

**APALACHICOLA BAY SYSTEM INITIATIVE (ABSI)
 ABSI COMMUNITY ADVISORY BOARD (CAB)
 OYSTERMEN’S WORKSHOP III—WEDNESDAY, JULY 14, 2021**

**APALACHICOLA NATIONAL ESTUARINE RESEARCH RESERVE
 108 ISLAND DRIVE (STATE ROAD 300) AT CAT POINT IN EASTPOINT, FLORIDA**

**VIRTUAL MEETING PARTICIPATION OPTION VIA ZOOM: <https://fsu.zoom.us/j/99664297601>
 MEETING ID: 996 6429 7601—PHONE NUMBER: 646.558.8656**

WORKSHOP OBJECTIVES

- ✓ To Provide Update and Receive Oystermen’s Feedback on ABSI Restoration Experiment
- ✓ To Provide Update and Receive Oystermen’s Feedback on FWC Restoration Project
- ✓ To Receive Oystermen’s Feedback on Potential Management and Enforcement Alternatives

ABSI OYSTERMEN’S WORKSHOP III—JULY 14, 2021

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

1.)	2:00 PM	WELCOME AND REVIEW OF WORKSHOP PARTICIPATION GUIDELINES
2.)	2:05	REVIEW OF WORKSHOP OBJECTIVES AND INTRODUCTIONS
3.)	2:10	REVIEW OF UPDATED PROJECT MEETING SCHEDULE AND WORKPLAN
4.)		UPDATE AND OYSTERMEN’S FEEDBACK ON ABSI RESTORATION EXPERIMENT
5.)		UPDATE AND OYSTERMEN’S FEEDBACK ON FWC RESTORATION PROJECT
6.)		OYSTERMEN’S FEEDBACK ON POTENTIAL MANAGEMENT APPROACHES
7.)		FWC LAW ENFORCEMENT OF OYSTER FISHERY DISCUSSION <ul style="list-style-type: none"> • Discussion on enforcement options with FWC Law Enforcement
8.)	4:55	NEXT STEPS <ul style="list-style-type: none"> • Public Workshop • ABSI CAB
	~5:00 PM	ADJOURN

MEETING AND WORKSHOP FACILITATION

The ABSI CAB meetings and workshops are facilitated and reported on by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: <http://consensus.fsu.edu/>



PROJECT WEBPAGE (URL): <https://marinelab.fsu.edu/the-apalachicola-bay-system-initiative/>

PROJECT EMAIL: fsucml-absi@fsu.edu

ABSI CAB ORGANIZATIONAL AND PROCEDURAL POLICES AND GUIDELINES

Located under the ABSI CAB Procedures and Reports Menu: <https://marinelab.fsu.edu/absi/cab/>



COMMUNITY ADVISORY BOARD MEMBERSHIP AND REPRESENTATION

MEMBER	AFFILIATION
Agriculture/ACF Stakeholders/Riparian Counties	
1. Chad Taylor [^]	Riparian Counties Stakeholder Coalition/ACF Stakeholders/Agriculture
Business/Real Estate/Economic Development/Tourism	
2. Chuck Marks	Acentria Insurance
3. Mike O'Connell	SGI Civic Club/SGI 2025 Vision
4. John Solomon	Apalachicola Chamber of Commerce
Environmental/Citizen	
5. Georgia Ackerman ^{^*}	Apalachicola Riverkeeper
6. Lee Edmiston	Retired DEP/ANERR
7. Chad Hanson ^{^*}	Pew Charitable Trusts
Local Government	
8. Burt Boldt [^]	Franklin County Commissioner
9. Anita Grove ^{^*}	Apalachicola City Commissioner
Recreational Fishing	
10. Chip Bailey	Peregrine Charters
11. Frank Gidus	CCA Florida
Seafood Industry	
12. Shannon Hartsfield [^]	Franklin County Seafood Workers Association and Oysterman
13. Roger Mathis [^]	Oysterman and R.D.'s Seafood
14. Steve Rash [^]	Water Street Seafood
15. Denita Sassor	Outlaw Oyster Company, Aquaculture
16. TJ Ward	Buddy Ward & Sons Seafood
State Government	
17. Jenna Harper	ANERR/DEP
18. BJ Jameson [^]	FWC Division of Marine Fisheries Management
19. Alex Reed	FDEP Office of Resilience & Coastal Protection
20. Portia Sapp	FDACS Division of Aquaculture
21. Paul Thurman	NWFWMD
University/Researchers	
22. Tom Frazer	UF/DEP Governor's Science Advisor
23. Erik Lovstrand	UF/IFAS/Florida Sea Grant Franklin County
CAB SUBCOMMITTEES	
Community Outreach Subcommittee	* Lead: Chad Hanson
CAB Successor Group Subcommittee	[^] Co-Leads: Anita Grove and Shannon Hartsfield
PROJECT TEAM AND FACILITATOR	
FLORIDA STATE UNIVERSITY	
Sandra Brooke*	Marine Biologist
Ross Ellington	Professor Emeritus of Biological Science
Madelein Mahood*	Outreach and Education
Gary Ostrander	Previous Vice-President for Research
Joel Trexler [^]	FSUCML Director
FCRC CONSENSUS CENTER, FLORIDA STATE UNIVERSITY	
Jeff Blair	Community Advisory Board Facilitator



