

APALACHICOLA BAY SYSTEM INITIATIVE

COMMUNITY ADVISORY BOARD PHASE IV MEETING IV — 27 JULY 2022

FACILITATOR'S SUMMARY REPORT

APPROVED UNANIMOUSLY 18 OCTOBER 2022

APALACHICOLA NATIONAL ESTUARINE RESEARCH RESERVE
EASTPOINT, FLORIDA



MEETINGS FACILITATED AND SUMMARIZED BY JEFF A. BLAIR

**APALACHICOLA BAY SYSTEM INITIATIVE COMMUNITY ADVISORY BOARD
27 JULY 2022 FACILITATOR’S MEETING SUMMARY REPORT**

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

WEDNESDAY, JULY 27, 2022

I. MEETING SUMMARY AND OVERVIEW

At the 27 July 2022 meeting conducted at the Apalachicola National Estuarine Research Reserve (ANERR) in Eastpoint, Florida the Apalachicola Bay System Initiative (ABSI) Community Advisory Board (CAB): received an overview of the updated Project Workplan and schedule; received reports and updates from the CAB Successor Group Subcommittee, Restoration Funding Working Group, and Community Outreach Subcommittee; received an update on FWC's NFWF funded restoration project; discussed approaches for protection and enforcement of restoration and restoration experiment sites; received a briefing on overarching considerations for model simulation results; and received presentations on Apalachicola Bay oyster abundance index data. Specific activities included: reviewing and discussing Fisheries Model simulation results; approving adding a put-and-take wild oyster harvest fishery management strategy to the Draft Restoration and Management Plan Framework; and identifying and agreeing on the next suite of scenarios, including new scenarios and combinations of scenarios, for simulation by the Fisheries (Socioecological) Model.

II. WELCOME AND INTRODUCTIONS

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

SOCIAL SCIENCE SURVEY

The ABSI CAB members are participating in a Social Science Survey that is conducted at the beginning of each meeting to gauge participants' perspectives and attitudes regarding science and data, and stakeholder relationships throughout the ABSI CAB process. Ed Camp, University of Florida, is conducting the Survey that was first administered during the October 2020 meeting and will be continued throughout the duration of the ABSI CAB process. There was not a Social Science Survey administered for the 27 July 2022 CAB meeting.

III. ABSI CAB MEETING PARTICIPATION

The following CAB members participated in the Wednesday, July 27, 2022 meeting conducted in-person at the Apalachicola National Estuarine Research Reserve in Eastpoint, Florida:

Georgia Ackerman, Bert Boldt, Anita Grove, Chad Hanson, Shannon Hartsfield, Gayle Johnson, Erik Lovstrand, *Chuck Marks*, Mike O'Connell, Steve Rash, Devin Resko, Portia Sapp, and *Chad Taylor*.

** Members who participated virtually are italicized.*

(13 of 22 members participated — 59%).

Absent CAB Members:

Mike Allen, David Barber, Frank Gidus, Jenna Harper, Roger Mathis, Alex Reed (Jenna Harper is also representing DEP), John Solomon, Paul Thurman, and TJ Ward.

PROJECT TEAM MEMBERS PARTICIPATING

Jeff Blair, *Sandra Brooke*, Ross Ellington, Madelein Mahood, and Joel Trexler.

(Attachment 2 — Meeting Participation)

MEETING FACILITATION

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



PROJECT WEBPAGE

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

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

IV. AGENDA REVIEW AND APPROVAL

The ABSI CAB voted unanimously to approve the agenda for the 27 July 2022 meeting as amended. Following are the key agenda items approved for consideration:

- ✓ To Approve Regular Procedural Topics (Meeting Agenda and Summary Report)
- ✓ To Review Updated Workplan and Meeting Schedule
- ✓ ~~To Receive ABSI Science and Data Collection Update~~
- ✓ To Receive Reports from RFWG, Community Outreach, and CAB Successor Group
- ✓ To Receive Update from FWC on NFWF Funded Restoration Project
- ✓ To Discuss Protection and Enforcement of Restoration and Restoration Experiment Sites Approach
- ✓ To Receive Briefing on Overarching Considerations for Model Simulation Results
- ✓ To Receive Presentations on Apalachicola Bay Oyster Abundance Index Data
- ✓ To Review Fisheries Model Simulation Results and Provide Guidance on Simulations to Model
- ✓ To Review Fisheries Model Scenario Simulation Results and Acceptability Rate Scenarios
- ✓ To Identify and Agree on the Next Suite of Scenarios, New Scenarios, and Combinations for Modeling
- ✓ To Identify Next Steps: Information, Presentations, Assignments, Agenda Items for Next Meeting

Amendments to the Posted Agenda:

Noted above in strike underline for deletions and additions respectively.

(Attachment 3 — 27 July 2022 ABSI CAB Agenda)

V. APPROVAL OF THE 25 MAY 2022 CAB MEETING FACILITATOR’S SUMMARY REPORTS

The ABSI CAB voted unanimously to approve the 25 May 2022 CAB Meeting Facilitator Summary Report as presented.

Amendments: None

VI. REVIEW OF UPDATED PROJECT WORKPLAN AND SCHEDULE

Jeff Blair provided the CAB with a review of the updated Project Workplan and Schedule and answered members’ questions. The 27 July 2022 meeting represented the CAB’s fourth meeting of Phase IV which is focused on the evaluation of the Draft Adaptive Management and Restoration Plan Framework’s prioritized restoration and management strategies, restoration projects selection and implementation, and funding planning.

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

In addition, Phase IV includes a significant public engagement initiative. The next CAB meeting is scheduled for September 28, 2022. Jeff reported as follows:

- At the July meeting the CAB began the process of evaluating an initial set of strategies (scenarios) towards the goal of determining the best combination to achieve restoration and management objectives for the Bay using decision support tools including predictive models generally, and the Fisheries (Socioecological) Model specifically, coupled with available and emerging data and research. The CAB will vet their draft recommendations with restoration and management agencies, evaluate the priority and efficacy of strategies and actions, and identify specific recommended restoration projects and management approaches.
- The CAB's Community Outreach Subcommittee has initiated a community feedback initiative by soliciting and reviewing community input on the Plan Framework. The CAB's prioritized strategies are being vetted with the larger ABS community through multiple formats including a questionnaire administered through a variety of methods including Facebook, online via the ABSI website, and direct mailings. In addition, public workshops are being scheduled and will be held in-person.
- The CAB will conduct planning for transitioning to a Successor Group whose role will be to organize a group of key stakeholders committed to working collaboratively for the long-term once the CAB process is complete to ensure that the Plan is implemented, monitored, and adaptively managed over time with the support of the Community. The Community Outreach Committee will continue to communicate and meet with community stakeholders providing them with information and updates regarding the purpose and progress of the Apalachicola Bay System Initiative.
- In addition, the FSU ABSI Project Team continues to work with the Restoration Funding Working Group to seek resources and political, governmental, and organizational support for the CAB's priority recommendations.

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

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

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

VII. PROJECT BRIEFINGS AND REQUESTED PRESENTATIONS

ABSI SCIENCE AND DATA COLLECTION UPDATE

Sandra Brooke, FSUCML Faculty and ABSI Principal Investigator, provides the CAB with a science and data update at all CAB meetings. For the July meeting the Science and Data update was deferred in favor of Sandra presenting tonging data as part of the Apalachicola Bay Oyster Abundance Index Data Presentations agenda item later in the meeting.

