

APALACHICOLA BAY SYSTEM INITIATIVE (ABSI)  
ABSI COMMUNITY ADVISORY BOARD (CAB)

MEETING VI SUMMARY REPORT

JULY 16, 2020  
VIRTUAL ZOOM MEETING

*Unanimously Adopted without Changes at the September 9, 2020 CAB Meeting*



CONSENSUS CENTER

FACILITATED AND SUMMARIZED BY ROBERT JONES AND JEFF BLAIR



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**ABSI COMMUNITY ADVISORY BOARD (CAB)**  
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*Table of Contents*

<b>MEETING VI EXECUTIVE SUMMARY</b>	<b>3</b>
<b>MEETING VI SUMMARY</b>	<b>9</b>
<b>I. INTRODUCTION</b>	<b>10</b>
A. INTRODUCTIONS AND AGENDA. MAY 22 SUMMARY REVIEW AND REVIEW OF THE WORKPLAN	10
<b>II. ABSI PROJECT BRIEFINGS AND UPDATES</b>	<b>10</b>
A. MODEL UPDATE AND DEMONSTRATION, ED CAMP	10
B. HABITAT SUITABILITY ANALYSIS PREDICTIVE MODELING, LAURA GESELBRACHT	13
<b>III. VISION THEMES, GOALS, OUTCOMES &amp; OBJECTIVES FOR THE APALACHICOLA BAY SYSTEM</b>	<b>15</b>
<b>IV. GOAL STRATEGIES</b>	<b>16</b>
A. A HEALTHY AND PRODUCTIVE BAY ECOSYSTEM STRATEGIES	16
1. Draft Objectives to address the goal and objectives	16
2. Draft Strategies (12) to address the goal and objectives	16
B. SUSTAINABLE MANAGEMENT OF OYSTER RESOURCES	18
1. Draft Vision Theme	18
2. Draft Objectives to address the goal and objectives	18
3. Draft Strategies (11) to address the goal and objectives	19
C. A THRIVING ECONOMY CONNECTED TO A RESTORED APALACHICOLA BAY SYSTEM	20
1. Draft Strategies (18) to address the goal and objectives	20
D. AN ENGAGED STAKEHOLDER COMMUNITY AND INFORMED PUBLIC	23
1. Draft Vision Theme	23
2. Draft Strategies (22) to address the goal and objectives	23
E. AN ECOSYSTEM-BASED MANAGEMENT AND RESTORATION PLAN	26
<b>V. PUBLIC COMMENT &amp; NEXT STEPS</b>	<b>26</b>
 <b>APPENDICES</b>	
Appendix #1	Meeting Participant List
Appendix #2	Agenda
Appendix #3	CAB meeting July 16, 2020, Meeting VI Zoom Evaluation Summary
Appendix #4	ABSI CAB Schedule and Workplan
Appendix #5	ABSI CAB Vision Themes, Goals, Outcomes & Objectives
Appendix #6	ABSI Chad Taylor Strategies Worksheet
Appendix #7	ABSI CAB Terms and Definitions

**APALACHICOLA BAY SYSTEM INITIATIVE (ABSI)**  
**ABSI COMMUNITY ADVISORY BOARD (CAB)**  
**ZOOM MEETING VI EXECUTIVE SUMMARY**

July 16, 2020

Jeff Blair, FSU FCRC Consensus Center and part of the FSU Facilitation Team, welcomed the members to the 6<sup>th</sup> meeting of the Apalachicola Bay System Initiative’s Community Advisory Board. He introduced the online virtual meeting guidelines and his partner member of the ABSI Facilitation Team, Bob Jones, and the FSU ABSI Team members, Felicia Coleman and Sandra Brooke. Members of the Community Advisory Board in attendance (Appendix 1) introduced themselves and the facilitators reviewed the agenda (Appendix 2) with the members which they approved. Members also approved the Facilitator Summary for the May 22, 2020 CAB Meeting V (Appendix 3) without changes. The CAB reviewed and updated the Project Meeting Schedule and Work plan (Appendix 4). The CAB agreed to add virtual meetings in October and December 2020.

The CAB heard two presentations on modeling: a decision support tool model for oyster populations in Apalachicola Bay and a habitat suitability model for Pensacola Bay.

Ed Camp, Assistant Professor, Fisheries and Aquaculture Governance, University of Florida, presented a scientifically rigorous model that he is developing that will provide a quantitative, spatially-explicit representation of oyster populations (from egg to adult) and fisheries and serve as a decision support tool for management and restoration. The resulting model will be as simple a model as possible that represents reality well enough to be able to predict how changes in environment and management will affect population outcomes. He sees the CAB’s role is to provide a healthy but productive level of skepticism, while providing necessary input and help that generates fruitful discussion. Once completed, the model should allow the CAB to ask “what if” questions about the population-level and economic outcomes of management or restoration actions, among other things.

Laura Geselbracht, Senior Marine Scientist at The Nature Conservancy in Florida and a member of the ABSI Science Advisory Board, presented their Habitat Suitability Model. This model is being used to develop a stakeholder-driven oyster ecosystem plan in the Greater Pensacola Bay system to determine the most suitable areas for supporting oyster reefs. CAB members discussed what the minimum dissolved oxygen (DO) thresholds over what period of time must be; the effect of frequent freshwater events on DO; overlay DO with the needs of oyster populations in Apalachicola Bay; and what additional data needs to be collected in order to prevent oyster mortality.

The CAB has gone through an iterative process to develop its “Vision of Success” themes, starting with the September 2019 CAB Questionnaire responses. The language for vision themes, goals were reviewed and finalized, subject to future refinements, by the CAB at the January 8, 2020. The CAB framework based on the vision themes includes:

- A. A Healthy and Productive Bay Ecosystem
- B. Sustainable Management of Oyster Resources
- C. A Thriving Economy Connected to a Restored Apalachicola Bay System
- D. An Engaged Stakeholder Community and Informed Public

E. An Ecosystem-Based Management and Restoration Plan that is Science-Based, Fully Funded and Supported by Apalachicola Bay System Stakeholders

The Vision Theme, Goal, Outcome and Objectives for the five-goal framework are included in Appendix #5. Detailed changes made at this meeting in themes A through D are included in the body of this summary. Comments from CAB Members were solicited through a Strategies Worksheet (example shown in Appendix 6). Definitions and terms used throughout appear in Appendix 7.

**GOAL A: A HEALTHY AND PRODUCTIVE BAY ECOSYSTEM**

The ABSI Team proposed the following edits to the objectives and the CAB agreed to the changes.

A1) To develop restoration and adaptive management plans for the ABS that allow rapid changes to the regulatory framework to address changes in environmental conditions (e.g., freshwater flow, water quality), and habitat quality.

Objective A6) is covered in Goal B and will be added.

Objective A7) will be moved to the Strategy section for Goal A.

Following the May 22, 2020 CAB meeting, the ABSI Project Team addressed suggestions by CAB members and combined a number of strategies to create a revised list of nine strategies. The CAB reviewed, refined and agreed to these strategies subject to further refinement.

- 1) Increase productivity of the Apalachicola Bay oyster ecosystem by restoring, enhancing, and/or developing new reef structures (some of which would be maintained as conservation areas) based on experimental evidence for the most suitable substrate (e.g., granite, spat-on-shell, artificial structures) and on habitat suitability analyses using the best available scientific information coupled with the knowledge and experience of managers and stakeholders.
- 2) Use decision support tools to develop permanently closed areas in strategic locations (e.g., near fully open harvestable reefs, rotational reefs, or that include newly placed restoration structures) as conservation areas that can provide spat locally and protect ecosystem function.
- 3) Develop criteria for sustaining specific reefs or reef systems damaged by environmental conditions or natural disasters that includes (1) degree of damage and potential for recovery; (2) approach for mitigating damage (e.g., physical repair, spat supplements, or some combination of both); (3) periodicity of spat addition (e.g., annually or longer); (4) specific timeline for continuing the approach (e.g., 3 years or longer). This approach is not intended to create a put-and-take fishery.
- 4) Base all management decisions and monitoring requirements on high-quality scientific data.
- 5) Determine area (acres or km<sup>2</sup>) of healthy oyster reefs needed to ensure sufficient spat production that will support sustainability of oyster reefs and sustainability of a limited entry fishery throughout the ABS.
- 6) Identify monitoring needs for assessing the health of oyster populations, and over time detecting changes in environmental conditions and habitat quality (for oysters and other reef-associated species).
- 7) Ecosystem models that forecast future environmental conditions should include the effects of climate change such as increasing sea level and ocean acidification; altered freshwater and salinity gradients, water temperatures, storm intensity and rainfall events, as well as the availability of freshwater.

- 8) Restore habitat in the Apalachicola Bay System that includes targeted quality and quantity of oysters across subtidal and intertidal habitats throughout the ABS.
- 9) Continue to monitor for oyster diseases.

The CAB discussed other potential strategies including issues upstream from the Bay such as freshwater flows. The ABSI modeling will provide the CAB with water flow modeling and there are also the other two projects being implemented by the Apalachicola River Keepers and by Ducks Unlimited.

## **GOAL B. SUSTAINABLE MANAGEMENT OF OYSTER RESOURCES**

The changes proposed by the ABSI Project Team to the Vision theme for Goal B were agreed to by the CAB:

VISION THEME B: A restored Apalachicola Bay System has resulted in a sustainably managed wild harvest oyster fishery while also providing opportunities for other economically viable and complementary industries, including tourism and aquaculture. This is accomplished by working collaboratively with stakeholders to create, monitor and fund a plan that ensures that protection of the habitat and the fishery it supports is guided by science, stakeholder input, and industry experience, and is implemented in a manner that provides both fair and equitable access to and protection for the resource.

The changes proposed by the ABSI Project Team to the Objective B2 were agreed to by the CAB.

B2) To develop by year four (2022) of ABSI a science-based oyster recovery and management plan for both commercial and recreational industries that has broad stakeholder and community support and can be implemented by the State of Florida (e.g., FWC, FDACS, State Legislature) for the ABS that considers, at a minimum: rotational harvest, open and closed areas (both permanent and seasonal), harvesting methods, limited entry, surcharge fees, shell recycling, and a shell budget.

The ABSI Project Team revised language and combined a number of strategies to create a revised list of eight strategies with changes to strategies #1, #2, #3, #6, #7 and #8 as follows:

- 1) The proposed oyster fishery closure in Apalachicola Bay will have well-defined boundaries set by FWC in consultation with FDACS and contained within the Apalachicola Bay System as defined in FWC's Rule 68B-27, F.A.C. (the area includes St. George Sound, East Bay, Apalachicola Bay, and St. Vincent Sound and canals, channels, rivers and creeks, and Indian Lagoon and its canals, channels, rivers and creeks). There will be a well-defined and transparent rationale for why the closure is needed and specific criteria and/or conditions identified with related performance measures required for the reopening of Apalachicola Bay to limited wild oyster harvesting.
- 2) Develop long-term closed areas in strategic locations to provide habitat for year-round protection for brood stock and enhanced spawning opportunities, using the best available scientific data and decision-support tools.
- 3) Focus on developing a shell budget for maintaining reef habitat that will sustain healthy oyster populations and develop strategies for increasing the funding and incentives for and reclamation of local (ABS) shells from local watermen, restaurants, aquaculture operations, and private citizens to supplement shelling of oyster bars and increasing the viability of the oyster resource.
- 4) Define performance criteria for an oyster reef that can sustain an oyster harvest of x bags/acre (e.g., 400 bags/acre).