ABSI CAB PROJECT SCHEDULE AND WORK PLAN

UPDATED AS OF THE JUNE 16, 2021 CAB MEETING

PHASE I—STANDING UP AND ORGANIZATION OF THE ABSI CAB

ABSI Assessment Process	May- Aug. 2019 Report 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.
ABSI CAB Questionnaire	Sept. 2019	Questionnaire report on the CAB members’ views on successful short and long-term outcomes and on critical ABSI challenges and issues.
Meeting I. 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.
Meeting II. 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
Meeting III. 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

PHASE II—SCOPING OF ABSI ISSUES, IDENTIFICATION OF PERFORMANCE MEASURES & STRATEGIES

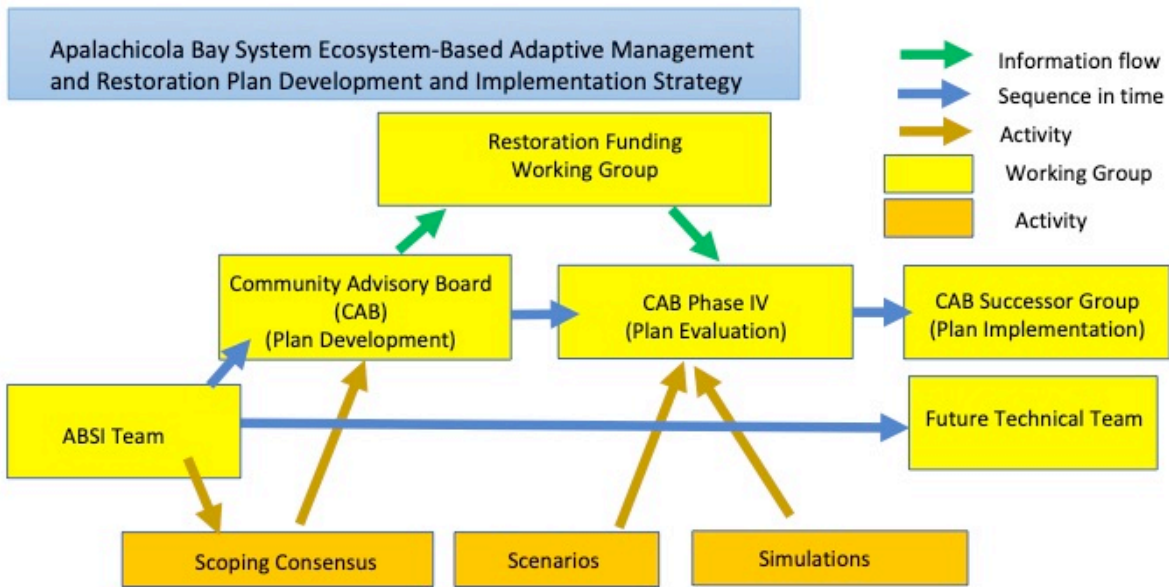
Meeting IV. Eastpointe FL	Mar. 11, 2020	Member-requested presentations on current status of Apalachicola Bay, FDACS Aquaculture Leasing Program, Oyster Reef Management in Apalachicola Bay, and the Chesapeake Bay Oyster Futures Consensus Process. Review of Apalachicola Bay System Ecosystem-Based Management and Restoration Plan goals, outcomes, and objectives. Identification of initial draft strategies and related performance measures. Public comment.
Meeting V. Virtual Meeting	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.
CAB Strategies	June 2020	CAB Worksheet to identify potential strategies for each of the five goals.
Meeting VI. Virtual Meeting	July 16, 2020	Member-requested presentations. Decision support tools update & demonstration. Review and evaluation of the preliminary strategies by CAB member for Plan Goal. Public Comment.
Meeting VII. Virtual Meeting	Sept. 9, 2020	Member-requested presentations. Identification, evaluation and refinement of objectives, strategies and performance measures for Goals A-E. Public Comment.
Meeting VIII. Virtual Meeting	Oct. 15, 2020	Member-requested presentations. Review of strategies and identification, and evaluation of actions steps to achieve strategies. Evaluation of Performance Measures and categories. Public Comment.
Meeting IX. Virtual Meeting	Nov. 12, 2020	Member-requested presentations. Agreement on Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan (Plan) framework. Public engagement on the Plan strategy discussion. Discussion of strategies and action steps to achieve Goals. Discussion of ecological and management goals. Public comment.
Oystermen’s Workshop #1	Dec. 2, 2020	Overview of Project Scope, Purpose, and Status, and Oystermen’s input on restoration experiment, suitable habitat for restoration, and management and restoration alternatives.