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

VIII. WORKING GROUP AND SUBCOMMITTEE UPDATES AND REPORTS

A. CAB SUCCESSOR GROUP SUBCOMMITTEE

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

Summary of Questions, Responses, and Comments:

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

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

B. RESTORATION FUNDING WORKING GROUP

Overview. The ABSI proposal contemplates a 15-year commitment from FSU, 10 years beyond the 5 years of funding provided by the TRIUMPH Board. The Restoration Funding Working Group (RFGW) will be a team of local, state, private, and NGO stakeholders focused on developing plans for long-term funding of the broader effort; the goal at the end of the 5-year ABSI period is to have a funding pipeline for restoration secured. Joel Trexler, RFGW Lead, previously reported that the RFGW is meeting regularly, has broad representation, have identified the specific strategies and related actions which would require funding, agreed to a charge, are mapping actions with potential funding sources and approximate funding amounts needed, and understand that it is critical to identify gaps in funding and work to fill the gaps before the Plan is final. In addition, there are potential funding sources for some CAB recommended actions.

Joel reported as follows for the 27 July 2022 CAB meeting update on the RFGW:

- The Working Group has not met recently, However, members of the RFGW are working with FWC to coordinate and leverage restoration projects.
- The Working Group is working on potential funding sources for future restoration projects.

C. COMMUNITY OUTREACH SUBCOMMITTEE

Subcommittee Charge:

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

Chad Hanson reported that the Community Outreach Subcommittee (COC) has been active and they are working on a variety of initiatives. Chad reported as follows for the 27 July 2022 CAB meeting update on community outreach initiatives:

- The Subcommittee held 1 meeting since last the CAB meeting.

- Workshop planning is underway for Apalachicola in the Fall, likely at the Court House Annex and Eastpoint Library.
- Sandra will be presenting at the ANERR SciCafe on July 28th at 6 pm (Virtual).
- Latest ABSI newsletter went out on July 7th and had the highest “open” rate ever (61%). There is typically an open rate of between 45 – 50%.
- Maddie is currently working on a FAQ tab for the website.
- The Research and Engagement sections of the website have been revamped and edited. Currently in the works of uploading more recent data to the research section.
- The Subcommittee is on hold for hosting a public workshop. The earliest would be in September, and the goal is to have Sandra, Devin Resko, and/or Dan Ellinor (also FWC) there to present, answer questions, and for the team to distribute the questionnaire. Sandra prefers to wait until September due to scheduling conflicts, summer holidays will be over, and having a more solid ABSI research plan to present.
- Maddie and Jared are working on a series of short videos to detail the aspects of ABSI on social media. The Subcommittee will begin working on their first demo in August. It will focus on either “FAQs” or a brief introduction to the different teams that work on ABSI.
- The CAB is working on a new Op-Ed that will correspond with the timing of the public workshops to help with outreach.

Public Presentations Update:

- Plan to meet with Franklin County Commissioners as needed.
- The Subcommittee is planning a public workshop for the Fall (4:00 – 6:00 PM). The Apalachicola County Courthouse Annex and the Eastpoint Library are proposed locations. Questionnaire will be distributed during the workshops.
- The Subcommittee is planning additional presentations at the Eastpoint and Carrabelle library branches, and the Apalachicola Library.

Summary of Questions, Responses, and Comments:

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

- None were offered.

IX. FWC NFWF FUNDED RESTORATION PROJECT UPDATE

Devon Resko, FWC Division of Marine Fisheries Management, provided the CAB with an update on the FWC restoration project funded by the National Fish and Wildlife Foundation (NFWF). Devon reported:

NFWF Gulf Environmental Benefit Fund – \$20,057,000

- National Fish and Wildlife Foundation
- Multiple partnerships
- Six-year timeline
- Apalachicola Bay and Suwannee Sound
- Important to stress collaboration with management agencies, universities, and public stakeholders

Stage 1

Overview

- Budget: \$3,277,029

- Data collection
- Harvest management system
- Compile information
- Data workshop
- Habitat restoration decision

Data Collection

- Apalachicola Bay
 - 3-D mapping
 - Oyster densities
 - Oyster spat densities
 - Sedimentation rates
 - Predatory snail densities
- Suwannee Sound
 - 3-D mapping
 - One time population survey

Harvest Management System

- Revamped oyster fishery management plans
- Stakeholder-informed
- Apalachicola Bay
- Suwannee Sound
- Statewide Strategic
- Oyster Fishery Management Plan

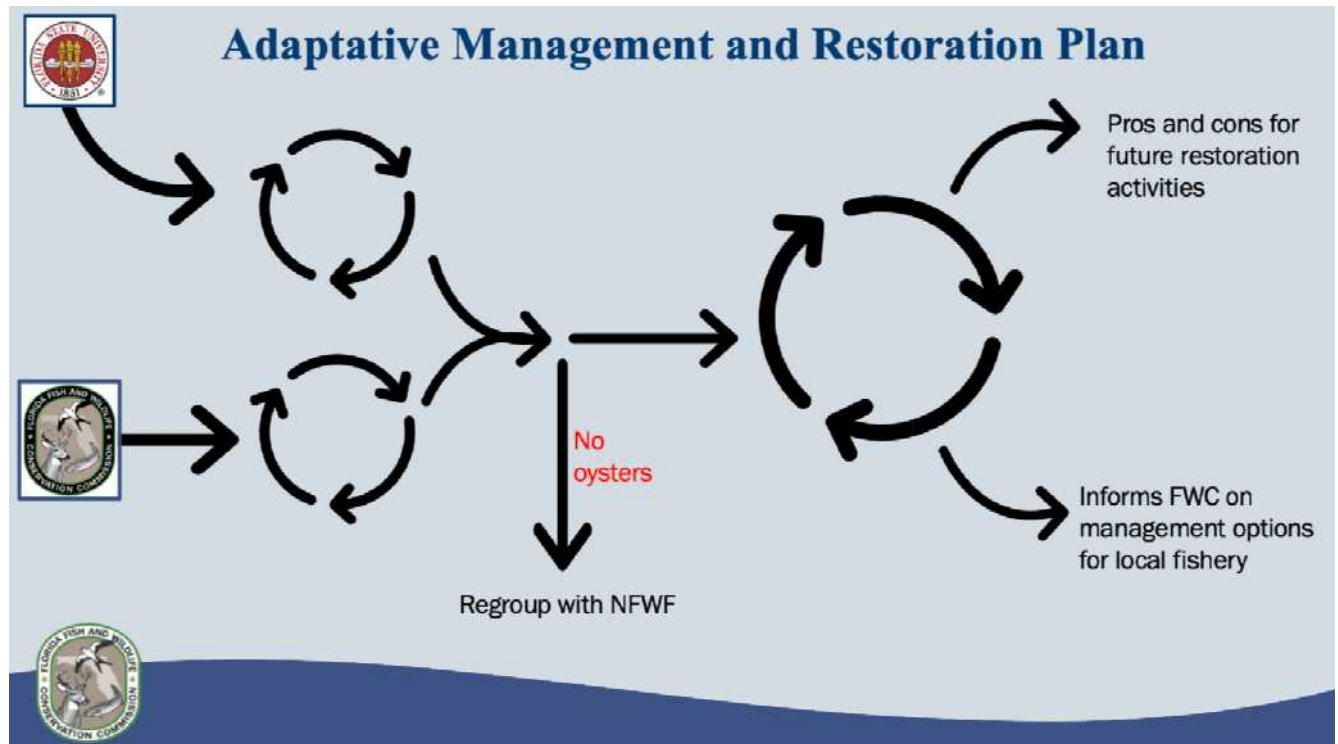
Compile Information and Data Workshop

- Data collection
 - ANERR
 - ABSI
 - FWRI
- Data workshop – June ‘22
- Habitat restoration decision
 - Where?
 - What materials?
 - Densities - how high?
 - How much (acres)?

