STRATEGIES — LEADS, PARTNERS, AND RESOURCES TABLE

STRATEGIES AND ACTIONS WITH PROPOSED LEADS, PARTNERS, AND RESOURCES

The following table is for illustrative purposes, and discussion and completion of this table is planned for Phase IV of the CAB process.

GOAL A: ECOLOGICAL/RESTORATION PRIORITY 1 STRATEGIES/ACTIONS	LEAD/PARTNERS	RESOURCES
Strategy 1.) Restore and create reef structures suitable for sustained oyster settlement that enhance ecosystem services in designated restoration areas.	Lead: FWC/FWRI Partners: FSU, UF, local Gov., FDOT, NGOs, coastal property owners, CAB Successor Group	Student help from universities (FSU/UF)
<i>Action 1-A.)</i> : Design and implement projects to achieve multiple ecosystem service targets (e.g., commercial and recreational fishing, shoreline protection).	Same as above and oystermen	Same as above
GOAL B: SUSTAINABLE MANAGEMENT PRIORITY 1 STRATEGIES/ACTIONS	LEAD/PARTNERS	RESOURCES
Strategy 1.) Evaluate a suite of management approaches that in combination achieve the goal of maintaining a sustainable wild oyster fishery as measured in relation to relevant performance metrics for determining success.	Lead: FSU/UF Partners: FWC, stakeholders	Student help from universities (FSU/UF)
GOAL C: MANAGEMENT & RESTORATION PLAN PRIORITY 1 STRATEGIES/ACTIONS	LEAD/PARTNERS	RESOURCES
Strategy 1.) The ABSI Team and the CAB will continue to have an open and transparent process for the development of the Plan with many opportunities for stakeholder engagement and input in a variety of forums (e.g., workshops, online, public/ government meetings) for generating awareness and support while incorporating any changes the CAB deems appropriate and necessary to fulfill the goals and objectives.	Lead: FSU Partners: CAB, CAB sub-committee, other stakeholders	Initiated
GOAL D: ENGAGED STAKEHOLDER COMMUNITY PRIORITY 1 STRATEGIES/ACTIONS	LEAD/PARTNERS	RESOURCES
Strategy 1.) Develop a Community Advisory Board (CAB) for the ABS Initiative that provides critical information and perspective to the ABSI leadership and whose members recognize the importance of their role as ambassadors for the initiative.	Lead: CAB Community Outreach Subcommittee Partners: FSU, CAB, CAB Successor Group, ABS stakeholders	Initiated
GOAL E: THRIVING ECONOMY PRIORITY 1 STRATEGIES/ACTIONS	LEAD/PARTNERS	RESOURCES
Strategy 1.) Engage commercial fishermen in the restoration of the bay and encourage future participation in restoration such as monitoring, shell recycling, shelling, and relaying.	Lead: CAB Successor Group Partners: Stakeholder groups, Chamber of Commerce, local government	TBD

ATTACHMENT 10

ABSI OVERARCHING MESSAGE INITIAL IDEAS

ABSI OVERARCHING MESSAGE INITIAL IDEAS

Initial ideas for an overarching message that would resonate with the ABS Community and solicit action toward implementation of the Plan.

At the 19 October 2021 meeting CAB was asked to report their ideas for crafting an overarching message with aspirational goals that would resonate with the ABS Community toward fostering support and action toward implementation of the Plan. A rallying call to energize people around implementation of the ABSI Plan. Following are the preliminary comments:

- Keep the message simple and clear: “restoring the Apalachicola Bay oyster fishery.” Need to focus message on restoring the oyster fishery with all of the economic benefits and cultural components. Oysters are the lifeblood of Franklin County. “Restore the Bay.” Franklin County is known for oysters.
- Money was given to restore the fishery, so it is important to emphasize the central feature of oyster restoration in the effort.
- “Bringing back Apalachicola Bay oysters.”
- Broaden focus to include other species such as shrimp and reef fish. Highlight the connection of the abundance of seafood to the health of the Bay. Include the importance of the health of the Bay to recreational activities.
- Broaden the message to make it less oyster-centric. Need to take in (engage) people outside of the Bay.
- Message should resonate with all communities.
- “A healthy Bay = abundant oysters and a thriving community.” Broaden the message out.
- “Take care of Bay and it will take care of us.” The health of the Bay is good for all of use. Message should convey why it is important to restore the health of the Bay.
- Communicate the habitat and ecosystem services component of the role of oysters and the role in having thriving fisheries and economy.
- Oysters critical to the local Community; the message should not be “diluted” by inclusion of other species and elements.
- Need several messages for different audiences targeted to them.
- The local vs. outside target audiences issue complicates the discussion. Need more discussion.
- This issue needs additional discussion between stakeholders.

The overarching messaging discussion will continue during Phase IV of the ABSI project.