PHASE III—BUILDING CONSENSUS ON CAB RECOMMENDATIONS FOR THE ABS ECOSYSTEM-BASED ADAPTIVE MANAGEMENT AND RESTORATION PLAN		
Meeting X. Virtual Meeting	Jan. 13, 2021	Member-requested presentations. Sub-committee reports. Discussion of estuarine metrics and restoration goals. Public comment.
Meeting XI.	Feb. 24, 2021	Member-requested presentations. Sub-committee reports. Review and approval of revised Draft Plan Framework. Discussion of management goals. Public comment.
Oystermen’s Workshop #2	April 15, 2021	Oystermen’s review and comments on draft Management approaches and Plan Framework (Strategies and Actions for Goals and Objectives)
Meeting XII.	April 21, 2021	Member-requested presentations. Sub-committee reports. Discussion of estuarine metrics. Discussion and approval of revised Plan Framework and Performance Measures. Discussion of management approaches. Public comment.
Meeting XIII.	June 16, 2021	Member-requested presentations. Sub-committee reports. Community Outreach Plan approval. Discussion and agreement on revised Draft Plan Framework and inclusion of management approaches. Law enforcement discussion. Public comment.
Oystermen’s Workshop #3	<i>July 14, 2021</i>	ABSI restoration experiment update and feedback. FWC restoration project update and feedback. Management and Restoration Plan feedback.
Meeting XIV.	Aug. 18, 2021 ANERR	Continue review and consensus testing of Draft Plan and implementation strategies and actions, and agreement on Draft Plan. Prioritization of Strategies. Presentation on modeling scenarios for potential restoration locations. Presentation on Habitat Model. Public comment.
Meeting XV.	Oct. 19, 2021 ANERR	Review and approve draft recommendations and performance measures for inclusion in the ABSI Plan. Workshop planning. Public comment.
Public Workshop	<i>October TBD</i>	Overview of ABSI and restoration experiments. Public review and comments on Draft ABS Ecosystem-Based Adaptive Management Plan.
Meeting XVI.	Nov. 16, 2021 ANERR	Complete Phase III of project. Review of public comments. Final CAB approval of Management and Restoration recommendations for the Plan. Briefing on Phase IV of the ABSI CAB. Public Comment.
PHASE IV—RESTORATION PROJECT SELECTIONS AND IMPLEMENTATION/FUNDING PLANNING		
Tentatively January/February 2022		<ol style="list-style-type: none"> CAB. CAB continues with additional members as needed, and works on evaluating the best combination of strategies that will achieve management and restoration objectives for the Bay using decision support tools and available data, and prioritization of specific restoration projects. Restoration Funding Working Group (RFGW). The Restoration Funding Working Group’s role is to seek funding to implement the CAB’s priority recommendations. The RFGW will be in place by January 2022. CAB Successor Group. The CAB Successor Group is organized and ready to convene when the CAB completes their work on the Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan. The Successor Group’s role will be to organize a group of key stakeholders committed to working collaboratively for the long-term, and once the CAB process is complete (June 2024), to ensure that the Plan is implemented, monitored, and adaptively managed over time and with the support of the Community.



ABSI CAB PROCESS FLOWCHART



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



ABSI Project Area Map

ABSI MISSION STATEMENT, PROJECT SUMMARY, AND CAB GOAL STATEMENT

APALACHICOLA BAY SYSTEM INITIATIVE MISSION STATEMENT. The Apalachicola Bay System Initiative (ABSI) seeks to gain insight into the root causes of decline of the Bay's ecosystem and the deterioration of oyster reefs. Ultimately, the ABSI will develop a management and restoration plan for the oyster reefs and the health of the Bay.

PROJECT SUMMARY. In response to the rapidly declining health of the Apalachicola Bay System (ABS) and the collapse of the oyster fishery and reefs therein, Florida State University sought and was awarded a grant from Triumph Gulf Coast Inc. to undertake a series of scientific approaches intended to aid in the development of an ecosystem-based oyster management and restoration plan for the Apalachicola Bay System. The plan will be informed by science while involving representative stakeholders and the public in its creation, development and implementation by state and federal management agencies. Developing such a plan will help the state agencies responsible for marine resources improve the overall health and the rich biological diversity of the bay, including that of other ecologically and economically important species. Because oyster populations are declining in estuaries across the Florida panhandle, ABSI project leads will work with scientific, non-profit and governmental entities working on similar issues throughout this region to develop a consistent oyster management framework.

The vitality of Apalachicola Bay is key to the socio-economic prosperity of Franklin County and the surrounding area. Specifically, as the bay's health has declined, so has the area's once-booming oyster industry, resulting in widespread job loss and increased economic insecurity for many Franklin County residents whose livelihoods are tied to the Bay.

Florida State University through its Coastal and Marine Laboratory will investigate what precipitated the dramatic decline of the Apalachicola Bay System, and working with the ABSI Community Advisory Board (CAB) and Science Advisory Board determine a viable course of action for improving its condition.

APALACHICOLA BAY SYSTEM INITIATIVE COMMUNITY ADVISORY BOARD GOAL STATEMENT. The overarching goal of the Apalachicola Bay System Initiative Community Advisory Board is to develop a package of consensus recommendations informed by the best available science, data, and stakeholders' experiences for the management and restoration of the Apalachicola Bay System, and to ensure there is a reliable mechanism and process for the monitoring, funding, and implementation of the Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan.