Stage 2 – Cultching in Apalachicola Bay

- **Shelling**
 - Where?
 - What materials?
 - Densities-how high?
 - How much (acres)?
- Monitoring
- NFWF has expressed concerns over approving the remaining \$16M for cultching activities
 - Past restoration operations in the Bay did not perform as well as expected
 - *“The definition of insanity is doing the same thing over and over again and expecting different results.”*

- Large number of unknowns still present
- Perform a large-scale pilot study
 - FSU will conduct complementary study
- FWRI will increase their budget to conduct monitoring oversight
- Utilizing these studies, FWC will have more data to construct and perform larger restoration activity



Adaptive Management and Restoration Plan Graphic

Responses to Common Questions

“Is FWC going to look to extend the closure past 2025?”

- It is premature to have those discussions at this time. However, those talks will need to be had soon with FWC leadership. NFWF, being the funding entity, will also be curious on our management strategies as we approach 2026. The bottom line is that closures, including extending closures, are a last resort for FWC. But these decisions need to be data and science driven. So, if the data do not support opening the Bay, either partially or entirely, that information will be provided to the Commissioners.

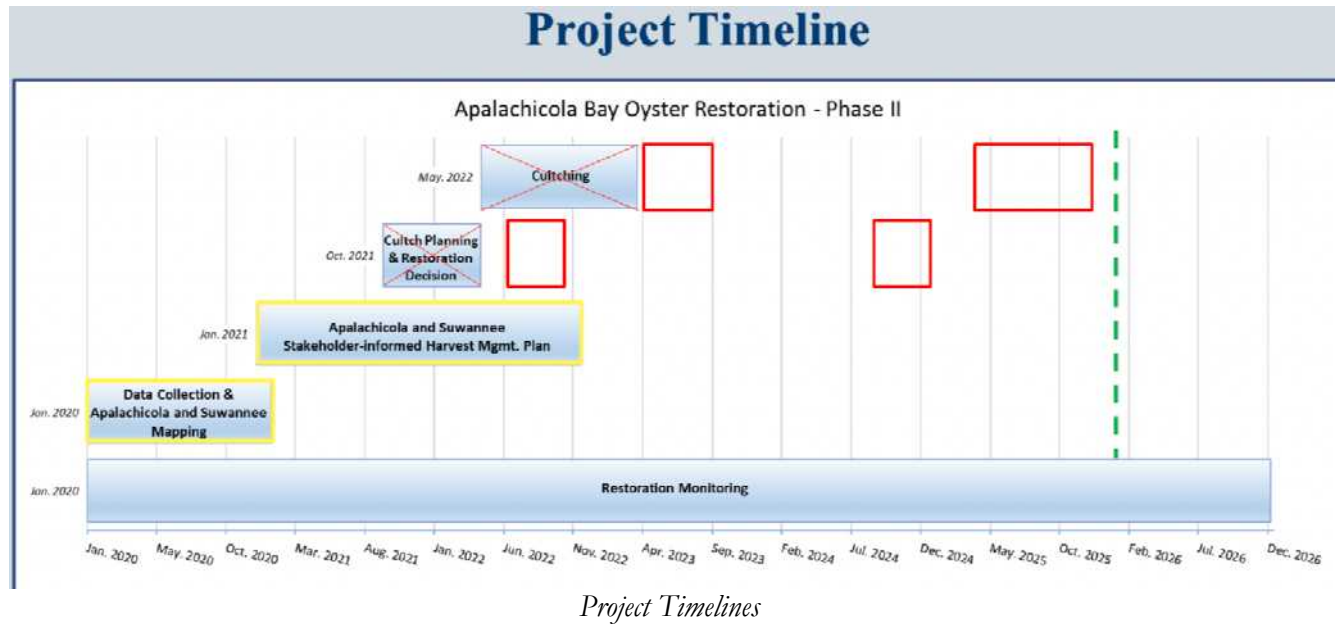
“Is there a situation where FWC will open the Bay on 1/1/26 regardless of the state of the Bay’s oysters?”

- It is tough to provide insight on this question, as there haven’t been talks with FWC leadership on this matter.

“Is FWC considering limited-entry?”

- Firstly, let me say that FWC is the sole entity that is charged with determining and regulating the wild-caught fishery management strategies for when the Bay is ready to be open. Secondly, whatever strategy FWC puts in place is not “set in stone.”
- At the moment, it’s difficult to speak too much about the management of the fishery because there isn’t a fishery to manage. Soon after the data are reviewed from the restoration pilot studies, FWC will hopefully be ready to conduct a larger restoration activity. At that time, FWC will be prepared to have

discussions, both external and internal, on management strategies. Public input will be a key component of these discussions.



Summary of Questions, Responses, and Comments:

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

- Why didn't previous restoration efforts work?
- DR: This is not clear but recruitment has been good but then high mortality followed. FWC didn't see a rebound following restoration but reasons are not clear. Pilot experiments may provide insight.
- When did Suwannee Sound (SS) become part of the NFWF project?
- DR: SS was on the initial proposal. Decision was made to involve SS stakeholders first.
- EC: NFWF2 provides for SS modeling and stakeholder work but NOT restoration; SS stakeholders are NOT ahead of the ABSI effort. AB modeling is further along than the SS modeling.
- This is the first time I heard of SS. Another point on the material put out five years ago. There are sites that are productive when the right material was used.
- DR: We are going to have better data on material type after pilot studies which provide greater confidence in outcome of the full-blown restoration project.
- Worried that deployment of material is being delayed.
- DR: Hopes to deploy material in spring of 2023. All NFWF2 material deployment will be done in AB (none in SS). There is no chance that funds will be diverted to SS.
- DR thanked for presentation which answered a number of questions. USACE ought to be informed about cultch deployment for possible controlled water delivery in the event of drought.
- DR: Open to providing the CAB with regular updates.
- FSU is highly restricted where to deploy material by USACE (permit restrictions). Is NFWF going to be similarly restricted and, if so, are you working with the USACE?
- DR: FWC will be piggy backing on FDACS permits.
- PS: Sturgeon habitat restricts areas for FDACS' permit, but it would be possible to seek permits for other locations.

- SB: Cultch was not a problem. ABSI wanted to deploy larger structures outside of the FDACS permit. We have a DEP exemption to deploy in the western and southern areas, but north and east of the navigation channel requires an ACOE permit.
- Reiterated that it may be necessary to seek permits to deploy cultch outside of FDACS permit areas.
- DR: FWC is well aware of this.
- Stressed importance of publicizing the NFWF2 efforts to ensure complete transparency.
- DR: Agreed with importance of transparency.