- 5) Evaluate harvest strategies that include rotational and seasonal harvest areas, including specific area sizes, locations, longevity, and rotational periodicity.
- 6) Evaluate harvest strategies that include a limited entry wild oyster harvest and develop protocols to ensure sustainability prior to any decision to increase entry.
- 7) 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 harvest fishery, and consideration given to the cultural heritage of a seafood town and other social factors.
- 8) Propose enforcement strategies and application of appropriate penalties that will support restoration efforts in the ABS by reducing poaching (e.g., through increased FWC enforcement presence and increased number of checkpoints) and ensuring uniformity in the marketable size of oysters for fishers and buyers.

### **GOAL C: A THRIVING ECONOMY CONNECTED TO A RESTORED APALACHICOLA BAY SYSTEM**

The adopted statements for the vision theme, goal, outcome, and the four (4) objectives are included in Appendix #5.

Goal C. Proposed CAB Strategies were proposed by CAB members and the ABSI project team and were agreed to with some refinements, subject to future changes. The CAB encouraged the ABSI Project Team to combined and simplify the strategies in this section.

- 1) Monitor key economic indicators for changes over time based on restoration efforts to the Apalachicola Bay System (ABS).
- 2) Work with existing partners to monitor and report on the economic benefits to a restored ABS including the Chamber of Commerce, Apalachee Regional Planning Council, and city and county staff.
- 3) Ensure monitoring programs and metrics are in place to measure output/impact of harvest for oyster bars.
- 4) Identify and monitor key economic indicators relevant to the commercial oyster fishery and associated industries in the region.
- 5) Support planning to develop economic indicators that consider future conditions (climate, SLR, reduced river flow) and their effects on the ABS.
- 6) Work with oystermen in the community to develop an oyster aquaculture-brand for the ABS that emphasizes clean water and local connection.
- 7) Promote farmed oysters as product from Apalachicola Bay, in addition to promotion of local wild-caught oysters.
- 8) Develop an oyster aquaculture industry that provides new economic opportunities and is complementary to the wild harvest fishery. Find resources to fund education, businesses assistance and capital to make the transition.
- 9) Create a comprehensive aquaculture training program that assists harvesters in transitioning in to aquaculture helping to diversify their current harvest. Program needs to include businesses training and funding for equipment.
- 10) Find funds to develop aquaculture program and training. Pursue funding to help oyster harvesters purchase aquaculture equipment.
- 11) Build network of successful aquaculture experts that can help the CAB build a successful aquaculture program. (Sea Grant, IFAS, University of Alabama).

- 12) Research new aquaculture products that can be produced in Apalachicola Bay to enhance and diversify aquaculture industry.
- 13) Develop new markets for selling oysters to areas outside of Florida.
- 14) Invest in branding of Apalachicola Bay and the Apalachicola Oyster.
- 15) Increase efforts to maintain and revitalize the working waterfronts in Apalachicola and Eastpoint.
- 16) Coordinate with the local business community and government bodies (i.e., city/county commissions) to ensure environmental impact of industry and business within the ABS are minimized and conducive to a healthy ecosystem.
- 17) Maintain strong land use and development regulations that ensure future uses of Apalachicola Bay are not adversely impacted by development projects.
- 18) Amend local growth management policy plans as necessary to ensure local planning and building regulations meet strong standards compatible with a healthy ABS ecosystem.

#### **GOAL D. AN ENGAGED STAKEHOLDER COMMUNITY AND INFORMED PUBLIC**

The adopted statements for the goal, outcome, and the four (4) objectives are included in Appendix #5. The CAB reviewed and agreed to the changes to the vision theme suggested by CAB member:

VISION THEME D: Stakeholders of the Apalachicola Bay System are committed to working together beyond the Apalachicola Bay System Initiative to disseminate relevant information and advocate for a sustainably managed oyster-based ecosystem. In so doing, the group will facilitate innovative research, development and implementation of best management practices and serve as a hub for information exchange as well as new innovation development\*, education and communication opportunities.

Goal D. Proposed CAB Strategies were proposed by CAB members and the ABSI project team and were agreed to with some refinements, subject to future changes. The CAB encouraged the ABSI Project Team to combined and simplify the strategies in this section.

- 1) Form an outreach and education sub-committee from the CAB that can spearhead development of educational materials and an outreach plan.
- 2) Establish a CAB funding subcommittee that can identify and pursue potential funding mechanisms (e.g., surcharge fees, incentives) and resources to help with education and outreach efforts including ways to measure understanding.
- 3) Develop the structure the CAB needs to help it evolve in to a nonprofit 501c3 entity with representation from the local leadership, industry, harvesters, state agencies that is recognized by the state as the main entity overseeing the Bay Management Plan.
- 4) Pursue funding to build the capacity of the organization and to ensure its longevity. Consider hiring a director to help sustain the CAB.
- 5) Develop a shell recycling program for Apalachicola Bay. Develop a business model and find a funding to provide staffing to recycle shell and to provide incentives for shucking houses/restaurants to recycle shell.
- 6) Engage fishermen in the restoration of the bay and encourage future participation in restoration such as shell recycling, shelling, and relaying.
- 7) Build a program to educate harvesters on the importance of managing public oyster beds.
- 8) Work with FWC and FDACS to develop and implement a program to protect wild and leased oyster bars.

- 9) Honor and reward businesses (and individuals) that demonstrate stewardship and sustainable use of the ABS's resources ("Bay Stewards"). (*Combine #9-13*)
- 10) Decide key messaging for outreach & education plan. Related, identifying target audiences—who are we trying to reach.
- 11) Coordinated media plan on key topics needed.
- 12) Collateral ("marketing materials) published via print and electronic distribution.
- 13) Develop educational material that includes the vision and goals of the ABSI project that can be communicated with local businesses, organizations, and citizens.
- 14) Develop an outreach plan to distribute and communicate project goals and objectives for a healthy ABS ecosystem and economy.
- 15) Support (education, training, financial) the development of alternative fisheries, aquaculture, and restoration science.
- 16) Partner on new and existing grant opportunities.
- 17) Identify education programs that would be beneficial to the industry, especially young entrants.
- 18) Educate Franklin County youth on the history of the region, the fisheries and the value of the ABS.
- 19) Continue and expand efforts to educate the public (residents and tourists) about the history of the region, the fisheries and the value of ABS.
- 20) Plan how to get updates to community leaders and elected officials.
- 21) Develop stakeholder and public surveys that can measure change in understanding of the issues important to the health and restoration of the Bay.
- 22) Review best practices and outcomes and adapt successful techniques and lessons learned from other places/regions. Build a community of practice (i.e., Gulf-wide) for communities interested in the restoration and revitalization of fisheries

Other CAB comments covered: combining and simplifying strategies in this section; strategies for working with stakeholder in the ACF; engaging with NOAA on their drought project; and funding for public education

No members of the public wished to provide comments to the ABSI Community Advisory Board. The facilitators then reviewed the agenda for the 7<sup>th</sup> meeting scheduled for September 9, 2020 and reminded CAB members of the two additional zoom meetings on October 7 and December 9, 2020 in addition the previously scheduled zoom meeting on November 12, 2020. The plan is to continue to identify and refine CAB strategies and actions for the five goals and objectives. Members suggested possible updates and briefing presentations on an update the FWC closure of Apalachicola Bay to wild oyster harvesting; and a possible update on ABSI modeling.

*The members completed an online Zoom meeting evaluation and adjourned at 12:40 pm.*



**APALACHICOLA BAY SYSTEM INITIATIVE (ABSI)**  
**ABSI COMMUNITY ADVISORY BOARD (CAB)**  
**ZOOM MEETING VI SUMMARY**

July 16, 2020

*What follows is a more detailed summary with additional data from the presentations*

**I. INTRODUCTIONS AND AGENDA AND SUMMARY REVIEW**

**A. INTRODUCTION**

Jeff Blair, FSU FCRC Consensus Center and part of the FSU Facilitation Team, welcomed the members to the 6<sup>th</sup> meeting of the Apalachicola Bay System Initiative’s Community Advisory Board. He introduced the online virtual meeting guidelines and his partner member of the ABSI Facilitation Team, Bob Jones, and the FSU ABSI Team members, Felicia Coleman and Sandra Brooke. Members of the Community Advisory Board introduced themselves (*See Appendix #1*) and the facilitators reviewed the agenda with the members which they approved (*See Appendix #2*). They also approved the Facilitator Summary for the May 22, 2020 Meeting V without changes.

**B. REVIEW OF PROJECT MEETING SCHEDULE AND UPDATED WORKPLAN**

The facilitator reviewed the project meeting schedule (*See Appendix #3*) and proposed that additional virtual meetings occur in October and December 2020 and in February 2021. The CAB discussed increasing the level of public awareness of the CAB and its mission and work. The ABSI Project Team agreed to establish a CAB working group of interested members to implement communication strategies. Felicia Coleman indicated the Team will develop a short paper on the FWC closure of oyster harvest on the Bay with talking points for CAB members can use in communication with others.

**II. ABSI PROJECT BRIEFINGS AND UPDATES**

The CAB heard two presentations on modeling: a decision support tool model for oyster populations in Apalachicola Bay and a habitat suitability model for Pensacola Bay.

**A. DECISION SUPPORT TOOLS STATUS UPDATE AND DEMONSTRATION, ED CAMP**

Ed Camp, Assistant Professor, Fisheries and Aquaculture Governance, University of Florida, ABSI partner, presented a scientifically rigorous model that that he is developing that will provide a quantitative, spatially explicit representation of oyster populations (from egg to adult) and fisheries and serve as a decision support tool for management and restoration. He started by reminding the CAB that models are simply representations of reality—not reality itself. Thus, he suggested thinking about the models as sketches that have different levels of detail and complexity. Simple models can represent oyster population but they may not be able to predict in detail how small changes affect outcomes. More detailed models may look better, but they rely on model assumptions being right, they require more data, and they can “offer more ways to mess up.” The goal is to have as simple a model as possible while having it still represent reality well enough to provide useful forecasts about how changes in management and restoration will affect outcomes.

Camp further suggested that the CAB’s role in model development involves:

- **Holding healthy but productive skepticism.** Science and models are not to be taken on faith, nor will any model ever perfectly represent reality. The more realistically models represent all the nuances of reality, the more complicated and cumbersome they become.
- **Input and help.** CAB members know things about oysters and oyster fisheries that may be critical to include in the model. The CAB will review oysters and fisheries assumptions that form the basis of the models, from the perspective of their expertise and experience
- **Generate fruitful discussion.** Finally, one of the main objectives of the models is to generate fruitful discussion among the CAB that supports your recommendations going forward.

### Review models: process

1. Oysters and fisheries assumptions
2. Translate to math and statistical equations
3. Revise with CAB input
4. Fit to data
5. Repeat 3-4
6. Make predictions
  - Environment
  - Management
  - Restoration

Camp will parameterize the model and then fit it to the data to make sure that the equations used are scientifically robust. Once everyone is reasonably happy with the model, it should give the CAB a common tool or language with which to discuss proposed actions. For instance, it can assist the CAB in asking “what if” questions and in forecasting likely and unlikely about the oyster population-level and economic outcomes of different strategies related to environmental conditions, management actions, and restoration actions, while recognizing any disagreement or

uncertainty in the interpretation of results.

Camp ran several simple model demonstrations to show: (1) the limited effect of a large reduction in fishing effort alone on recovery (2) how adding a restoration event simultaneously with a fishery closure provided only a short-lived increase in shell and eggs.