A critical component of the management plan is oyster reef restoration with full consideration of factors affecting the biology, ecology and sustainable management of the resource. Restoration related actions, as indicated above, should be informed by the best available science and shared stakeholder values, that in turn, result in an economically viable, healthy, and sustainable Apalachicola Bay System.

The process will be designed so that members can explore and evaluate oyster fishery practices and management options, and restoration policies in the Apalachicola Bay System. The Community Advisory Board's consensus recommendations, in the form of an Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan, will be directed to the Apalachicola Bay System Initiative project team, natural resource managers and environmental regulators, and other agencies/entities as appropriate.

KEY APPROACHES FOR OYSTERMEN'S FEEDBACK

APALACHICOLA BAY SYSTEM ECOSYSTEM-BASED ADAPTIVE MANAGEMENT AND RESTORATION PLAN FRAMEWORK (Vision Themes, Goals, Outcomes, Objectives, Strategies, and Actions)

- **Goal A:** A Healthy and Productive Bay Ecosystem [4 Objectives and 8 Strategies]
- **Goal B:** Sustainable Management of Oyster Resources [2 Objectives and 12 Strategies]
- **Goal C:** Ecosystem-Based Adaptive Management and Restoration Plan Supported by Apalachicola Bay System Stakeholders [2 Objectives and 4 Strategies]
- **Goal D:** An Engaged Stakeholder Community and Informed Public [2 Objectives and 3 Strategies]
- **Goal E** (Outside of ABSI Scope): A Thriving Economy Connected to a Restored Apalachicola Bay System [4 Objectives and 10 Strategies]
- **Additional Strategies** Outside of the ABSI Scope [5 Strategies]

GOAL B SUSTAINABLE MANAGEMENT OF OYSTER RESOURCES

VISION THEME B: A restored Apalachicola Bay System has resulted in a sustainably managed and adequately enforced 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 supported 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.

GOAL B: 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.

GOAL B OBJECTIVES

B1) To develop through a transparent and inclusive process a science-based ABS oyster recovery and adaptive management plan for both commercial and recreational industries that includes: broad stakeholder and community support; a long-term, comprehensive monitoring plan that will be carried out by state agencies and their contractors; a regulatory framework that allows for rapid modifications when needed to address changing environmental conditions; and enforceable regulations that contain penalties sufficient to deter violations and harm to the resource. It is imperative that this Plan be constructed with the direct involvement of entities within the State of Florida (e.g., FWC, FDACS, State Legislature) in cooperation with other relevant agencies to enhance the likelihood of its implementation.

B2) To make recommendations to FDACS for oyster aquaculture best management practices that allow for the unimpeded recovery of oysters reefs, the oyster fishery, and the ecological and societal health of the ABS ecosystem while providing economic opportunities to the aquaculture industry.

GOAL B RECOMMENDATION

Closing the Apalachicola Bay to Wild Oyster Harvest. At the March 11, 2020 ABSI CAB meeting the CAB’s FWC representative requested that the CAB recommend whether to close Apalachicola Bay to all wild harvest of oysters (commercial and recreational). The CAB discussed the issue and unanimously recommended to FWC that they immediately close Apalachicola Bay to all wild harvest of oysters. This recommendation was reviewed and accepted by FWC, and the closure of the Bay to recreational and commercial wild oyster harvest proactively went into effect on August 1, 2020 via Executive Order pending approval of final rules. The oyster fishery closed area has 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.¹ At the December 16, 2020 meeting the FWC approved the final rules to temporarily suspend all wild oyster harvest and to prohibit on-the-water possession of wild oyster harvesting equipment (tongs) from Apalachicola Bay through December 31, 2025.

The CAB agreed that in subsequent meetings, it would make science-based recommendations for the criteria and performance metrics that should be met before reopening the Bay to wild oyster harvest. Under consideration are the following strategies related to closing the wild oyster fishery.

GOAL B DRAFT STRATEGIES

1. Recommend specific criteria and/or conditions, with related performance measures for the reopening of Apalachicola Bay to limited wild oyster harvesting.
 - *Action 1-A.):* Use ABSI ecosystem health metrics and FWC/UF models to develop criteria for opening and closing wild oyster harvest and for determining sustainable harvest.
 - *Action 1-B.):* Work with FWC and FDACS to ensure that definitions of oyster population health are not only based on harvest metrics.

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

Lead: FWC

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

3. Evaluate the development of a policy that would require setting sustainable harvest goals and placing limitations on or a complete closure to harvesting based on the results of data (e.g., stock assessment) collected and evaluated under a comprehensive monitoring program designed to sustainably manage the resource.

¹ FWC’s Rule 68B-27.013, F.A.C. (as modified in the proposed draft rule language presented at the July 22, 2020, commission hearing): “Apalachicola Bay” or “Bay” means all waters within St. George Sound, East Bay in Franklin County, Apalachicola Bay, St. Vincent Sound in Franklin County, and Indian Lagoon in Gulf County, including canals, channels, rivers and creeks.