X. PROTECTION AND ENFORCEMENT OF RESTORATION SITES DISCUSSION

Jeff Blair, Facilitator, stated that the purpose of this agenda item was to discuss the best approach to communicate with FWC Law Enforcement and the Apalachicola Bay System Community regarding the critical importance for strict enforcement of the Apalachicola Bay Closure ❶ and the protection from illegal harvest (poaching) ❷ of oyster habitat restoration sites and restoration experimental sites for the long-term future and sustainability of the wild harvest oyster fishery specifically, and the health of the Apalachicola Bay System generally.

❶ *Bay Closure.* On December 16, 2020, 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.

❷ *Key Uncertainty.* Illegal Harvest is a Key Uncertainty for restoration success and science-based management recommendations.

The CAB engaged in a discussion with FWC Law Enforcement Officers, including Captain Charlie Wood, on the importance of strict enforcement to control illegal harvesting and its adverse impacts to the Bay generally, and to the oyster fishery specifically.

Summary of Discussion, Questions, Responses, and Comments:

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

Following is a summary of the discussions, questions, answers, and comments:

- How do you prevent poaching?
- FWC enforcement (CW): FWC has 9 field officers that work 98% of their time in Franklin County.
- CW, FWC: we will work to enforce the protection of restoration and restoration-experiment sites. We would like to be informed of the specific locations. Patrols are being conducted on the water and we are conducting targeted enforcement operations. FWC can bring in officers from outside of the region to assist as needed for special enforcement missions.
- CW, FWC: will do our best to protect identified sites as well as to enforce the Bay closure.
- Nine Miles oyster reefs are fairly secluded. Is it possible to install cameras?
- CW, FWC: we could use cameras but will require access to properties to mount them. FWC can also use “undercover” officers for enforcement activities.
- Even if you catch poachers, the data from the sites is compromised. Is there a method to deploy cultch material so it is possible to determine whether the site has been impacted by poaching?
- DR, FWC: Targeted enforcement would be helpful. NFWF Stage 2 team will communicate with FWC enforcement regarding the location of sites for special attention.
- Can you use drones?

- CW, FWC: FWC is developing policies and procedures for using drones, so we will be able to deploy them once this is finalized.
- Drones are helpful as a deterrent.
- PS, FDACS: FDACS can't currently use drones for enforcement but the policies are being reviewed now.
- Would it help if the ABSI team asked locals not to poach the restoration sites?
- We have tried this approach, and it has not worked here in Franklin County.
- JB: Most fishery participants indicate that more enforcement is needed for their particular fishery.
- Has enforcement engaged with the local fishing guide community to seek cooperation for identifying illegal activity?
- CW, FWC: There is the issue of whether we want to give information out about sites we are monitoring. If we are not concerned with secrecy, then we do work with guides and the community.
- CW and FWC enforcement have good rapport with the fishing guide community.
- SB, ABSI: Enforcement could focus on the few areas where there are currently oysters. ABSI will be happy to share locations of areas with oysters with law enforcement.

Next Steps

- Share information about the locations of restoration experimental sites.

(Attachment 7 — ABSI CAB Restoration and Management Strategies)

XI. OVERARCHING CONSIDERATIONS FOR MODEL SIMULATION RESULTS BRIEFING

Overarching Considerations. Jeff Blair explained that the CAB is exploring proposed strategies and scenarios (combinations of strategies or options) acknowledging that all options require investments, commitments, and trade-offs and must be implemented collectively for the package of recommendations to succeed. As the CAB moves forward evaluating and selecting scenarios for the package of consensus recommendations, the entire package must be implemented and work together synergistically and accomplish the desired outcome.

It should be further understood that the results of modeling simulations must be evaluated in relation to the confidence the modeler and stakeholders have in the data and the assumptions used. The level of confidence is directly proportional to the level of uncertainty for the results and must be considered when interpreting the simulation results for the various scenarios evaluated.

The ABSI Project Team's commitment is to be transparent and realistically manage expectations, and to clarify where appropriate what the implications, requirements, and trade-offs are for any given package of recommendations.

As the CAB moves forward with the process of evaluating scenarios that will ultimately evolve into the CAB's package of consensus recommendations predicted to achieve the desired outcomes for the ABS, the scenarios (strategies) must be implemented as a package and work together synergistically, and strategies should not be seen as stand-alone alternatives.

For the CAB's consensus recommendations to be successful and have the best chance for funding and implementation, the recommendations should balance predicted outcomes socially, politically, culturally, and economically based on an analysis of sustainable harvest potential (jobs) and ecosystem services, including but not limited to creating habitat and the resultant food source for hundreds of species including

commercially valuable fish, water quality, shore protection, and storm protection, as well as other benefits including but not limited to recreational activities and tourism.

XII. APALACHICOLA BAY OYSTER ABUNDANCE INDEX DATA PRESENTATIONS

FISHERY-DEPENDENT DATA PRESENTATION, ED CAMP, UF.

Ed Camp, UF, provided a summary of fishery-dependent data for the Apalachicola Bay System. Fishery-dependent data is data collected directly on a fish or fishery from commercial or sport fishermen and seafood dealers. Ed reported:

Overview of Models

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

Models Depend On Data

Fisheries Dependent Data

- How much oyster was removed by fishery
- Assess effect of removals were on future production (recruitment)

Fisheries Independent Data

- Track oyster population rather than fishery
- Matters a lot when fishers are good at finding fish (hyperstability)
- In our case the only size-specific data

Fisheries Dependent Data

Oyster AB Fisheries data

- Collected by FWC
- Available by year and month
- Spatially grouped by county

Showed data by

- Apalachicola Bay in general (Franklin, Gulf, Wakulla)
- Plotting by month
- Nothing identified to individual license number
- Landings were high right before the collapse.

Take home points: What data tell us now

- Harvest declined sharply after 2012
- Effort did not decline as sharply, remained substantial until ~2018
- Very high CPUE in recent years a bit odd
 - Probably driven by low trips, strange reporting

- Down-weighted in assessment models
- The amount of effort before the collapse was greatest on record
- The amount of harvest prior to collapse was greatest on record
- Still, harvest was about 35% greater. Decline was steeper.

Take home points: what data mean for models

- Greater decline than expected from (even unusually high) harvest.
- All size categories rapidly decline after 2012; after 2016 almost no legal oysters.
- This confuses (fisheries) models—how could harvest be somewhat greater in 2006-2010 but cause such a big decline after 2010?
- Also leads to ideas about environmental causes (water), but these were not well supported by studies and data (Fisch & Pine 2016).
- Also consistent with idea that it was shell or habitat that was “overfished” as much as live oysters (Pine et al. 2015).
- Models fit this by estimating low recruitment deviations.
- The catch rates are suspiciously high in the years right before the closure. I only can plot the data, and I’m not willing to go look at anything smaller, or at least to show it, because of identifiability. But these catch rates should not drive the model in most cases, though they are strange.
- As we’ve heard from oystermen, the data agree that there was very little effort—2019-2021 show tens or at most a couple hundred trips per month.

The presentation is available on the project webpage: <https://marinelab.fsu.edu/absi/cab/>.

Summary of Questions, Responses, and Comments:

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

- A lot of the past data may be compromised because not all of the trip tickets were turned in; there was probably more effort than reported in the 80s and 90s. The high landings data for 2012 peak not consistent with oystermen’s observations.
- What about the landings?
- EC: landings are where they are reported not necessarily where they were collected. Unreported landings cannot be taken into account. However, if there was no systematic change in “non-reporting” fraction of landings, modeling should not be impacted.
- Enforcement started impacting 2010 data.
- Any potential for bias?
- EC: not likely for a systematic bias.
- In the 90s there were 52 oyster houses. In the 90s we had much better harvests than in the 2000s, inaccurate reporting is a big issue for data accuracy.
- Based on what the oystermen said are you comfortable with the trends for 2010 on?
- EC: see the data from the presentation.