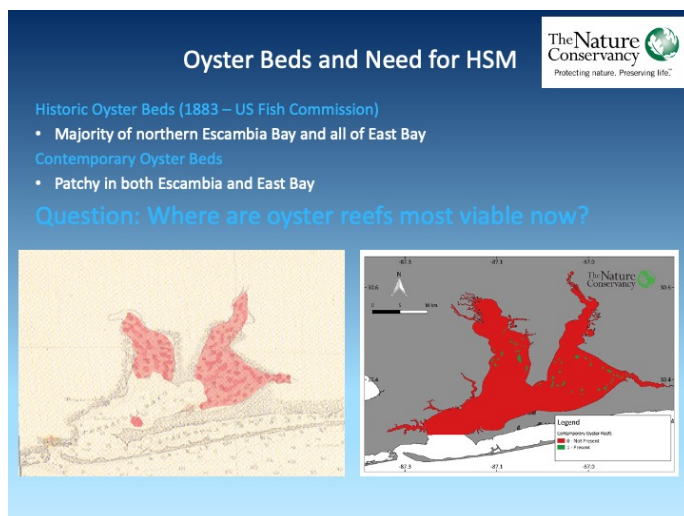
### 7-16-20 CAB Comments and Questions

- What are the sources of this shell model? *A: This model is built on work others have done such as Carl Walters, Mike Wilberg University of Maryland and Oyster Futures oyster model, and Jacob Moore at University of California, Davis. The model makes an assumption of the limit of shells and its impact on recruitment. Conditions interact to produce uncertainty. Heights and spatial areas of bars can be vetted with CAB oystermen.*
- If we do not restore the Bay, shell restoration will not be effective.
- The model relies on spat setting on material. There are areas in the Bay that are different. We need to figure out spat limitation in the Bay. Are we jumping the gun? *A: The generation of spat from adults and whether spat live long enough (15%) to be a recruit will be represented in the model. We will see if there are not enough eggs to produce enough spat to produce adults. Assume Spat limited = Egg limited.*
- *In collaborative modeling we test with the CAB the assumptions and data used, as well as what we know and don't know. We don't have to settle on one oyster model. We have access to 2 other models to run management options and look at results. We want to create management options that are most robust to deal with uncertainty. We need to have faith in the model by CAB.*

- Can you clarify the model’s knobs? *A: There are 4 main knobs: habitat/ recruitment; fishing effort over time; restoration, when, where, how much; and changes in natural mortality. These will be depicted as a dashboard.*
- How can we keep CAB updated about the model? *A: The model is currently under construction. I am willing through additional virtual meeting to further describe the model.*
- *We will have modeling updates at CAB meeting as appropriate. The CAB will be engaged in reviewing the assumptions and understanding data sets and uncertainties.*
- How spatially specific is the model? From the bar level to the Bay level? Management often takes place in portions of the Bay. *A: The model presents the Bay-wide ecosystem and one bar not driving the system. We can build more complicated rules for the model. E.g. fewer X density per hectare. The spatial scale for the model will not be the scale that FWC will manage at. It can paint management in zones or for the Bay as a whole. The finer the scale, the more assumptions you will need to make. Operating model as fine a scale as we can get.*
- Are there budget issues for running the models? *A: No, these models are “computationally cheap” and we can run scenarios in minutes. The hydrologic model can run 70 years in 15 seconds.*
- The FWC has received funding, \$20 million from NFWIF and CAB modeling efforts will run parallel with FWC and Ed Camp will work with FWC.
- Can the models help with controlling the quality of the water? *A: Yes. Changes in water quality affect natural mortality of oysters and can alter growth but that is more complicated. Growth and natural mortality are supposed to be related to each other. We want to make models as simple as possible but capable of explaining the results.*
- Will a larval dispersal model be integrated into the ABSI models? *Yes. We will need to build a dispersal matrix to model where more larvae end up.*

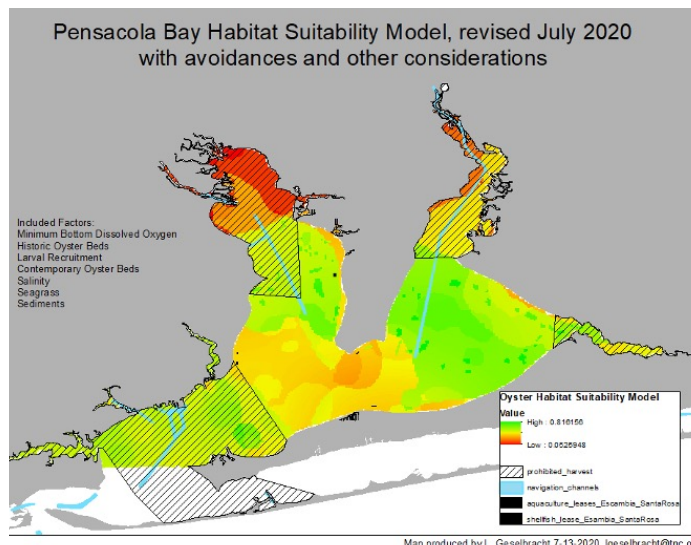
## B. HABITAT SUITABILITY ANALYSIS PREDICTIVE MODELING, LAURA GESELBRACHT

Laura Geselbracht, Senior Marine Scientist, The Nature Conservancy in Florida and a member of the ABSI Science Advisory Board, presented on a Habitat Suitability Analysis Predictive Modeling for Pensacola Bay. She noted it that the Pensacola model was based on the Charlotte Harbor model where pollution and sedimentation had wiped out oysters and seagrass.



This model is being used to develop a stakeholder-driven oyster ecosystem plan for the Greater Pensacola Bay System. Historic maps of oyster beds in this area (1883, US Commission of Fish and Fisheries) show extensive reefs in the Bay with the majority located in northern Escambia Bay and all of East Bay. These maps, together with more recent side-scan sonar maps of existing reefs and data on variability in surface and bottom salinity and dissolved oxygen (DO) over the year, will guide the Pensacola Working Group in recommending where suitable areas and habitats exist for supporting and restoring oyster reefs.

The question that the Habitat Suitability Model (HSM) addresses is, where are oyster reefs most viable now? The model identifies 22 factors that affect habitat suitability (see slide no.4 [here](#)). HSM analyzes available spatial data for each factor for quality/relevance; ‘scores’ all locations within the bay system and for each individual data layer from 0.00-1.00; and combines all scores for a composite HSM index from 0.00-1.00.



The two HSM maps that have been produced are both based on physical (historical and contemporary oyster beds; seagrass and other vegetation, sediments); chemical (dissolved oxygen and salinity); and biological (recruitment) indices, one including and the other excluding designated areas (e.g., aquaculture and shellfish lease areas in the Study Area; and navigation channels). The HSM will be useful for restoration, habitat mitigation, and impact analysis, but is a screening tool and not the answer.

CAB members discussed what the minimum DO thresholds over what period of time must be; how frequent freshwater events affect DO; overlay the DO with the needs of oyster populations in Apalachicola Bay; and what additional data needs to be collected.

### III. ABSI CAB VISION THEMES, GOALS, OUTCOMES AND OBJECTIVES FOR THE APALACHICOLA BAY SYSTEM

The following draft “Vision of Success” themes were drawn from the September 2019 CAB Questionnaire responses and reviewed and rated by the Community Advisory Board at the October and December 2019 CAB meetings. The language for vision themes was reviewed and finalized by the CAB at the January 2020 meeting. The five goal areas based on the vision themes included in the CAB framework include:

- A. A Healthy and Productive Bay Ecosystem
- B. Sustainable Management of Oyster Resources
- C. A Thriving Economy Connected to a Restored Apalachicola Bay System
- D. An Engaged Stakeholder Community and Informed Public
- E. An Ecosystem-Based Management and Restoration Plan that is Science-Based, Fully Funded and Supported by Apalachicola Bay System Stakeholders

The current Vision Themes, Goals, Outcomes and Objectives for the five-goal framework, subject to future refinements, are included in Appendix #5.

## IV. REVIEW OF OBJECTIVES AND STRATEGIES

### A. A HEALTHY AND PRODUCTIVE BAY ECOSYSTEM

The adopted statements for the vision theme, goal, outcome and objectives are included in *Appendix 5*.

#### 1. Objectives

The ABSI Team proposed the following edits (indicated by underlined and strike through) for some of the Goal A objectives and the CAB agreed to the changes.

A1) To develop restoration and adaptive management plans for the ABS that allow rapid changes to the regulatory framework to address changes in environmental conditions (e.g., freshwater flow, water quality), and habitat quality.

~~A1) To develop restoration and management plans for the ABS that consider regulatory changes and future environmental conditions, such as freshwater flow (quantity, timing, hydrodynamics), water quality (e.g., salinity and temperature), sea level, and habitat change.~~

7/16 CAB Comments

- OK. Thumbs up

~~A6) To establish and implement policies and programs that provide the means to return a significant portion of the harvested oyster shell back to the ABS for recruitment substrate to enhance settlement and population productivity. ABSI Project Team comment: This objective is covered in Goal B.~~

7/16 CAB Comments

- There are shucking houses (3) from Louisiana. Could we consider providing an incentive to shucking houses to donate shell back to Apalachicola Bay?
- Shell budget covered in Goal B
- Move to Goal B. OK. Thumbs up.

~~A7) To Restore habitat in the Apalachicola Bay System that includes targeted desired\* quality and quantity of oysters across subtidal and intertidal habitats throughout the ABS. \*[Hanson]~~

*ABSI Team proposes to move this from an objective to a strategy*

7/16 CAB Comments

- OK. Thumbs up

#### 2. Proposed CAB Strategies

Following the May 2020 CAB meeting, the ABSI Project Team addressed suggestions by CAB members and combined a number of strategies to create a revised list of nine strategies as follows:

1. Increase productivity of the Apalachicola Bay oyster ecosystem by restoring, enhancing, and/or developing new reef structures (some of which would be maintained as conservation areas\*\*\*) based on experimental evidence for the most suitable substrate (e.g., granite\*, spat-on-shell, artificial structures) and on habitat suitability analyses using the best available scientific information coupled with the knowledge and experience of managers and stakeholders. \*[Mathis], \*\*\*[Hanson]

7/16 CAB Comments

- Conservation areas? What areas would have no harvest or limited harvest?

- No harvest areas can protect brood stock, spat production areas and spawning reefs.
  - What are the areas set for the FWC oyster harvest closure? What other areas would make sense for conservation? *A: The CAB will review and address this in the plan.*
  - OK. Thumbs up
2. (Related to strategy 1) Use decision support tools to develop permanently closed areas in strategic locations (e.g., near fully open harvestable reefs, rotational reefs or that include newly placed restoration structures) as conservation areas that can provide spat locally and protect ecosystem function. [Hanson, Coleman]

7/16 CAB Comments

- OK. Thumbs up
3. Develop criteria for sustaining specific reefs or reef systems damaged by environmental conditions or natural disasters that includes (1) degree of damage and potential for recovery; (2) approach for mitigating damage (e.g., physical repair, spat supplements, or some combination of both); (3) periodicity of spat addition (e.g., annually or longer); (4) specific timeline for continuing the approach (e.g., 3 years or longer). This approach is not intended to create a put-and-take fishery.

7/16 CAB Comments

- OK. Thumbs up
4. Base all management decisions and monitoring requirements on high-quality scientific data. [Moved from Goal B]

7/16 CAB Comments

- OK. Thumbs up
5. Determine area (acres or km<sup>2</sup>) of healthy oyster reefs needed to ensure sufficient spat production that will support sustainability of oyster reefs and sustainability of a limited entry fishery throughout the ABS.