- *Action 3-A.):* Use a co-management advisory committee to assess and make a recommendation to the state.
- *Action 3-B.):* Convene an Oyster Advisory Board within FWC to review and make recommendations on management and enforcement of the oyster fishery once wild oyster harvesting resumes in Apalachicola Bay.

Lead: FWC	Partners: FDACS, FSU, UF, local governments
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4. Use decision-support tools to develop a system of potential closed areas that are well defined in terms of size, location, and longevity and include rotational and seasonal harvest areas, as well as long-term closed areas in strategic locations to provide habitat for year-round protection for brood stock and enhanced spawning opportunities.
 - *Action 4-A.):* Engage local stakeholders in determining total coverage (how much to protect), placement (where to protect), and size (how large) of all types of potential closed areas using gridded maps as well as distributions of selected fishery and ecologically important species.
5. Manage the commercial oyster industry and recreational oyster fishing to provide for sustainable spat production and spawning and the recovery of oyster populations.
 - *Action 5-A.):* Evaluate management scenarios (e.g., seasonal (summer) closure to wild harvesting, rotational closures, 5-day work weeks, non-harvested spawning reefs (permanent closures), limited entry, transferable license program, closures based on stock levels (stock assessment), reduced bag limits, bag tags, relaying oysters to better habitat, additional enforcement presence, manage harvest areas to prevent the concentration of effort in specific locations (open larger areas)).
 - *Action 5-B.):* Develop strategies to limit oyster harvest to periods outside of peak spawning season.
 - *Action 5-C.):* Evaluate existing allowable and minimally destructive alternative gear type options and harvest methods, including the use of experimental gear for wild oyster harvesting.

Lead: FWC	Partners: oystermen, FSU, UF, Sea Grant
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6. Restore and create reef structures suitable for sustained and optimized oyster settlement and production for harvesting.
 - *Action 6-A.):* Include oystermen in discussions to evaluate cultching techniques and materials for growing oysters (e.g., historical non-traditional, trees), adding spat on shell or other substrates.
 - *Action 6-B.):* Include oystermen in discussions on spatial configuration of reefs (height, width, contours, etc.), locations (existing reefs and hard bottom), use of larger rock to protect restored reefs from siltation and sedimentation from prevailing currents and storms.

Lead: FWC	Partners: FSU, UF, Sea Grant, watermen and aquaculture organizations, local county programs
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- *Action 6-C.):* Design and implement projects to achieve oyster fishery production targets.
- *Action 6-D.):* Design projects that include both fished and non-fished reefs.

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

8. Investigate oyster shell and oyster relay programs to move both cultch and live oysters to more favorable habitat (relay programs are recommended only to be used for restoration experiments).
 - *Action 8-A.):* Use model and mapping information on larval source areas and environmental conditions to inform the potential programs.
 - *Action 8-B.):* Research similar relay programs in other areas for potential models and cautions.

Lead: FDACS/FWC	Partners: FSU, UF, Sea Grant, FDEP, FDOH, stakeholders (oystermen)
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9. Use ecological quantitative modeling and other decision support tools to evaluate strategies and actions, and define performance criteria for an oyster population that can sustain a pre-determined level of wild oyster harvest, with a stipulated number of harvesters (limited entry), and protocols to ensure sustainability.
 - *Action 9-A.):* Use model outputs to identify the oyster population abundance that can support sustainable harvest.
 - *Action 9-B.):* Use model outputs to identify percentage of productive reef area required to support sustainable harvest.
 - *Action 9-C.):* Use model outputs to identify annual; recruitment required to support sustainable harvest.
 - *Action 9-D.):* Use model outputs to determine amount and frequency of habitat replacement to maintain productive oyster reefs.

Lead: FSU/UF	Partners: FWC, stakeholders
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10. Evaluate a suite of management approaches that in combination achieve the goal of maintaining a sustainable wild oyster harvest fishery as measured in relation to relevant performance metrics for determining success.
 - *Action 10-A.):* Evaluate and develop standards for a potential limited-entry fishery that would be managed adaptively with the number of entrants in the fishery based on the current sustainable harvest level.
 - *Action 10-B.):* Implement a summer wild harvest fishery closure.
 - *Action 10-C.):* Manage Harvest Areas to prevent the concentration of effort in specific locations.
 - *Action 10-D.):* Implement stock-based temporary wild harvest closures.
 - *Action 10-E.):* Provide daily harvest limits in conjunction with a five-day harvest week (M-F).
 - *Action 10-F.):* Eliminate the 5% undersize oyster limit for dealers buying oysters.

- *Action 10-G.):* Evaluate and determine a metric used to manage oyster reef harvest at a sustainable threshold. Consider a graduated set of thresholds.
- *Action 10-H.):* Implement annual fisheries dependent and independent stock assessments, with data collection methods and site selection done in collaboration with oystermen, for determining a sustainable level of wild oyster harvest for each season.
- *Action 10-I.):* Implement a recreational wild oyster harvest limit of one 5-gallon bucket of oysters, and allow recreational harvest during the summer with the same one 5-gallon bucket limit.
- *Action 10-J):* Allow oystermen to weigh oyster bags on the water in their boats to ensure the bags meet the bag weight limit regulations.