FISHERY-INDEPENDENT DATA PRESENTATION, ED CAMP, UF.

Ed Camp, UF, provided a summary of fishery-independent data for the Apalachicola Bay System. Fishery-independent data is characteristic of information (e.g., stock abundance, index) or an activity (e.g., research vessel survey) obtained or undertaken independently of the activity of the fishing sector. Ed reported:

Data: Fisheries Independent Data

Oyster AB monitoring data

- Originally collected by FDACS (198X-2012).
- Then (I think) collected by FDACS for FWC (2013-2015).
- Then collected by FWRI (2016-current) Melanie Parker and Matt Davis.
- By reef or region of reef, names are tricky over time.
- Important to use consistent names for reefs to compare data.
- More or less done seasonally (winter/summer).

Presented data by

- All, then some specific reefs.
- Plotting by year, showing fall/winter sampling.
- Showing mean and uncertainty.

Take home points

- There are not many oysters in AB right now.
- This is the longest, lowest density of oysters we have record of.
- There is no sign of sublegal or legal improvement.
- Very slight increase over last few years in spat/recruits (<25mm), but still well below average.

What this means for models

- No evidence of sustainable oyster populations with no fishery.
- How do we model (simulate) sustainable management actions on effectively no oysters/current unsustainable population?
 - Assume average recruitment happens...soon?
 - Make a lot of assumptions about “shell budget”/habitat suitable for recruitment (allows the model to “make sense” of why there aren’t oysters now but might be more later, like after more restoration).
 - *Attempts to empirically estimate shell budget have so far not worked.*
- No easy answers here and the clock is ticking.

Data Desired But Don’t Have

- Long term shell or reef height data
 - Does not exist, I just wish it did
- Some experimental evidence that oysters will survive
 - If reefs are high enough
 - If substrate is different
 - If there is anything (substrate) we can reasonably restore to.

The presentation is available on the project webpage: <https://marinelab.fsu.edu/absi/cab/>.

Summary of Questions, Responses, and Comments:

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

- A slight increase in smallest oysters has been seen.
- There is no evidence of a sustainable oyster population.
- How do we develop models for management when there effectively are no oysters currently to support a sustainable oyster population in AB.

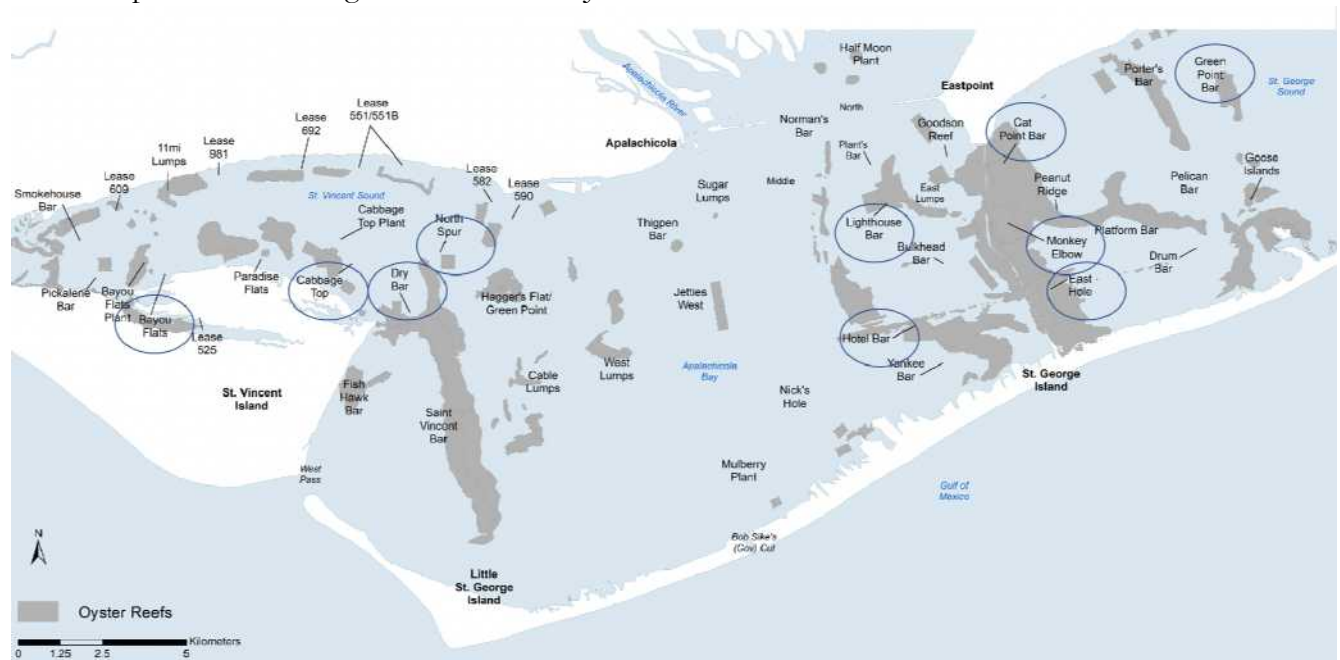
- Data used is only through 2021, but recent data may show more positive results in places.
- Q: when will the 2022 data will be available?
- EC: not clear but hope in the next few months.
- What about monitoring in closed reefs?
- BP: data exists, but not publicly available. Handful of privately held reefs.

RESTORATION DATA PRESENTATION, BILL PINE, UF.

Bill Pine, UF, provided a summary of restoration data for the Apalachicola Bay System. Bill reported:

Results from DEP and FWC Led Restoration Projects

- 30 different restoration locations.
- Restoration material shell or limestone cultch:
 - Material placed to provide settlement site for spat,
 - Assumption is oyster bars do not have sufficient cultch material.
- Projects started at different times.
- Most common sites monitored: Bulkhead, Cabbage Top, Cat Point, Dry Bar, East Hole, Hotel Bar, Normans Bar North Spur.
- Diver based collections (similar to Mark Berrigan’s work since 1980’s).
- Time span of monitoring winter 2015 until June 2021.



Restoration Sites

All Sites

- 393, 395, 8 Mile 9 Mile B, Bayou Flats, Bulkhead, Cabbage Lumps, Cabbage Top, Cat Point, Cat Point Spur, Dry Bar, East Hole, East Lumps, Eleven Mile, Green Point, Halfmoon, Hotel Bar, King 9 Mile, Lighthouse, Lighthouse Bar, Little Gully, Monkeys Elbow, Normans, Normans Bar, North Spur, Paradise Flats, Peanut Ridge, Platform Porters, Redfish Creek.

Season and year	Project name	Agency	Material	Total Amount (yds ³)	Sites	Average material density (yds ³ per acre)
Fall 2016	NRDA 4044	FDEP	Quarried shell	24,840	16	200
Fall 2017	GEBF 5007	FDEP	Limerock aggregate	95,500	14	300
Summer 2015	NFWF-1	FWC	Quarried shell	9,600	3	100,200,300,400
Summer 2021	NFWF-2021	FWC	Limerock aggregate	9,600	3	300

Restoration Data

- Large decline in number of spat per quadrat winter 2015 to Summer 2021.
- Initial response to restoration encouraging, but did not persist over time.