7/16 CAB Comments

- OK. Thumbs up
6. Identify monitoring needs for assessing the health of oyster populations and detecting changes in environmental conditions and habitat quality (for oysters and other reef-associated species) over time.

7/16 CAB Comments

- OK. Thumbs up
7. Ecosystem models that forecast future environmental conditions should include the effects of climate change such as increasing sea level and ocean acidification; altered freshwater and salinity gradients, water temperatures, storm intensity and rainfall events, as well as the availability of freshwater. [Hanson/Hartsfield]

7/16 CAB Comments

- OK. Thumbs up
8. ~~☒~~ Restore habitat in the Apalachicola Bay System that includes targeted ~~desired~~\* quality and quantity of oysters across subtidal and intertidal habitats throughout the ABS. \*[Hanson]

- *This was moved from an objective (A7) to a strategy.*

9. Continue to monitor for oyster diseases.

*7/16 CAB Comments*

- OK. Thumbs up

### 3. Other Potential Strategies

*7/16 CAB Comments*

- Should we consider strategies that take into account issues outside the Bay? E.g. water flows controlled by Army Corps of Engineers. E.g. Strategies for CAB input on the water control plan (manual); E.g. spring pulses into the Bay; E.g. recommendations on changing the Corp's authorization regarding Apalachicola Bay.
- How will or should a strategy be developed regarding freshwater flows into Apalachicola Bay. *A: The decision support tools can guide management strategies including the hydrodynamic model. Integrating the models available to the CAB can help to determine what recommendations can be made as to where to do things under different situations. There are also the other two projects the CAB has been briefed on that are being implemented by the Apalachicola River Keepers and by Ducks Unlimited.*
- The 5-year review timeframe for Corps amending the water control manual will be in 2 years. This may be an opportunity for the CAB to weigh in on what we would like to see regarding water flow
- The ABSI will put together a draft strategy for how the CAB can/should interact with those outside the Bay for review and refinement by the CAB.

## B. GOAL B-- SUSTAINABLE MANAGEMENT OF OYSTER RESOURCES

The adopted statements for the vision theme, goal, outcome, objectives and the CAB March 2020 recommendation on closing the Apalachicola Bay to Wild Oyster Harvest are included in Appendix #5. Below are the changes proposed by the ABSI Project Team to the Vision theme for Goal B.

1. **Vision Theme B:** A restored Apalachicola Bay System has resulted in a sustainably managed wild harvest oyster fishery while also providing opportunities for other economically viable and complementary industries, including tourism and aquaculture. This is accomplished by working collaboratively with stakeholders to create, monitor and fund a plan that ensures that protection of ~~the fishery and~~ the habitat and the fishery it supports is ~~supported~~ guided by science, stakeholder input, and industry experience, and is implemented in a manner that provides both fair and equitable access to and protection for the resource.

*7/16 CAB Comments*

- Tourism may be competing with aquaculture conflicts with impact on sight lines for homeowners.
- “Guided” vs. “Supported” by science.
- The Bay should be sustainably managed and enforced.
- Should “Adequately enforced” be added? Objective B3 addresses enforcement.
- OK. Thumbs up



## 2. Goal B Objective

Below are the changes proposed by the ABSI Project Team to Objective B2.

B2) To develop by year four (2022) of ABSI a science-based oyster recovery and\* management plan for both commercial and recreational industries that has broad stakeholder and community support and can be implemented by the State of Florida (e.g., FWC, FDACS, State Legislature) for the ABS that considers, at a minimum: rotational harvest, open and closed areas (both permanent and seasonal), harvesting methods, limited entry, surcharge fees, shell recycling, and a shell budget. \*[Hanson]

7/16 CAB Comments

- OK. Thumbs up

## 3. Proposed CAB Strategies:

The ABSI Project Team revised language and combined a number of strategies to create a revised list of eight strategies with changes to strategies #1, #2, #3, #6, #7 and #8 as follows:

1. The proposed oyster fishery closure in Apalachicola Bay will have well-defined boundaries (set by FWC in consultation with FDACS and contained within the Apalachicola Bay System as defined in FWC's Rule 68B-27.013, F.A.C.<sup>1</sup>, a well-defined and transparent rationale for why the closure is needed (prepared by the ABSI science team in consultation with the ABSI CAB for dissemination to the community)[Ackerman], and specific criteria and/or conditions identified with related performance measures required for the reopening of Apalachicola Bay to limited\* wild oyster harvesting. \*[Hanson].

7/16 CAB Comments

- The correct reference is: 68 B-27 FAC
- OK. Thumbs up

2. Develop long-term closed areas in strategic locations\* to provide habitat for year-round protection for brood stock and enhanced spawning opportunities, using the best available scientific data and decision-support tools. \*[Hanson]

7/16 CAB Comments

- OK. Thumbs up

3. Focus on developing a shell budget for maintaining reef habitat that will sustain healthy oyster populations and develop strategies for increasing the funding and incentives for and reclamation of local (ABS) shells from local watermen, restaurants, aquaculture operations,\* and private citizens to supplement shelling of oyster bars and increasing the viability of the oyster resource  
\*[Hanson]

7/16 CAB Comments

- OK. Thumbs up

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<sup>1</sup> FWC's Rule 68B-27.013, F.A.C., within the area including St. George Sound, East Bay, Apalachicola Bay, and St. Vincent Sound and their canals, channels, rivers and creeks; and Indian Lagoon and its canals, channels, rivers and creeks.



4. Define performance criteria for an oyster reef that can sustain an oyster harvest of x bags/acre (e.g., 400 bags/acre).
5. Evaluate harvest strategies that include rotational and seasonal harvest areas, including specific area sizes, locations, longevity, and rotational periodicity.
6. Evaluate harvest strategies that include a limited entry wild oyster harvest and develop a protocols\* to ensure sustainability prior to any decision to increase entry. \*[Hanson]

7/16 CAB Comments

- OK. Thumbs up

7. 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 harvest fishery, and consideration given to the cultural heritage of a seafood town and other social factors. [Hanson]

7/16 CAB Comments

- Compatible with management goals and social factors should be considered regarding siting.
- Aquaculture should precede- tourism of a seafood town and cultural heritage. Not be impacted by forces – NIMBY- Tourism (vistas) is only 1 consideration among several.
- Add: consideration given to the cultural heritage of a seafood town and other social factors?
- Capture this in a public education strategy
- OK. Thumbs up

8. Propose enforcement strategies and application of appropriate penalties that will support restoration efforts in the ABS by reducing poaching (e.g., through increased FWC enforcement presence and increased number of checkpoints) and ensuring uniformity in the marketable size of oysters for fishers and buyers.

7/16 CAB Comments

- Add “Application of appropriate penalties”?
- OK. Thumbs up

### C. GOAL C--A THRIVING ECONOMY CONNECTED TO A RESTORED APALACHICOLA BAY SYSTEM

The adopted statements for the vision theme, goal, outcome, and the four (4) objectives are included in Appendix #5.

#### Proposed CAB Strategies

1. Monitor key economic indicators for changes over time based on restoration efforts to the Apalachicola Bay System (ABS).

7/16 CAB Comments

- OK. Thumbs up

2. Work with existing partners to monitor and report on the economic benefits to a restored ABS including the Chamber of Commerce, Apalachee Regional Planning Council, and city and county staff. [Ackerman]

7/16 CAB Comments

- Move this strategy ahead of #1?
- OK. Thumbs up

3. Develop Ensure monitoring programs and metrics are in place to measure output/impact of harvest for oyster bars. [Grove]

7/16 CAB Comments

- Who will do this during the FWC Closure and after Bay reopens?
- FWC will continue their monitoring. They will look to fishery independent monitoring to estimate abundance. They have developed protocols with FWRI for random sampling of various bars throughout Apalachicola Bay based on the protocols
- Add “are in place” following “metrics”
- Will the CAB have input in the FWRI protocols?
- FWRI will monitor the condition of bars and how their restoration projects are doing. ABSI will add to what FWRI is doing and sample other areas to get a better picture of the reef system
- We need to collect data. “Require” vs “ensure”?
- The CAB might provide a “2<sup>nd</sup> opinion” on how many bushels is an acre.
- OK. Thumbs up

4. Identify and monitor key economic indicators relevant to the commercial oyster fishery and associated industries in the region. [Hanson]

7/16 CAB Comments

- OK. Thumbs up

5. Support planning for to develop economic indicators that consider future conditions (climate, SLR, reduced river flow) and their effects on the ABS. [Harper]

7/16 CAB Comments

- Need to “develop” key economic indicators not just planning
- OK. Thumbs up

6. Work with ~~watermen~~ oystermen in the community to develop an oyster aquaculture-brand for the ABS that emphasizes clean water and local connection. [Ackerman]

7/16 CAB Comments

- Substitute “Oystermen” for “watermen”
- Can this be combined with strategy 7?
- This might take the form of certifying that the Apalachicola Bay aquaculture oysters are sustainably farmed. Is there are national program for this?
- Is a separate strategy needed for achieving a certification?
- OK. Thumbs up

7. Promote farmed oysters as product from Apalachicola Bay, in addition to promotion of local wild-caught oysters. [Hanson]

7/16 CAB Comments

- Work with other stakeholders
- Combine working with aquaculture and wild harvest?
- OK. Thumbs up

8. Develop an oyster aquaculture industry that provides new economic opportunities and is

complementary to the wild harvest fishery. Find resources to fund education, businesses assistance and capital to make the transition. [Grove]

7/16 CAB Comments

- I have heartburn with these strategies that sound like a marketing campaign (*Steve Rash*) We are casting too wide a net and may interfere with the effectiveness of our recommendations by focusing on aquaculture. Restoration of the wild oyster reef system is what I signed up for. *A: Recommended strategies can be referred to other organizations for implementation*
- The intent here was to take the pressure off the wild harvest (*Grove*). Consider combining 8-12. Focus on employing people in harvesting food while restoring the oyster reef system. This is about broadening our opportunities.
- These are not incompatible if aquaculture is done in the right places.

9. Create a comprehensive aquaculture training program that assists harvesters in transitioning in to aquaculture helping to diversify their current harvest. Program needs to include businesses training and funding for equipment. [Grove]

7/16 CAB Comments

- 8-12 combine

10. Find funds to develop aquaculture program and training. Pursue funding to help oyster harvesters purchase aquaculture equipment. [Grove]

7/16 CAB Comments

- 8-12 combine

11. Build network of successful aquaculture experts that can help the CAB build a successful aquaculture program. (Sea Grant, IFAS, U of Alabama). [Grove]

7/16 CAB Comments

- 8-12 combine

12. Research new aquaculture products that can be produced in Apalachicola Bay to enhance and diversify aquaculture industry. [Grove]

7/16 CAB Comments

- 8-12 combine

13. Develop new markets for selling oysters to areas outside of Florida. [Grove]

7/16 CAB Comments

- This could take us back to where we used to be.
- OK. Thumbs up

14. Invest in branding of Apalachicola Bay and the Apalachicola Oyster. [Harper]

7/16 CAB Comments

- Could this be combined with other branding strategies?
- In the past Apalachicola oysters marketed itself. Will we be branding something that is not here anymore? High quality is essential for branding. In past few years people didn't want Apalachicola oysters because of their small size and quality.