Lead: FSU/UF	Partners: FWC, stakeholders
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11. Work with FDACS to ensure that oyster aquaculture practices and locations in the Bay are compatible with the goals and strategies for restoration and management of the ecosystem and are compatible with a wild fisheries and the important cultural role of a working waterfront and seafood industry.

- *Action 11-A.):* Develop maps using FDACS data showing all aquaculture activities in the ABS, superimposed on existing maps of essential fish habitat, fishing activities, seagrass beds, and natural existing hard bottom (reefs/bars) to identify potential conflicts.
- *Action 11-B.):* Utilize habitat and activity maps from *Action 5. A.* to identify potential new oyster restoration areas and areas that could be used as spawning reefs to enhance recruitment and productivity nearby harvested reefs.

Lead: FDACS	Partners: FSU, UF, FWC, oystermen
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12. Work with FWC Law Enforcement to develop enforcement strategies and appropriate penalties sufficient to deter harvest or sale of undersized oysters as well as violations that harm wild or leased oyster reefs and other natural resources, and that will support restoration efforts in the ABS.

- *Action 12-A.):* Develop strategies to increase FWC enforcement presence and number of checkpoints to provide a deterrent to illegal activities.
- *Action 12-B.):* Develop strategies to ensure consistency of enforcement in the harvestable and marketable size of oysters. (See Actions 10-F and 10-J)
- *Action 12-C.):* Work with FWC and FDAC to implement enforcement changes.
- *Action 12-D.):* Work with oystermen to evaluate current rules and regulations to ensure they are enforced consistently, fairly, and practically with an understanding of real-world on-the-water harvesting practices and constraints.
- *Action 12-E.):* Evaluate and seek authority to implement a tiered system of penalties for purposeful violators (increased fines and license suspensions ranging from increased length of suspension to the permanent loss of license) to keep purposeful violators out of the industry.
- *Action 12-F.):* Prior to the opening of each harvest season FWC should conduct a joint workshop between FWC law enforcement and the oystermen to review the current rule and regulations, identify any changes, discuss enforcement approaches relative to harvest practices and constraints on the water, and to provide mutual two-way education, and enhance communication and collaboration between FWC and oystermen.
- *Action 12-G.):* Work together and with other stakeholders to seek funds to support the recommended increased law enforcement presence in the Bay.

Lead: FWC/FDACS	Partners: FSU-CAB, oystermen, oyster dealers
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ATTACHMENT 1
MANAGEMENT OPTIONS DISCUSSION—FEBRUARY 24, 2020 AND APRIL 24, 2021
CAB MEETINGS, AND APRIL 15, 2021 OYSTERMEN WORKSHOP

The following management approaches were discussed by the CAB during their February 24, 2021 and April 24, 2021 meetings and by the oystermen during their April 15, 2021 workshop:

- **Summer Fishing Closures**
Consensus from the CAB and oystermen for this approach.
- **Managing Harvest Areas to prevent the concentration of effort in specific locations**
Consensus from the CAB and oystermen for this approach.
- **Rotational Closures (e.g., summer bars vs. winter bars, partial bar closures)**
Not supported by the CAB or the oystermen, due to support for other approaches that accomplish the goal of this approach.
- **Permanent Refuge Non-Harvest Areas (No Fishing)**
The CAB and the oystermen noted that there are already closed areas and any additional areas, if needed for the Bay's health, should be designated in close consultation with the oystermen.
- **Stock-Based Temporary Closures.**
Consensus from the CAB and oystermen for this approach.
- **Daily Harvest Limits vs. fishery or individual quotas.**
Consensus from the oystermen and CAB for daily harvest limits.
- **Limited Entry Fishery.**
CAB and Oystermen: There was not consensus for this approach; however, there is receptivity if it is needed to ensure a sustainable wild harvest, and if it was implemented fairly with oystermen's feedback and implemented adaptively so the number of entrants could change based on the health of the oyster fishery.
- **Elimination of the Undersized Oyster 'Buffer' (5% allowance for undersized) for seafood dealers.**
Consensus from the oystermen and CAB for eliminating undersized buffer limits, but the 5% buffer for harvesting oysters is needed.