Trends in spat (< 1 inch)

- Initial positive response to restoration in some sites.
- But most sites did not show increase in counts after restoration.
- Sites with initial high counts (higher than long-term average) show rapid declines over time.
- Most recent data suggest very few spat across monitoring sites.

Trends in seed (2-3 inch)

- Initial positive response to restoration in sites that had high spat.
- But most sites did not show increase in counts after restoration.
- Rapid declines over time.
- Most recent data suggest very few seed across monitoring sites.

Trends in legal (3+ inch)

- Very few legal oysters observed.
- Some sites that had observed spat had a few legal oysters 1-2 years later.
- Most recent data suggest very few legal oysters across monitoring sites.

Overall

- Oyster population response to recent cultching efforts has not had desired effect of increasing numbers of spat.
- Key uncertainties: Is the lack of response due to type of material, size of material, or design of restoration site (elevation)?
- Or is Apalachicola Bay limited in the amount of spat?

The presentation is available on the project webpage: <https://marinelab.fsu.edu/absi/cab/>.

Summary of Questions, Responses, and Comments:

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

- Is there historical data from other sites to provide context?
- BP: Data for AB restored sites is well below SS sites and Chesapeake Bay sites data.

TONGING DATA PRESENTATION, SANDRA BROOKE, FSUCML.

Sandra Brooke, FSUCML, provided a summary of tonging data for the Apalachicola Bay System. Sandra reported:

Subtidal Surveys Using Tongs

- 6 samples per site.
- Volume: Rock, dead shell, live oysters.
- Counted: spat, adults, market, boxes.
- Measured: live oysters (<25, 25-76, >76).

Tonging Data Presented

- Showing mean # oysters/site for different size classes relative to longitude (2021-22 data).
- Observed a positive asymptotic relationship between spat per tong and material volume.
- Relationship between spat counts and material volume.

Restoration Experiment Design

- Reef size and height
- 30 ft x 30 ft x 1.5 ft = 50 cubic yards of material
- Materials
 - Natural oyster shell – good for spat settlement, can be harvested with tongs
 - Small Limerock (2") creates mound, small spaces, many layers, can be harvested with tongs
 - Medium Limerock (6-8") – creates stable structure, medium spaces, few layers, good for habitat development, can be harvested once oysters develop.

Deployment

- 26 May – Peanut Ridge Shell
- 27 May – Peanut Ridge Small Lime-rock
- 3 June – Dry Bar Small Lime-rock
- 4 June – Dry Bar Shell
- 9 June – Dry Bar Large Lime-rock
- 24 June – Peanut Ridge Large Lime-rock

Tonging results for restoration reefs (April-May 2022)

- Average number of live oysters (per tong) by treatment and site.
- Average % live oysters (per tong) by treatment and site.

Size distribution results for restoration experiment

- Average size class distribution by treatment and site

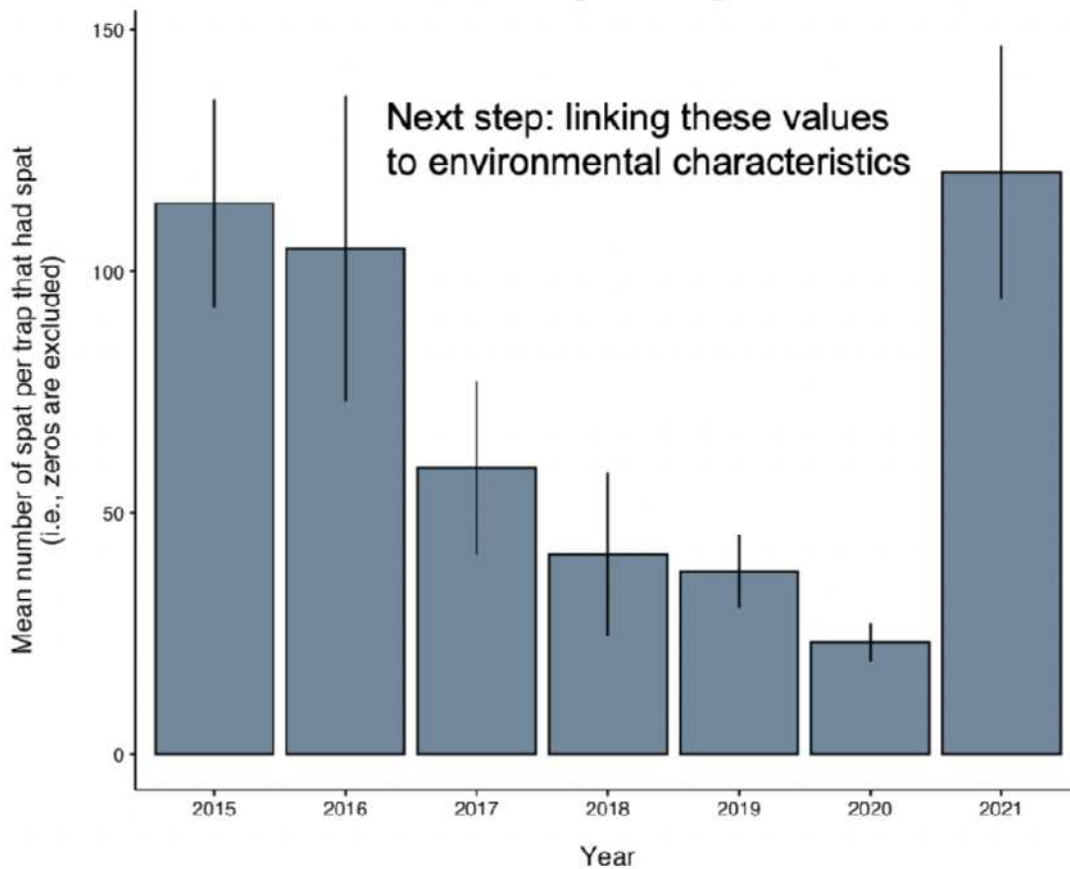
- Spat = < 25 mm
- Juveniles = 25-75 mm
- Market = >75 mm

How has settlement changed over time?

- Mean number of spat/trap (FWC data).
- Showed mean number of spat/trap that had spat.

How has settlement changed over time?

Mean number of spat/trap (FWC data)



- For those traps that had spat, there is higher settlement in 2021 than in recent years.
- However, these values are not anomalous and are within the range of variation observed since 2015.

Summary Points

- Small limerock and shell have slightly better recruitment in restoration experiments.
- Peanut Ridge is doing ok, there are several juveniles and occasional markets per tong.
- Large lime rock doing better at growing spat to juveniles.
- Number of spat/trap decreasing since 2015 except 2021, which is much better than 2020, but similar to 2015 (FWC spat trap data)
- Tonging strategy was implemented to rapidly and consistently gain information on oysters and complement quadrat sampling.

- ABSI tonging project included earlier (FWC and FDEP) restoration sites as well as many historical oyster sites.
- Most tonging sites had no oysters; a few have some oysters.
- Dry bar is not doing well.
- East Bars have a few sites with fairly high density of large juveniles oysters and a few market sized.
- Amount of substrate (volume) and spat number are correlated but data has high variance.
- Data for ABSI restoration experiments: shell, 2” rock and 6-8” in mounds deployed in Peanut Ridge and Dry Bar.
 - Peanut Ridge doing better than Dry Bar; a few market oysters in PR, almost none on DB
- Spat numbers from spat traps have steadily declined, but showed an increase in the most recent period (2021)

Next Step

- Linking these values to environmental characteristics.