15. Support Increase efforts to maintain and revitalize the working waterfronts in Apalachicola and Eastpoint. [Harper]

7/16 CAB Comments

- Support efforts? Don't we need to "increase" efforts?
- Support the cultural heritage of Apalachicola Bay community
- If we revitalize the Bay, the waterfront will follow.
- Since 1982- if you get oysters back it will follow.
- Don't zone out the waterfront or exclude it from being there.

16. Coordinate with the local business community and government bodies (i.e., city/county commissions) to ensure environmental impact of industry and business within the ABS are minimized and conducive to a healthy ecosystem. [Hanson]

7/16 CAB Comments

- Franklin County is the most protected county in Florida for seafood related zoning
- Maybe combine 16-18?
- We should continue to have strong policies in place. We need flexibility for people stuck with property zoned for seafood.
- Florida is a tourism state and Franklin County is a tourism county. There will be difficulties when the Bay is closed to oyster harvest for significant time. There will be lawsuits over property rights.

17. Maintain strong land use and development regulations that ensure future uses of Apalachicola Bay are not adversely impacted by development projects. [Grove/Harper]

7/16 CAB Comments

- Combine 16-18

18. Amend local growth management policy plans as necessary to ensure local planning and building regulations meet strong standards compatible with a healthy ABS ecosystem. [Hanson]

7/16 CAB Comments

- Combine 16-18

#### **D. GOAL D-- AN ENGAGED STAKEHOLDER COMMUNITY AND INFORMED PUBLIC**

The adopted statements for the goal, outcome, and the four (4) objectives are included in Appendix #5. Below is an edit on the Vision Theme suggested by a CAB member.

1. **Vision Theme D:** Stakeholders of the Apalachicola Bay System are committed to working together beyond the Apalachicola Bay System Initiative to disseminate relevant information and advocate for a sustainably managed oyster-based ecosystem. In so doing, the group will facilitate innovative research, development and implementation of best management practices and serve as a hub for information exchange as well as new innovation development\*, education and communication opportunities. \*[Grove]

7/16 CAB Comments

- OK. Thumbs up

#### **2. Proposed CAB Strategies**

1. Form an outreach and education sub-committee from the CAB that can spearhead development of educational materials and an outreach plan. [Hanson]

7/16 CAB Comments

- *The Team will look at this to clarify the protocols for how subcommittees would work for the CAB and bring it back for CAB review.*

2. Establish a CAB funding subcommittee that can identify and pursue potential funding mechanisms (e.g., surcharge fees, incentives) and resources to help with education and outreach efforts including ways to measure understanding. [Hanson]

7/16 CAB Comments

- *The Team will look at this to clarify the protocols for how subcommittees would work for the CAB and bring it back for CAB review.*

3. Develop the structure the CAB needs to help it evolve in to a nonprofit 501c3 entity with representation from the local leadership, industry, harvesters, state agencies that is recognized by the state as the main entity overseeing the Bay Management Plan. [Grove]

7/16 CAB Comments

- Move to Goal E.
- OK. Thumbs up

4. Pursue funding to build the capacity of the organization and to ensure its longevity. Consider hiring a director to help sustain the CAB. [Grove]

7/16 CAB Comments

- Move to E and combine with strategy 3
- OK. Thumbs up

5. Develop a shell recycling program for Apalachicola Bay. Develop a business model and find a funding mechanism to provide staffing to recycle shell and to provide incentives for shucking houses/restaurants to recycle shell. (E.g North Carolina)[Grove/Marks]

7/16 CAB Comments

- Move this strategy to Goal B along with incentives.
- "Funding mechanism" vs. funding. "develop a business model"
- ABSI looking into that specifically at part of its work.
- Look at the successful North Carolina shell recycling for guidance in shaping actions.

6. Engage fishermen in the restoration of the bay and encourage future participation in restoration such as shell recycling, shelling, and relaying. [Harper]

7/16 CAB Comments

- If the Bay is closed down, this is important.
- OK. Thumbs up

7. Build a program to educate harvesters on the importance of managing public oyster beds. [Grove]

7/16 CAB Comments

- Build a culture and awareness among harvesters for when the system is healthy and not healthy and how to address it.
- OK. Thumbs up

8. Work with FWC and FDACS to develop and implement a program to protect wild and leased oyster bars. [Grove]

7/16 CAB Comments

- Aimed at lack of equipment. Better enforce and protect leases.
- FDACS needs to be added to this strategy.
- “Protect wild bars”- is this conservation?
- Refer to B-8 enforcement strategies
- Perpetual bottom leases managed by FWC.
- Leasing is regulated by FWC or FDACS?
- Enforcement on water – FDACS and FWC marine patrol and local law enforcement.
- OK. Thumbs up

9. Honor and reward businesses (and individuals) that demonstrate stewardship and sustainable use of the ABS’s resources (“Bay Stewards”). [Harper/Grove]

*7/16 CAB Comments*

- Need to provide incentives
- Combine 9-13
- OK. Thumbs up

10. Decide key messaging for outreach & education plan. Related, identifying target audiences—who are we trying to reach. [Ackerman]

*7/16 CAB Comments*

- Combine 9-13

11. Coordinated media plan on key topics needed. [Ackerman]

*7/16 CAB Comments*

- Combine 9-13

12. Collateral (“marketing materials) published via print and electronic distribution. [Ackerman]

*7/16 CAB Comments*

- Combine 9-13

13. Develop educational material that includes the vision and goals of the ABSI project that can be communicated with local businesses, organizations, and citizens. [Hanson]

*7/16 CAB Comments*

- Combine 9-13

14. Develop an outreach plan to distribute and communicate project goals and objectives for a healthy ABS ecosystem and economy. [Hanson]

*7/16 CAB Comments*

- OK. Thumbs up

15. Support (education, training, financial) the development of alternative fisheries, aquaculture, and restoration science. [Harper]

*7/16 CAB Comments*

- Look to combine strategies in this section
- OK. Thumbs up

16. Partner on new and existing grant opportunities. [Ackerman]

*7/16 CAB Comments*

- OK. Thumbs up

17. Identify education programs that would be beneficial to the industry, especially young entrants.  
[Ackerman]

7/16 CAB Comments

- OK. Thumbs up

18. Educate Franklin County youth on the history of the region, the fisheries and the value of the ABS. [Harper]

7/16 CAB Comments

- OK. Thumbs up

19. Continue and expand efforts to educate the public (residents and tourists) about the history of the region, the fisheries and the value of ABS. [Harper]

7/16 CAB Comments

- OK. Thumbs up

20. Plan how to get updates to community leaders and elected officials. [Ackerman]

7/16 CAB Comments

- OK. Thumbs up

21. Develop stakeholder and public surveys that can measure change in understanding of the issues important to the health and restoration of the Bay. [Hanson]

7/16 CAB Comments

- OK. Thumbs up

22. Review best practices and outcomes and adapt successful techniques and lessons learned from other places/regions. Build a community of practice (i.e., Gulf-wide) for communities interested in the restoration and revitalization of fisheries [Harper]

7/16 CAB Other Comments

- Who we defining as stakeholders for ABSI? Does it include out of state user groups? ACF represents broad stakeholders for the overall system. *A: The CAB adopted a stakeholder definition: “**STAKEHOLDERS:** All interest groups whether public, private or non-governmental organizations who have an interest or concern in the success of a project and can affect or be affected by the outcome of any decision or activity of the project. For purposes of the Apalachicola Bay System Initiative, stakeholders include but are not limited to: agriculture, silviculture, business, real estate, economic development, tourism, environmental, citizen groups, recreational fishing, commercial seafood industry, regional groups (i.e., ACF Stakeholders, and Riparian Counties), local government, state government, federal government, universities, and research interests.”*
- The ABSI CAB should look for an opportunity to engage in a NOAA drought project. We need a strategy to identify drought challenges to the ABSI system.
- Need to focus on strategies for funding mechanisms and public education as we flesh out we are going to get things done.
- Combine and simplify strategies in this section

**E. GOAL E--AN ECOSYSTEM-BASED MANAGEMENT AND RESTORATION PLAN THAT IS SCIENCE-BASED, FULLY FUNDED AND SUPPORTED BY APALACHICOLA BAY SYSTEM STAKEHOLDERS**

*The CAB didn't have time to review the draft strategies for Goal E and will review at the next meeting.*

**IV. PUBLIC COMMENT AND NEXT STEPS**

No members of the public wished to provide comments to the ABSI Community Advisory Board. The facilitators then reviewed the agenda for the 7<sup>th</sup> meeting scheduled for September 9, 2020. The plan is to continue to identify and refine CAB strategies and actions for the five goals and objectives. The facilitators reminded members of the two additional zoom meetings for October 7, 2020 and December 9, 2020 in addition the previously scheduled zoom meeting on November 12, 2020. Members suggested possible briefing presentations on and update on the FWC closure of Apalachicola Bay to wild oyster harvesting, and an update, as needed, on ABSI modeling.

*The members completed an online Zoom meeting evaluation and adjourned at 12:40 pm.*



# APPENDICES

## APPENDIX #1

### MEETING PARTICIPANT LIST

**Bold**= Participating CAB Member and Team Member; *Italics* = *unable to attend*

ABSI COMMUNITY ADVISORY BOARD MEMBERS	
NAME	AFFILIATION
<b>Agriculture/ACF Stakeholders/Riparian Counties</b>	
1. Chad Taylor	Riparian Counties Stakeholder Group/ACF Stakeholders/Agriculture
<b>Business/Real Estate/Economic Development/Tourism</b>	
2. Chuck Marks	Acentria Insurance
3. Mike O'Connell	SGI Civic Club/SGI 2025 Vision
4. John Solomon	Apalachicola Chamber of Commerce
<b>Environmental/Citizen</b>	
5. Georgia Ackerman	Apalachicola Riverkeeper
6. Lee Edmiston	Retired DEP/ANERR
7. Chad Hanson	Pew Charitable Trusts
<b>Local Government</b>	
8. Anita Grove	Apalachicola City Commissioner
9. Ricky Jones	Franklin County Commissioner
<b>Recreational Fishing</b>	
10. Chip Bailey	<i>Peregrine Charters</i>
11. Frank Gidus	<i>CCA Florida</i>
<b>Seafood Industry</b>	
12. Shannon Hartsfield	Franklin County Seafood Workers Association
13. Michael Dasher	<i>Commercial Fisherman and Oysterman</i>
14. Vance Millender	<i>Millender &amp; Sons Seafood</i>
15. Roger Mathis	Oysterman and R.D.'s Seafood
16. Steve Rash	Water Street Seafood
17. Denita Sassor	Outlaw Oyster Company, Aquaculture
18. TJ Ward	Buddy Ward & Sons Seafood
<b>State Government</b>	
19. <i>Jim Estes</i> /Mike Norberg	FWC Division of Marine Fisheries Management
20. Jenna Harper	ANERR/DEP
21. Alex Reed	FDEP Office of Resilience & Coastal Protection
22. Portia Sapp	FDACS Division of Aquaculture
23. Paul Thurman	NWFWMD
<b>University/Researchers</b>	
24. <i>Tom Frazer</i>	<i>UF/DEP Governor's Science Advisor</i>
25. Erik Lovestrand	UF/IFAS/Florida Sea Grant Franklin County
FSU PROJECT TEAM AND FACILITATORS	
NAME	AFFILIATION
Sandra Brooke	Marine Biologist
Felicia Coleman	Marine Biologist
Madelein Mahood	Public Outreach Specialist
Jeff Blair	Community Advisory Board Facilitator, FCRC Consensus Center FSU
Robert Jones	Community Advisory Board Facilitator, FCRC Consensus Center FSU
FSU ABSI PARTNERS	
Ed Camp	University of Florida, Assistant Professor
Steve Leitman	Florida State University
MEMBERS OF THE PUBLIC	
Doug Alderson, Apalachicola Riverkeeper Outreach and Advocacy Director	Anne Birch, The Nature Conservancy
Chelsey Crandall, University of Florida	Ross Ellington, FSU
Ken Jones, Rhumbline Consultants	