- **Managing Oyster Reef Harvest With a Metric**
Consensus from the oystermen and the CAB for this approach if the correct metric is used.
- **Implement Annual Fisheries Dependent and Independent Stock Assessments**
The CAB and oystermen agreed that if data collection methods were more accurate and oystermen were consulted on the locations and data collection methodology, then stock assessments would be helpful for deciding on thresholds for harvesting levels that ensure sustainability.
- **Reduced Bag Limits**
There was not consensus for this approach by the oystermen or the CAB; however, there is receptivity to considering this approach if it was done correctly and the limit allowed an oystermen to make a living. This should be evaluated in relation to a limited entry approach.
- **Bag Tags**
There was not consensus for this approach by the oystermen or the CAB; however, there was receptivity to this approach if it was done correctly and the limit allowed an oystermen to make a living.
- **Relaying Oysters from intertidal to subtidal locations within the Bay as a restoration experiment strategy.**
Consensus from the oystermen and the CAB for this approach, but only if oysters were moved and relocated in the same general area, with a small layer applied over existing healthy reefs to jump start restoration experiments but not as a management approach.
- **5-day Work Weeks**
Consensus from the oystermen and the CAB for this approach (Preference is to harvest M-F). Recreational limit should be one 5-gallon bucket of oysters and allow recreational harvest during the summer with the same one 5-gallon bucket limit.
- **FWC Law Enforcement**
Consensus from the oystermen and the CAB for a stronger presence of law enforcement, with consistent, fair, and practical real-world practice enforcement approach, and enhanced collaboration and communication between oystermen and FWC law enforcement.

ATTACHMENT 2

ABSI STRATEGIES AND ACTIONS RESPONSIVE TO OYSTERMEN'S FEEDBACK PROVIDED DURING THE DECEMBER 2, 2020 AND APRIL 15, 2021 OYSTERMEN'S WORKSHOPS

OVERARCHING APPROACHES

Approach 2.) Include commercial fishermen in discussions of and to help work on restoration design and implementation (locations, size, total coverage, clutching, etc.), establishment of permanent closed_areas, shell recycling, shelling, oyster relaying, mentoring, and workforce entry development, etc.

GOAL A—A HEALTHY AND PRODUCTIVE BAY ECOSYSTEM

Strategy 5.) Identify monitoring needs for assessing the health* of oyster populations (including disease), and detecting changes in environmental conditions and habitat quality (for oysters and other reef-associated species) over time.

- *Action 5-A.):* Continue monitoring intertidal and begin monitoring sub-tidal reefs monthly and bi-annually using same protocols as FWC sub-tidal monitoring. Adjust to add metrics as needed. Data will be shared between FWC and ABSI.
- *Action 5-B.):* Continue monitoring intertidal and begin monitoring sub-tidal habitats using same protocols as FWC. Data will be shared between FWC and ABSI.
- *Action 5-C.):* Conduct 'spot-checks' at a large number (TBD) of different locations in the Bay to supplement the more intensive monitoring data. Document volume of rock/shell/oysters, number of spat, medium and market sized live oysters and boxes together with environmental data.
- *Action 5-D.):* Collect long term in situ environmental data using ABSI instruments and integrate ANERR environmental and nutrient data as correlates with oyster metrics.
- *Action 5-E.):* Generate health indicators for ABSI using monitoring data, and other ecological factors (e.g. oyster-associated communities and structural complexity).

Strategy 8.) Seagrass and other SAV, and wetland and riparian habitat should be restored concurrently to work synergistically with oyster habitat restoration to enhance restoration of the ABS.

GOAL B—SUSTAINABLE MANAGEMENT OF OYSTER RESOURCES

Strategy 3.) Evaluate the development of a policy that would require setting sustainable harvest goals and placing limitations on or a complete closure to harvesting based on the results of data (e.g., stock assessment) collected and evaluated under a comprehensive monitoring program designed to sustainably manage the resource.

- *Action 3-A.):* Use a co-management advisory committee to assess and make a recommendation to the state.
- *Action 3-B.):* Convene an Oyster Advisory Board within FWC to review and make recommendations on management and enforcement of the oyster fishery once wild oyster harvesting resumes in Apalachicola Bay.

Strategy 4.) *Action 4-A.):* Engage local stakeholders in determining total coverage (how much to protect), placement (where to protect), and size (how large) of all types of potential closed areas using gridded maps as well as distributions of selected fishery and ecologically important species.

Strategy 5.) Manage the commercial oyster industry and recreational oyster fishing to provide for sustainable spat production and spawning and the recovery of oyster populations.

- *Action 5-A.):* Evaluate management scenarios (e.g., seasonal (summer) closure to wild harvesting, rotational closures, 5-day work weeks, non-harvested spawning reefs (permanent closures), limited entry, transferable license program, closures based on stock levels (stock assessment), reduced bag limits, bag tags, relaying oysters to better habitat, additional enforcement presence, manage harvest areas to prevent the concentration of effort in specific locations.
- *Action 5-C.):* Evaluate existing allowable and minimally destructive alternative gear type options and harvest methods, including the use of experimental gear for wild oyster harvesting.

Strategy 6.) Restore and create reef structures suitable for sustained and optimized oyster settlement and production for harvesting.

- *Action 6-A.):* Include oystermen in discussions to evaluate cultching techniques and materials for growing oysters (e.g., historical non-traditional, trees), adding spat on shell or other substrates.
- *Action 6-B.):* Include oystermen in discussions on spatial configuration of reefs (height, width, contours, etc.), locations (existing reefs and hard bottom), use of larger rock to protect restored reefs from siltation and sedimentation from prevailing currents and storms.
- *Action 6-C.):* Design and implement projects to achieve oyster fishery production targets.
- *Action 6-D.):* Design projects that include both fished and non-fished reefs.