The presentation is available on the project webpage: <https://marinelab.fsu.edu/absi/cab/>.

Summary of Questions, Responses, and Comments:

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

None were offered.

XIII. REVIEW AND DISCUSSION OF MODELED SCENARIOS

Ed Camp, UF, noted that he preferred to hold off discussing the results of specific Fisheries (Socioecological) Model simulations, including the initial scenarios requested by the CAB during the 25 May 2022 meeting, until there was a clearer understanding of the current data and resultant conditions in the Bay, and realistic expectations and uses were agreed to for interpreting model simulation results for conceptual scenarios that data does not support being currently possible without successful restoration initiatives taking place first.

The CAB engaged in a discussion on the results of the Oyster Abundance Index Data presentations and discussed the best options for moving forward without setting unrealistic expectation based on model simulation results that assume some level of oyster habitat restoration. It was explained that it is likely extensive oyster restoration projects would need to be initiated and successful in restoring oyster reef habitat for recommended restoration and management strategies to achieve the overarching goal of restoring the health of the Apalachicola Bay System to a level capable of supporting a sustainable oyster reef habitat for needed ecosystem services as well as a sustainable wild harvest oyster fishery.

Ed Camp reported as follows:

Caveats and Setting and Realistic Expectations

- Anything he says is his belief/opinion as a scientist, and is not necessarily what the UF, FWC, or the broader state of Florida thinks.
- He is not officially part of the FSU Triumph ABSI project, but he is officially associated with FWC’s NFWF restoration project. His work is intended to span both projects and to help get the most out of them.

- All results are preliminary.
- Some simulation results are based on unrealistic assumptions.
- Data shows no meaningful number of harvestable oysters.
- Do not take these optimistic simulations as a promise of what will be there.

Models

Estimation Models

- What is/was in terms of fish/fishers.
- Population productivity, original size, etc.
- Catchability, selectivity, etc.
- Squeezing information from data.
- Assessment model fit.

Simulation Models

- Take estimated parameters, and change something to ask “what if?”
- E.g., what if effort was this and recruitment was that.
- This is what people want to see to evaluate alternative mgmt. options.
- Projections.
- Ideally, we have an estimation model first, then we use that same model, or other similar models to run simulations.

Assessment Model

- Catch at Size model developed by Nick Fisch.
- Predictions, projections.

Catch At Size Model - Assumptions

- Monthly time-step.
- Tracks size groups rather than ages (catch at size).
- Uses classic fisheries recruitment (Bev Holt) NOT explicitly modeling shell dynamics.
- Uses fisheries dependent and independent data (technically an “integrated assessment model” or “synthesis” model).
- Bio and Fishery assumptions are reasonable.
- Biggest point of interest is that very high M at low sizes, but probably real.
- This has implications for how we view fisheries independent data that measures very small oysters and includes them in “spat” group (0-25mm).
- Should we still be measuring oysters that small?

Catch At Size Model - Fit to Data

- Fit in ADMB (about the best tool we have for non-spatial models/models without random effects)
- Again, all of this is draft and has not been peer reviewed.

Catch At Size Model - Predictions

- Apparent vs. predicted confirm general math seems appropriate.
- Observed Harvest well-fit.
- Observed Index less well-fit, similar issue to Pine et al. 2015.
- Note, both harvest and index well-fit in recent years.
- This is taking fit model and projecting what would happen in the future under different assumptions

- 2 main assumptions explored.
 - What happens with recruitment?
 - How much effort is exerted?

Assumption 1 – Recruitment Level

- Technical definition: surviving some very early life history stage where mortality is density dependent
- Basically, how well are little oysters surviving
- Three assumptions
 - Recent recruitment patterns continue in future (v. poor)
 - Recruitment returns to long-term average (slightly poor)
 - Recruitment returns to 2000-2010 average (good)

Assumption 2 – How Much Effort

- Simulating various levels of fixed effort.
- That's similar to trip limits (not done) or limited entry (not done with oysters in FL).
- Purpose here is to consider intensity of effort, NOT way that effort is controlled (e.g. limited entry). That we will assess more later.
- Three assumptions about effort*
 - Low: 200 trips/month (10 fishers * 20 days/month)
 - Med: 1200 trips/month (60 fishers * 20 days/month)
 - High: 2400 trips/month (120 fishers * 20 days/month)
- FYI 2014-2017 mean trips/month: 1400.
- 2000-2010 mean trips/month: 2075.

Caveats Reminder

- These are initial simulation runs, they are for learning.
- Showing the following does not constitute my scientific opinion that any of the following will occur or could realistically occur.
- We are simulating some things that I think are unlikely to happen.
- DO NOT MAKE PERSONAL DECISIONS BASED ON THESE RESULTS.

Catch At Size Model - Projections

- If recruitment remains similar to how it's been, there is no recovery.
- If recruitment recovers to average levels, there will be a recovery and a meaningful fishery
- This is the same result as Pine et al. 2015 which was shown to (some of) you in 2013.
- Recruitment remained low, and the fishery and population collapsed further.

Caveats

- Fisheries model, not explicitly accounting for shell dynamics.
- We have not yet succeeded with empirically estimating shell dynamics with these models. BUT there are some indications something concerning is going on with recruitment.
- Usually recruitment deviations are expected to be random.
- Post-2012 deviations do not *appear* to be random.
- This is a disturbing trend.
- Evidence is at least compatible with:
 - Decrease in survival of young oysters.

- Loss of recruitment habitat.
- Change in ecosystem (predator/prey).
- Shift in way oyster system functions.
- We do not know for sure.

Implications for CAB Work

- I think low recruitment is much more likely because it is what we have been seeing
- Assuming low recruitment will not make interesting explorations of mgmt. strategies (no oysters = no fishery).
- Assuming greater recruitment probably unrealistic, but it will afford us more interesting conversations about mgmt. strategies.
- **How do we move forward to assess different management options without further raising unrealistic expectations?**

Summary of Questions, Responses, and Comments:

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

- If recruitment comes back, we should have strategies and an approach on opening the fishery, etc.
- JT: could dramatic removal of shell explain the observed recruitment anomaly?
- EC: it is possible but reluctant to say for sure.
- Recruitment results not surprising, but what happens if it does come back? We have to be prepared with management strategy plans for FWC.
- In the 1980s the recruitment was so high that harvest did not impact oyster population. Now, recruitment is clearly deficient. Developing management practices is complicated by uncertainty as to extent of oyster recovery.
- EC: Oysters are unique in that heavy harvest may not impact next year's harvest but harvest in outyears.
- What is the impact of shelling?
- EC: historical records indicate reefs were very deep.
- JB: ABSI goals are to a) restore reefs/habitats and b) manage system once restored; we should not necessarily be limited by current conditions (status quo). We should use models to generate predicted outcomes of selected restoration strategies to drive discussions on trade-offs of costs and benefits of alternatives.
- The foundations for the reefs are crumbling.
- EC: we need to know what might work here; FWC NFWF2 (and ABSI) experiments might provide insight.
- Oyster shells deteriorate in 3 years, while rock deployed five years ago is holding up well (lime rock from Kentucky).
- EC: pointed out that oysters have not recovered in these very reefs so the issue here is not just substrate.
- Some sites have recovered.
- EC: 2022 and ABSI tonging data are important as these results may show a signal of some improvement.
- Kudos to EC for the presentation and its forthrightness.
- We should focus on the data from 2010 forward.
- We need to dive into what recruitment should be prior to making management decisions.
- EC: active management scenario modeling is underway.
- EC: models can be run in which parameters are altered to see if meaningful impacts occur.
- Is there data on which substrate is best?