**APPENDIX #2**  
**COMMUNITY ADVISORY BOARD AGENDA, MEETING 6, JULY 16, 2020**

<b>APALACHICOLA BAY SYSTEM INITIATIVE (ABSI)</b> <b>ABSI COMMUNITY ADVISORY BOARD (CAB). MEETING VI</b> <b>THURSDAY, JULY 16, 2020</b> <b>VIRTUAL MEETING VIA ZOOM WEBINAR</b>		
<b>ABSI COMMUNITY ADVISORY BOARD MEETING VI OBJECTIVES</b>		
<ul style="list-style-type: none"> <li>✓ To Approve Regular Procedural Topics (Meeting VI Agenda and Meeting V Summary Report)</li> <li>✓ To Receive Project Briefings and Community Advisory Board Requested Presentations</li> <li>✓ To Review ABSI Strategies Evaluation Worksheet</li> <li>✓ To Identify Strategies to Achieve Goals, and Relevant Performance Measures and Information Needs</li> <li>✓ To Identify Needed Next Steps, Information and Presentations, and Agenda Items for Next Meeting</li> </ul>		
<b>ABSI COMMUNITY ADVISORY BOARD MEETING VI AGENDA—JULY 16, 2020</b>		
1.)	8:30 AM	<b>WELCOME, REVIEW OF VIRTUAL MEETING PARTICIPATION GUIDELINES, AND ROLL CALL</b>
2.)	8:35	<b>AGENDA REVIEW AND MEETING OBJECTIVES</b>
3.)	8:40	<b>APPROVAL OF FACILITATORS' SUMMARY REPORT (MAY 22, 2020)</b>
4.)	8:45	<b>REVIEW OF PROJECT MEETING SCHEDULE AND UPDATED WORKPLAN</b>
5.)	8:50	<b>PROJECT BRIEFINGS AND REQUESTED PRESENTATIONS</b> <ul style="list-style-type: none"> <li>• <i>Decision Support Tools Status Update and Demonstration.</i> Ed Camp. (30 min.)</li> <li>• <i>Habitat Suitability Analysis Predictive Modeling.</i> Laura Geselbracht. (15 min.)</li> </ul>
~9:45		<b>BREAK</b>
6.)	10:00	<b>A.) A HEALTHY AND PRODUCTIVE BAY ECOSYSTEM</b> <ul style="list-style-type: none"> <li>• Evaluation of Proposed Revisions to Goal Framework</li> <li>• Review of Revised Proposed Strategies to Achieve Goal A</li> <li>• Consideration of Relevant Performance Measures</li> </ul>
7.)	10:30	<b>B.) SUSTAINABLE MANAGEMENT OF OYSTER RESOURCES</b> <ul style="list-style-type: none"> <li>• Evaluation of Proposed Revisions to Goal Framework</li> <li>• Review of Revised Proposed Strategies to Achieve Goal B</li> <li>• Consideration of Relevant Performance Measures</li> </ul>
8.)	11:00	<b>C.) A THRIVING ECONOMY CONNECTED TO A RESTORED APALACHICOLA BAY SYSTEM</b> <ul style="list-style-type: none"> <li>• Evaluation of Proposed Revisions to Goal Framework</li> <li>• Review of Initial Draft Strategies to Achieve Goal C</li> <li>• Consideration of Relevant Performance Measures</li> </ul>
9.)	11:30	<b>D.) AN ENGAGED STAKEHOLDER COMMUNITY AND INFORMED PUBLIC</b> <ul style="list-style-type: none"> <li>• As Time Allows: Evaluation of Revised Goal Framework and Strategies</li> </ul>
10.)	11:50	<b>E.) A FULLY FUNDED AND SCIENCE-INFORMED ECOSYSTEM-BASED MANAGEMENT AND RESTORATION PLAN SUPPORTED BY APALACHICOLA BAY SYSTEM STAKEHOLDERS</b> <ul style="list-style-type: none"> <li>• As Time Allows: Evaluation of Revised Goal Framework and Strategies</li> </ul>
11.)	~12:15	<b>PUBLIC COMMENT</b>
12.)	12:25	<b>NEXT STEPS AND AGENDA ITEMS FOR THE NEXT MEETING</b> <ul style="list-style-type: none"> <li>• Review of the CAB Schedule of Meetings</li> <li>• Review of action items and assignments</li> <li>• Identify agenda items and needed information and presentations for the September 9, 2020 CAB meeting</li> <li>• Meeting evaluation</li> </ul>
~12:30 PM		<b>ADJOURN</b>

### APPENDIX #3

#### CAB MEETING VI, JULY 16, 2020 ZOOM MEETING EVALUATION & CHAT SUMMARY

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 13 CAB members

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

Average Rating	5.Strongly Agree	4.Agree	3.Not Sure	2.Disagree	1.Strongly Disagree
4.5 of 5	7	6	0	0	0

**2. The meeting objectives were met.**

Average Rating	5.Strongly Agree	4.Agree	3.Not Sure	2.Disagree	1.Strongly Disagree
4.2 of 5	4	8	1	0	0

**3. The presentations were effective and informative.**

Average Rating	5.Strongly Agree	4.Agree	3.Not Sure	2.Disagree	1.Strongly Disagree
4.8 of 5	10	3	0	0	0

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

Average Rating	5.Strongly Agree	4.Agree	3.Not Sure	2.Disagree	1.Strongly Disagree
4.6 of 5	8	5	0	0	0

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

Average Rating	5.Strongly Agree	4.Agree	3.Not Sure	2.Disagree	1.Strongly Disagree
4.5 of 5	7	6	0	0	0

**6. The facilitators accurately documented the Working Group Member input**

Average Rating	5.Strongly Agree	4.Agree	3.Not Sure	2.Disagree	1.Strongly Disagree
4.7 of 5	9	4	0	0	0

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

Average Rating	5.Strongly Agree	4.Agree	3.Not Sure	2.Disagree	1.Strongly Disagree
4.0 of 5	3	8	1	1	0

**8. Working Group Members had the opportunity to participate and be heard.**

Average Rating	5.Strongly Agree	4.Agree	3.Not Sure	2.Disagree	1.Strongly Disagree
4.7 of 5	9	4	0	0	0

**9. What do you think worked well using the virtual Zoom platform for the meeting?**

- Interaction was good and the ability to view revisions to the document was helpful.

**10. How could the virtual meeting format be improved for future meetings?**

- I don't know if Zoom has a "raise hand" feature but I have found that to be very helpful in meetings (Microsoft Teams)
- Maybe have one facilitator share their screen while another facilitates (looks for questions and comments).

### Other Comments (Chat)

- From TJ Ward, Shannon Hartsfield, Georgia Ackerman: FWC link to the July Meeting documents. <https://myfwc.com/about/commission/commission-meetings/july-2020/>
- BTW, Eastpoint does not have an "e" on the end. It is on the schedule and workplan. ;)
- Chad Taylor: Thinking about other modelers, like Georgia folks, dueling models, how do we get other modelers to accept our results?
  - From Edward Camp: Hey Chad, yeah it's always a struggle to get people to accept the models. But we can be super transparent about our assumptions, and we can change those assumptions to see how they affect outcomes.
  - From Steve Leitman: On the hydrologic modeling I am working with Corps and States on STELLA model so that they will be more prone than o accept results.
- #10 & 11 can be combined
- Can we take a few minutes to discuss FWC Commission Meeting next week? Or can those that want to stick around after?

**APPENDIX #4**  
**ABSI CAB PROJECT SCHEDULE & WORKPLAN**  
*Meetings Dates are Subject to Change*

<b>UPDATED JUNE 2, 2020</b>		
<b>PHASE I—STANDING UP AND ORGANIZATION OF THE ABSI CAB</b>		
<b>ABSI Assessment Process</b>	Sept. 2019	Assessment report based on interviews of over 60 stakeholders and agency personnel (May – August 2019) summarized key challenges and issues that should be addressed in the Apalachicola Bay System Initiative (ABSI) and by its Community Advisory Board (CAB); facilitators recommend members for the CAB.
<b>ABSI CAB Questionnaire</b>	Sept 2019	Questionnaire report on the CAB members’ views on successful short and long-term outcomes and on critical ABSI challenges and issues.
<b>Meeting I.</b> Eastpointe FL	Oct. 30, 2019	Scoping and organizational meeting, review and refinement of overall project purpose, vision and goal framework. Presentation on the ABSI project’s four main components: research, management, community engagement, and oyster reef and bay restoration. Public comment.
<b>Meeting II.</b> Eastpointe FL	Dec. 18, 2019	Member-requested presentations on Apalachicola River Slough Restoration project, Oyster Fishery and Harvest Statistics, ABSI Research Update, and FWC Apalachicola Bay Oyster Restoration, Phase II. Review and refinement of vision themes and goal framework, and identification of key topical issues to inform the drafting of objectives. Public comment
<b>Meeting III.</b> Eastpointe FL	Jan. 8, 2020	Member-requested presentations on Oyster Ecology, Hydrologic modeling and Oyster Population Models. Review, refinement and adoption of five vision themes, goals, outcomes and objectives, and initial review of draft performance measures. Public comment
<b>PHASE II—SCOPING OF ABSI ISSUES, IDENTIFICATION OF PERFORMANCE MEASURES &amp; STRATEGIES</b>		
<b>Meeting IV.</b> Eastpointe FL	Mar. 11, 2020	Member-requested presentations on current status of Apalachicola Bay, FDACS Aquaculture Leasing Program, Oyster Reef Management in Apalachicola Bay, and the Chesapeake Bay Oyster Futures Consensus Process. Review of Apalachicola Bay System Ecosystem-Based Management and Restoration Plan goals, outcomes, and objectives. Identification of initial draft strategies and related performance measures. Public comment.
<b>Meeting V.</b> Virtual Meeting Via Webinar and Teleconference	May 22, 2020	Member-requested presentations on FWC Overview of Oyster Management, FWRI Oyster Monitoring and Restoration Effects in Apalachicola Bay, MK Ranch Hydrologic Restoration, and TNC Lake Wimico project. Identification and evaluation of preliminary strategies and performance measures to achieve each of the five goals and objectives. Public comment.
<b>CAB Strategies</b>	June 2020	CAB Worksheet to identify potential strategies for each of the five goals.