Strategy 8.) Investigate oyster shell and oyster relay programs to move both cultch and live oysters to more favorable habitat.

- *Action 8-A.):* Use model and mapping information on larval source areas and environmental conditions to inform the potential programs.
- *Action 8-B.):* Research similar relay programs in other areas as potential models and cautionary tales.

Strategy 10.) Evaluate a suite of management approaches that in combination achieve the goal of maintaining a sustainable wild oyster harvest fishery as measured in relation to relevant performance metrics for determining success.

- *Action 10-A.):* Evaluate and develop standards for a potential limited-entry fishery that would be managed adaptively with the number of entrants in the fishery based on the current sustainable harvest level.
- *Action 10-B.):* Implement a summer wild harvest fishery closure.
- *Action 10-C.):* Manage Harvest Areas to prevent the concentration of effort in specific locations.
- *Action 10-D.):* Implement stock-based temporary wild harvest closures.
- *Action 10-E.):* Provide daily harvest limits in conjunction with a five-day harvest week (M-F).
- *Action 10-F.):* Eliminate the 5% undersize oyster limit for dealers buying oysters.
- *Action 10-G.):* Evaluate and determine a metric used to manage oyster reef harvest at a sustainable threshold. Consider a graduated set of thresholds.

- *Action 10-H.):* Implement annual fisheries dependent and independent stock assessments, with data collection methods and site selection done in collaboration with oystermen, for determining a sustainable level of wild oyster harvest for each season.
- *Action 10-I.):* Implement a recreational wild oyster harvest limit of one 5-gallon bucket of oysters, and allow recreational harvest during the summer with the same one 5-gallon bucket limit.
- *Action 10-J.):* Allow oystermen to weigh oyster bags on the water in their boats to ensure the bags meet the bag weight limit regulations.

Strategy 11.) Work with FDACS to ensure that oyster aquaculture practices and locations in the Bay are compatible with the goals and strategies for restoration and management of the ecosystem and are compatible with a wild fisheries and the important cultural role of a working waterfront and seafood industry.

- *Action 11-A.):* Develop maps using FDACS data showing all aquaculture activities in the ABS, superimposed on existing maps of essential fish habitat, fishing activities, seagrass beds, and natural existing hard bottom (reefs/bars) to identify potential conflicts.
- *Action 11-B.):* Utilize habitat and activity maps from *Action 5. A.* to identify potential new oyster restoration areas and areas that could be used as spawning reefs to enhance recruitment and productivity nearby harvested reefs.

Strategy 12.) Work with FWC Law Enforcement to develop enforcement strategies and appropriate penalties sufficient to deter harvest or sale of undersized oysters as well as violations that harm wild or leased oyster reefs and other natural resources, and that will support restoration efforts in the ABS.

- *Action 12-A.):* Develop strategies to increase FWC enforcement presence and number of checkpoints to provide a deterrent to illegal activities.
- *Action 12-B.):* Develop strategies to ensure uniformity in the harvestable and marketable size of oysters.
- *Action 12-C.):* Work with FWC and FDAC to implement enforcement changes.
- *Action 12-D.):* Work with oystermen to evaluate current rules and regulations to ensure they are enforced consistently, fairly, and practically with an understanding of real-world on-the-water harvesting practices and constraints.
- *Action 12-E.):* Evaluate and seek authority to implement a tiered system of penalties for purposeful violators (increased fines and license suspensions ranging from increased length of suspension to the permanent loss of license) to keep purposeful violators out of the industry.
- *Action 12-F.):* Prior to the opening of each harvest season FWC should conduct a joint workshop between FWC law enforcement and the oystermen to review the current rule and regulations, identify any changes, discuss enforcement approaches relative to harvest practices and constraints on the water, and to provide mutual two-way education, and enhance communication and collaboration between FWC and oystermen.
- *Action 12-G.):* Work together and with other stakeholders to seek funds to support the recommended increased law enforcement presence in the Bay.

GOAL D—AN ENGAGED STAKEHOLDER COMMUNITY AND INFORMED PUBLIC

Strategy 2.) *Action 2-B.):* Define what makes a successful shell recycling program, and work with local groups, businesses and other stakeholders to help initiate its development.

GOAL E—THRIVING ECONOMY CONNECTED TO A RESTORED ABS

Strategy 4.) Work with oystermen and other community stakeholders to promote post-recovery Apalachicola oysters.

Strategy 9.) Engage commercial fishermen in the restoration of the bay and encourage future participation in restoration such as monitoring, shell recycling, shelling, and relaying.

STRATEGIES TO REFER TO OTHER ENTITIES

Strategy 4.) Provide training and financial support for new workforce entrants (particularly young entrants)—interested in being employed in existing industries as well as and developing industries in new fisheries, aquaculture, and restoration science.

Strategy 5.) Work with State legislators and state agencies to develop funding strategies, and incentives for involving local watermen, seafood dealers, restaurants, aquaculture operations, and private citizens in oyster reef restoration efforts that will increase the viability of oyster resources.

Action 5-A.): Identify source of shell, or other restoration material.