<b>Meeting VI.</b> Virtual Meeting Via Webinar and Teleconference	Jul 16, 2020	Member-requested presentations. Decision support tools update & demonstration. Review and evaluation of the preliminary strategies by CAB members and identification of performance measures to achieve each of the five goals and objectives. Public Comment.
<b>Meeting VII.</b> Virtual Meeting Via Webinar and Teleconference	Sept. 9, 2020	Member-requested presentations. Identification, evaluation and refinement of preliminary strategies, actions, and performance measures to achieve each of the five goals and objectives. Public Comment.
<b>Meeting VIII.</b>	<b>Oct. 7, 2020</b>	Suggest that we have at least one talk from SAB member. Discussed having Ray Grizzle. Perhaps also Bill Pine?
<b>Meeting IX.</b>	Nov. 12, 2020	Review and agreement on draft Apalachicola Bay System Ecosystem-Based Management and Restoration Plan framework and outline (Vision Themes, Goals, Outcomes, Objectives, and range of possible strategies for evaluation by the CAB). Review and refine draft strategies and actions and approve Public Workshop Draft. Public Comment.
<b>Meeting X.</b>	<b>Dec. 9, 2020</b>	
<b>PHASE III—BUILDING CONSENSUS ON DRAFT ABS ECOSYSTEM-BASED MANAGEMENT AND RESTORATION PLAN STRATEGIES AND RECOMMENDATIONS—EVALUATED USING DECISION-SUPPORT TOOLS RELATIVE TO PERFORMANCE MEASURE GOALS IN PLAN IMPLEMENTATION</b>		
<b>Public Workshop 1</b>	~Jan. 2021 <i>Tentative Date</i>	Review and public comments on Vision, Goal Framework, Plan outline, and range of possible strategies for evaluation by CAB.
<b>Meeting XI.</b>	Jan. 13, 2021	Review of public comments on Draft Plan Framework and Goals, review of decision-support tools scenario results and consensus rating of strategies and actions, and review of related draft performance measures. Public Comment.
<b>Meeting XII.</b>	Feb. 2021	Review of scenarios and consensus rating of strategies and actions using decision-support tools relative to goals and objectives. Public Comment.
<b>Meeting XIII.</b>	TBD	Review of scenarios and consensus rating of draft strategies and actions using decision-support tools relative to goals and objectives. Public Comment.
<b>Meeting XIV.</b>	TBD	Review of scenarios and consensus rating of draft strategies and actions using decision-support tools relative to goals and objectives. Public Comment.
<b>Meeting XV.</b>	TBD	Continue review and consensus testing of Draft ABS Ecosystem-Based Management and Implementation strategies and actions and agreement on Workshop Draft for public comment. Public Comment.
<b>Public Workshop 2</b>	TBD	Review and public comments on Revised Draft ABS Ecosystem-Based Management Plan and Implementation Plan Strategies.
<b>Meeting XVI.</b>	TBD	Review of public comment, agreement on the ABS Draft Ecosystem-Based Management and Restoration Plan strategies and actions. Public Comment.
<b>Meeting XVII.</b>	TBD	Agreement on the ABS Draft Ecosystem-Based Management and Restoration Plan strategies and actions. Public Comment.
<b>PHASE IV—PLAN IMPLEMENTATION</b>		
	<b>TBD 2022</b>	

**APPENDIX #5**  
**ABSI CAB VISION THEMES, GOALS, OUTCOMES & OBJECTIVES (AS OF MARCH 2020)**

**A.) A Healthy and Productive Bay Ecosystem**

**Vision Theme:** The Apalachicola Bay System, including its oyster reef resources, is sustainably managed. Water resources and affected habitats are afforded adequate protection to ensure that essential ecosystem functions are maintained and a full suite of economic opportunities are realized.

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

**Outcome:** By 2030, the Apalachicola Bay System is a healthy, productive and sustainably managed ecosystem that supports a viable oyster fishery while providing a broad suite of ecosystem services that, in turn, afford additional opportunities for sustainable economic development.

**Objectives:**

A1) Restoration and management plans for the ABS consider changes in management and future environmental conditions, such as freshwater flow (e.g., quantity, timing, hydrodynamics), water quality including temperature and salinity, sea level rise, and habitat change.

A2) Ecosystem services and ecological health indicators derived from Apalachicola Bay System recovery are defined and measurable, with identified target and threshold levels.

A3) Measurements of oyster reef and population conditions are defined and quantifiable, with target and threshold levels identified.

A4) Impacts and activities from activities and future climate scenarios affecting the health and restoration of the ABS ecosystem are considered and addressed to minimize negative effects to the ABS ecosystem. *(Moved-Previously Objective E5)*

A5) Policies and programs are established and implemented that provide the means to return a significant portion of the harvested oyster shell back to the ABS for substrate needed for larval recruitment to enhance population productivity. *(moved from B4)*

A6) Observations, experiments and modeling efforts conducted through ABSI and related efforts will identify viable strategies for restoration.

**B.) Sustainable Management of Oyster Resources**

**Vision Theme:** A restored Apalachicola Bay System has resulted in a sustainably managed wild harvested oyster fishery while also providing opportunity ~~also~~ for other economically viable and complementary industries, including aquaculture. This is accomplished by working collaboratively with stakeholders to create, monitor and fund a plan that ensures that protection of the fishery and habitat, is implemented in a manner that is supported by science, data, and field and industry experience and observation, and provides fair and equitable access to the resource.

**Goal:** A productive, sustainably, and adaptively managed Apalachicola Bay System supports sustainable oyster resources.

**Outcome:** By 2030, an engaged and collaborative group of stakeholders will have contributed to and helped spearhead a fully funded science-driven plan to sustainably manage oyster resources in the Apalachicola Bay System.

**Objectives:**

B1) A comprehensive monitoring plan for oyster resources is established, implemented, ~~and~~ evaluated for the ABS with strong coordination among the various entities conducting work in the Bay.

B2) By year four (2022), a science-based oyster management plan is developed with strong stakeholder and community support and implemented by the State of Florida (e.g., FWC, FDACS, State Legislature, etc.) for the ABS that considers, at a minimum: rotational harvest, open and closed areas

(both permanent and seasonal), harvesting methods, limited entry, surcharge fees, the recreational fishery component, shell recycling, and a shell budget.

B3) Regulations for oyster management are well-enforced with sufficient penalties that deter violations and harm to the resource.

B4) The oyster aquaculture industry is regulated using best management practices that enable economic opportunities while preventing negative effects to the ABS ecosystem and its users.

### **C.) A Thriving Economy Connected to a Restored Apalachicola Bay System**

**Vision Theme:** A restored Apalachicola Bay System sustains a vibrant commercial oyster fishery, a thriving aquaculture industry and recreational and tourism-related activities and development opportunities that underpin a strong local economy and resilient coastal community.

**Goal:** The broader Apalachicola Bay Region is thriving economically as a result of a fully restored Apalachicola Bay System.

**Outcome:** By 2030, the broader Apalachicola Bay Region is thriving economically as a result of a restored Apalachicola Bay System that reflects a unique coastal cultural heritage, based on a vibrant oyster fishery, while simultaneously providing new opportunities for sustainable and responsible development, business, recreation and tourism.

**Objectives:**

C1) Economic indicators of the commercial oyster fishery and associated industries in the ABS demonstrate increasing viability and growth over the course of the ABSI project by *year X*.

C2) Industries, and businesses within the ABS are supportive and compatible with a healthy and well-managed ABS ecosystem.

C3) Growth management policies, plans and regulations affecting the ABS are compatible with a healthy and well-managed ABS ecosystem while maintaining a thriving economy and supporting cultural heritage.

C4) The oyster aquaculture industry provides economic opportunities and is complementary to the wild harvest fishery.

### **D.) An Engaged Stakeholder Community and Informed Public**

**Vision Theme D.** Stakeholders of the Apalachicola Bay System are committed to working together beyond the Apalachicola Bay System Initiative to disseminate relevant information and advocate for a sustainably managed oyster-based ecosystem. In so doing, the group will facilitate innovative research, development and implementation of best management practices and serve as a hub for information exchange as well as new development, education and communication opportunities.

**Goal:** A productive and well-managed Apalachicola Bay System is supported by an actively engaged stakeholder community and informed public.

**Outcome:** By 2030, stakeholders, private and nonprofit civic leaders, and the public are informed of the importance of sustaining the health of the Apalachicola Bay System, and engaged and working actively together along with elected and appointed leaders and managers to invest in and implement the plan.

**Objectives:**

D1) A coordinated outreach and education plan is established and implemented to increase public awareness and support for a healthy and well-managed ABS ecosystem.

D2) Businesses, industries, non-profits, and local governments are supportive and included in outreach and education efforts to generate and increase public awareness and support for a healthy and well-managed ABS ecosystem.



D3) During the Project and following funding resources are identified and utilized to generate awareness, education, and support for a healthy oyster and ABS ecosystem.

D4) Public understanding of the issues important to health and restoration of the Bay are improved and increasing as measured by public and stakeholder surveys, and socio-economic

**E.) An Ecosystem-Based Management and Restoration Plan that is Science-Based, Fully Funded and Supported by Apalachicola Bay System Stakeholders**

**Vision Theme:** The Apalachicola Bay System Ecosystem-Based Management and Restoration Plan is science-based and developed with engagement and support from the Apalachicola Bay System stakeholders, including the State of Florida, and fully funded and informed by the best available science and other relevant socio-economic information.

**Goal:** The Apalachicola Bay System Ecosystem-Based Management and Restoration Plan is informed by the best available science, supported by the Apalachicola Bay System stakeholders, and implementation is fully funded.

**Outcome:** By 2030, the Apalachicola Bay System is a productive and sustainably managed ecosystem. A fully funded and well-executed science-based Ecosystem-Based Management and Restoration Plan that incorporates the monitoring necessary for evaluation and adaptation is ~~unanimously~~ broadly supported by Apalachicola Bay System stakeholders with guidance ~~oversight~~ from a permanent stakeholder advisory board.

**Objectives:**

E1) The ABSI Community Advisory Board approves a stakeholder driven and science-informed Ecosystem-Based Management and Restoration Plan for the Apalachicola Bay System with broad community support by 2022 that is implemented.

E2) The ABS Management and Restoration Plan has clearly defined performance measures used to monitor the health of the oyster resource and ABS ecosystem, including indicators of social and economic welfare of the area's coastal and surrounding communities.

E3) State of Florida accepts, approves and adopts and implements the ABS Management and Restoration Plan.

E4) Agencies and other entities responsible for implementing the ABS Management and Restoration Plan work in close coordination.

E5) Funding sources and mechanisms are identified and utilized for full implementation of the ABS Management and Restoration Plan.

E6) A fully funded permanent, representative stakeholder process is established to monitor the long-term implementation of the ABS Management and Restoration Plan.

## APPENDIX #6, CHAD TAYLOR WORKSHEET

APALACHICOLA BAY SYSTEM INITIATIVE COMMUNITY ADVISORY BOARD  
STRATEGY EVALUATION AND ACCEPTABILITY RATING WORKSHEET

SUBMITTED BY CHAD TAYLOR ON  
JULY 15, 2020 @ 3:53 PM

### GOAL A: A HEALTHY AND PRODUCTIVE BAY ECOSYSTEM

**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.

**OUTCOME:** By 2030, the Apalachicola Bay System is a healthy, productive and sustainably managed ecosystem that supports a viable oyster fishery while providing a broad suite of ecosystem services that, in turn, afford additional opportunities for sustainable economic development.

#### GOAL A OBJECTIVES

A1) To develop restoration and management plans for the ABS that consider regulatory changes and future environmental conditions, such as freshwater flow (quantity, timing, hydrodynamics), water quality (e.g., salinity and temperature), sea level, and habitat change.

A1. Does this goal go far enough to recognize the control that the USACE has over freshwater delivery related to timing and quantity? We need to recognize limitations that FL may have in coordinating/influencing actions by the USACE because of a Water Control Plan that fails to recognize oysters and other environmental factors in the ABS. The present Water Control Plan needs scientific review and revision along with Congressional support to request the USACE revise the Water Control Plan to acknowledge the ABS as dedicated user.

### GOAL D: AN ENGAGED STAKEHOLDER COMMUNITY & INFORMED PUBLIC

**VISION THEME D:** Stakeholders of the Apalachicola Bay System are committed to working together beyond the Apalachicola Bay System Initiative to disseminate relevant information and advocate for a sustainably managed oyster-based ecosystem. In so doing, the group will facilitate innovative research, development and implementation of best management practices and serve as a hub for information exchange as well as new development, education and communication opportunities.

Vision – Theme D – Stakeholders must be defined. It seems that ABSI is avoiding the reality that actions in FL cannot mitigate impacts from the upper basin. Maybe due to the litigation or just exhaustion. The fact remains that water crossing the state line directly impacts all of the actions and activities defined here. The science discussed is clearly well thought out and strongly recognizes the natural components that will drive oyster productivity. If we are to engage with stakeholders one of the actions must be to induce the State of Florida to engage in discussions that will ultimately lead to changes (no matter how small) in behavior that would mitigate freshwater delivery. In the past we were worried about droughts however the new Water Control Plan can manipulate flows in even average years that will directly reduce oyster productivity. While the ABSI cannot force cooperation, ABSI can describe the potential benefits to decision makers if even marginal changes in upstream management plans can be negotiated based on the science the ABSI develops. Including language in these plans helps to convince decision makers that they are a necessary part of the overall success of the ABSI.

**GOAL D:** A productive and well-managed Apalachicola Bay System is supported by an actively engaged stakeholder community and informed public.

#### **GOAL D OBJECTIVES**

D1) To establish and implement a coordinated outreach and education plan that increases public awareness and support for a healthy and well-managed ABS ecosystem.

D2) To ensure that businesses, industries, non-profits, and local governments are supportive and included in outreach and education efforts to generate and increase public awareness and support for a healthy and well-managed ABS ecosystem.

D3) To identify and pursue funding resources during and following the ABSI project that will help generate awareness, education, and support for a healthy oyster and ABS ecosystem.

D4) To improve and enhance public understanding of the issues important to health and restoration of the Bay as measured by public and stakeholder surveys and socio-economic indicators.

#### **GOAL D STRATEGIES**

D1. Strategies in this goal should include those actions necessary to include out of state user groups within the ACF basin.

D2. Engage in the National Integrated Drought Information System (NIDIS) and the Drought Early Warning System (DEWS) to provide informative analysis of the short and long-term impacts on droughts due to reductions in freshwater delivery including recommendations to user groups in GA, AL and the USACE on how increases in freshwater delivery from reservoirs and/or changes in withdrawals may improve conditions the ABS.

The present pilot program by NOAA for the ACF has developed a robust meteorological forecast capability within this basin. Use of the tools developed by this group will assist managers in using the new tools being developed by ABSI to look at short-term (months) weather related conditions that can inform potential changes to freshwater delivery and ultimately forecasts of changes to salinity which will help define management actions.

#### **GOAL E: FULLY FUNDED AND SCIENCE-INFORMED ECOSYSTEM-BASED MANAGEMENT AND RESTORATION PLAN SUPPORTED BY APALACHICOLA BAY SYSTEM STAKEHOLDERS**

**GOAL E:** The Apalachicola Bay System Ecosystem-Based Management and Restoration Plan is informed by the best available science, supported by the Apalachicola Bay System stakeholders, and is fully funded.

#### **GOAL E OBJECTIVES**

E1) To ensure that the ABSI Community Advisory Board approves a stakeholder driven and science-informed Ecosystem-Based Management and Restoration Plan for the Apalachicola Bay System with broad community support by 2022 that is implemented.

E1. These actions must include activities associated with basinwide management. Without input and resulting assistance from user groups in GA, AL and the USACE this management group is only in a position to manage “what comes to them”. This group must be proactive in invigorating a dialog between all of the ACF stakeholders. If local and state governments do not participate emphasis on

inclusion of federal agencies, USACE, USFWS, USDA etc. can potentially mitigate impacts through federal actions including use of the Water Control Plan to benefit all users as well as public involvement for reduction/efficiencies in irrigation practices for GA farmers.

*Possible Recommendations for the ABSI CAB to Consider:*

**1. Long-Term Environmental Impacts.** Consider the impacts of ocean acidification and climate change/sea level rise on the oyster resource.

**2. Water Quality Standards.** Develop a set of water quality strategies as common ground that can address pollution impacts on the oyster resource.

**3. Basinwide management that focuses on solutions including reasonable changes in freshwater delivery in low water conditions through manipulation of the water control plan and actions by other user groups that fairly manage the resource.**

Comment: in the past FL could not seem get around the idea of a number (how much water do we need?). The scientific studies defined here will provide a quantitative framework which will allow managers to provide upper basin user groups just “how much water” the ABS may need under a specified set of conditions. Our ability to conduct the science, then relate the value of freshwater delivery to the system in the context of all basinwide users and their needs provides the greatest management scenarios.

All the science we produce in these studies may just defined why the system is going to fail rather than using that information as a basis of a dialog with basinwide managers (not just FL managers) to mitigate impacts during lower flow conditions.

## PERFORMANCE MEASURES

### A.) A HEALTHY AND PRODUCTIVE OYSTER REEF ECOSYSTEM

#### Related Draft Performance Measures to Evaluate Strategies/Options

- A. Development of a forecasting model for salinity, temperature, nutrients (including nitrogen) and organic carbon dynamics under different climate and management scenarios.
- B. Examine the hydrodynamics of the Apalachicola River into the distributaries and the importance of freshwater delivery through these marshes and into East Bay.
- C. Develop tools that can be used to analyze impacts during low flow conditions and flow alteration criteria that could mitigate the most severe impacts. Work with NIDIS and DEWs to add this analysis to the various tools available to ACF basin stakeholders.
- D. Reef height (feet or meters), where "reef" means live and dead shell, as well as other restoration material.
- E. Reef habitat measured in terms of height (feet or meters) and area (acres or km<sup>2</sup>), where “reef” is defined as structural material suitable for oyster recruitment (e.g., live shell, dead shell, and/or restoration materials).
- F. Reef area, reef defined as above (acres or km<sup>2</sup>)
- G. Density of live oysters, new boxes and dead shell (#/m<sup>2</sup>)
- H. Density of live oysters, including density of recruits and spawning adults (#/m<sup>2</sup>).

- I. Oyster population demographics (size/frequency)
- J. Biomass of live oysters (calculated from demographic data)
- K. Amount of brood stock (abundance and biomass of mature adults)
- L. Spat settlement patterns (spatial and temporal)
- M. Oyster recruitment patterns, where recruitment is defined as survival beyond a density-dependent mortality stage (~1.4"/35mm).
- N. Incidence of oyster diseases, parasites and predators
- O. Assess and manage for sustainable natural mortality rates (e.g., due to predation, parasites, disease).
- P. Diversity and abundance/biomass of reef-associated species
- Q. Community diversity and population abundance/biomass of reef-associated taxa, including (commercially or recreationally) fished populations like blue crabs, stone crabs, mullet, redfish, etc.
- R. Soft sediment community structure
- S. Levels of pollutants (PCB, Heavy metals etc.) in water, sediment and animal tissue
- T. Sedimentation rates
- U. Salinity regimes across the ABSI region under different climate and management scenarios.
- V. Organic carbon dynamics (food availability) under different climate and management scenarios.
- W. Water filtration rates (volume/day) and days to filter estuary volume
- X. Water clarity (visibility) – changes over time
- Y. Area of seagrass in the ABS region
- Z. Nutrient dynamics of the ABS region
- AA. Relative proportion of nitrogen removed compared to nitrogen input
- BB. Assess changes in coastal vulnerability indices (e.g., indices of shoreline erosion, which are related to changes in saltmarsh, mangrove, seagrass habitat, but also vulnerability to storms).
- CC. **Address the potential for “chemical” erosion due to the oxidation of freshwater marsh substrate due to increased salinity in East Bay and the distributaries.**
- DD. Assess changes in shoreline erosion protection
- EE. Assess changes in salt marsh, mangrove, and/or seagrass indices.
- FF. Number of sloughs connected to the Apalachicola River (depending on flow levels).

**APPENDIX #7**  
**ABSI CAB TERMS AND DEFINITIONS** (AS OF JULY 2020)

**GUIDING PRINCIPLES:** The Community Advisory Board’s Guiding Principles reflect the broad values and philosophy that guides the operation of the Community Advisory Board and the behavior of its members throughout its process and in all circumstances regardless of changes in its goals, strategies or membership.

**VISION:** An idealized view of where or what the stakeholders would like the oyster resource and ecosystem to be in the future.

**VISION THEMES:** The related key topical issue area strategies that characterize the desirable future for the oyster resource and ecosystem. The Vision Themes establish a framework for goals and objectives. They are not ordered by priority.

**GOALS:** A goal is a statement of the project’s purpose to move towards the vision expressed in fairly broad language.

**OUTCOMES:** Outcomes describe the expected result at the end of the project period – what is hoped to be achieved when the goal is accomplished (*e.g., an ecologically, and economically viable, healthy and sustainable Apalachicola Bay System oyster fishery and ecosystem*).

**OBJECTIVES:** Objectives describe in concrete terms how to accomplish the goal to achieve the vision within a specific timeframe and with available resources. (*e.g., by 2023, the State of Florida will have approved a stakeholder developed Ecosystem-Based Management and Restoration Plan for the Apalachicola Bay System.*)

**PERFORMANCE MEASURES:** The regular measurement of outcomes and results, which generates reliable data on the effectiveness and efficiency of programs and plans.

**STAKEHOLDERS:** All interest groups whether public, private or non-governmental organizations who have an interest or concern in the success of a project and can affect or be affected by the outcome of any decision or activity of the project. For purposes of the Apalachicola Bay System Initiative, stakeholders include but are not limited to: agriculture, silviculture, business, real estate, economic development, tourism, environmental, citizen groups, recreational fishing, commercial seafood industry, regional groups (i.e., ACF Stakeholders, and Riparian Counties), local government, state government, federal government, universities, and research interests.

**ECOSYSTEM SERVICES:** The direct and indirect contributions of ecosystems to human wellbeing. These services include provisioning services (food, raw materials, fresh water, medicinal resources), regulating services (climate, air quality, carbon sequestration & storage, moderation of extreme events, waste water treatment, erosion prevention & maintenance of soil fertility), habitat or supporting services (habitat for all species, maintenance of genetic diversity), and cultural services (recreation for mental & physical health; tourism; aesthetic appreciation and inspiration for culture, art & design; spiritual experience & sense of place).

**APALACHICOLA BAY SYSTEM:** Consists of six bays: Apalachicola Bay, East Bay, St Vincent Sound, East and West St George Sound, and Alligator Harbor comprising a total of 155,374 acres (62,879 Ha). Important considerations include riverine and offshore inputs to the ABS as well as the reciprocal influences of outputs from the ABS to the Gulf of Mexico.

**HEALTHY APALACHICOLA BAY SYSTEM:**

A healthy ecosystem is one in which material and energy flows are balanced through interacting biological, physical, and chemical processes (involving microorganisms, plants, animals, sunlight, air, water) that conserve diversity, support fully functional evolutionary and ecological processes, and sustain a range of ecological and ecosystem services.

**OYSTER RESOURCES:** Sources of oysters that provide natural and cultural benefits to humans. These sources can come from the wild or from aquaculture (see ecosystem services). The responsible management of oyster resources for present-day needs and future generations requires integrated approaches that are place-based, embrace systems thinking, and incorporate the social, economic, and environmental considerations of sustainability.