- EC: not clear, but we should consider material type on recruitment. These issues are under consideration in NFWF2 and ABSI experiments.
- There is a potential source of error using trip ticket results. Also the State reports harvest in oyster meat (conversion factors vary with season).
- EC: wants to build more detail into fisheries projections; simulate an oyster population at different levels and look at impact of different management strategies.
- If spat on shell were deployed and the spat died, wouldn't this indicate that substrate is not limiting?
- EC: this is not my area for expertise, but this could be the result of a variety of factors which could be evaluated experimentally.
- BB: did water chemistry (quality) influence the findings?
- EC: we have been attempting to correlate oyster biology parameters with water chemistry; no apparent correlations seen.
- JB: what about modeling a put-and-take wild harvest oyster fishery scenario/option?
- EC: cannot be easily done with the current model, but it can be done in the near future.
- JB: this is something that should be done.
- EC: simulation models do not tell us new information. You can draw inferences from outcomes of using different cultch materials and then incorporate the data from the results.
- EC: the experimental outcomes from NFWF2 and ABSI experiments can be incorporated into the data.
- Can you build in variable recruitment management models?
- EC: yes.
- Are there examples from systems elsewhere we can use?
- EC: not that I know of, no models exist for organisms that create their own habitats. Oysters show depensation- survival decreases dramatically at low population densities (Wilberg).
- JB: suggested some potential scenarios to be simulated by EC for the next CAB meeting.
- Is modeling a put-and-take fishery getting ahead too much?
- EC: this is something that FWC and NFWF will have to talk about
- DR: put-and-take is highly dependent on new recurring funding sources.
- JB: restoration efforts will need additional funding above and beyond NFWF2. As a consequence, other sources will have to be considered and we should explore all options whether they would require a new funding source.
- Why is spat recruitment so low?
- EC: loss of habitat results in lack of appropriate sites for spat settlement (a hypothesis).
- Was there a period when AB experienced a similar crash?
- EC: I don't have this information if it exists.
- EC: will consider any hypothetical management options unless a particular option is taken off the table by FWC.
- The CAB should keep everything on the table and make the best recommendations we can independently of decisions made by regulatory agencies during the course of the project.
- JB: the CAB should consider all potential recommendations regardless of funding or other constraints short of technical impossibility.
- DR: at FWC we will follow the FWC approval pathway for ABSI recommendations, but at this point nothing is off the table from FWC's perspective.
- JT: agree with this perspective. If issues should arise, ABSI has the capacity to conduct additional research, experiments, and modeling as needed to evaluate options/

Strategies Discussed by the CAB:

- Use non-tongable cultch for restoration designed to restore habitat.
- Trip ticket system data was not accurate and surcharge on oysters disincentives accurate reporting.
- Need consistency of reporting (data). The State reports in pounds of meat when oysters are sold by the bushel, and the amount of oysters in a bushel depends on the size of the oysters so this does not translate well for consistency of data.
- Need to use the correct cultch that lasts for restoration (i.e., limerock from KY).
- Environmental conditions need to be evaluated for contribution to the health of the oyster resource.
- 2020-2022 data on cultch material is useful.
- Use data from 2010 to current, this is more accurate for reflecting the condition of the Bay.
- Need to have a discussion on what should levels recruitment get to and for how long before opening the oyster fishery, and then have an adaptive management strategy in place to ensure sustainability.
- Active harvest management scenario like AL with a focus on monitoring should be modeled.
- A put-and-take fishery should be modeled when the model has data needed to do so.
- Restoration approaches, need to experimentally test approaches and use the data from the experiments to make decisions.
- Need to actively monitor harvest and make sure to many oysters are not being harvested (sustainability).
- Need to determine what substrate is best for recruitment.
- Model simulations of a variety of management strategies under a range of different assumptions to see what works best.
- Spat on shell should be evaluated.
- Need to use updated data for modeling.

XIV. IDENTIFICATION OF NEXT SUITE OF SCENARIOS FOR MODEL SIMULATIONS

Jeff Blair indicated that in response to comments made by CAB members during the 15 May 2022 CAB meeting the Project Team drafted a put-and-take wild oyster harvest management strategy for CAB consideration. The CAB was asked whether they wanted to add the strategy to their Restoration and Management Recommendations Framework for evaluation.

Following the opportunity provided for questions and answers, and CAB discussion, the CAB took the following action:

CAB Action:

MOTION—The ABSI CAB voted unanimously to approve adding the put-and-take wild oyster harvest management strategy to their Restoration and Management Recommendations Framework for evaluation by the CAB. Following is the strategy approved for evaluation:

1) Assess the effectiveness of a put-and-take fishery for maintaining a sustainable wild oyster harvest in Apalachicola Bay. Specific areas would receive regular cultching and/or deployment of hatchery spat-on-shell and would be subject to the same fishery management regulations as non-supplemented areas.

- ***Action 1-A.)*** Conduct field study of survival of planted spat-on-shell to harvestable size and time required to attain market size.
- ***Action 1-B.)*** Use fishery models to estimate the amount and frequency of cultch and/or spat-on-shell required to maintain the minimum threshold for sustainable harvest (i.e., 400 bags/acre).

- Action I-C.) Conduct cost-benefit analysis of deploying cultch and/or spat-on-shell in support of wild oyster harvest in Apalachicola Bay. This includes cost of cultch and spat-on-shell production, cost of deployment, survival of hatchery spat and value of harvest and associated industry.
- Action I-D.) Monitor the stability of oyster populations using the put-and-take approach to wild fishery harvest, to determine whether deploying cultch or spat-on-shell helps reduce natural fluctuations in oyster populations.

Lead: FWC/FDACS	Partners: Hatcheries (FSU, other), FSU, FDEP
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Next Suite of Scenarios for Evaluation By the by the Fisheries (Socioecological) Model

Based on Ed Camp’s recommendations regarding what is currently feasible to model, the CAB agreed to recommend the following scenarios for simulation by the Fisheries (Socioecological) Model:

- An Active harvest management scenario similar to the Alabama approach using monitoring and an oyster abundance minimum density threshold.
- Different management strategies under a range of different assumptions to see what works best.

Future Scenarios to Simulate:

- A put-and-take sustainable wild oyster harvest fishery.
- Restoration approaches using data from the restoration projects and the restoration experiments and pilot projects (specific locations, size, height/spatial configurations, type of cultch material, density of cultch, etc.).
- A combination of limited entry and active management.

XV. PUBLIC COMMENT

The facilitator invited members of the public to provide comments.

Public Comments:

Wayne Williams, Oysterman:

- Herbicide spraying in the river is damaging the oyster reefs. He proposed that the CAB request a ban on the use of herbicides in the Apalachicola River.
- Apalachicola Bay has experienced major insults over the past 15 years (herbicides, oil spill, dispersants, and power plant leaks), and the problem has never been diagnosed.
- Indicated that the Bay is coming back as long as the water quality remains good.
- We cannot base management plan on the past 15 years.
- We had a sustainable resource in the past.

Russell Turner, Retiree:

- Recently move to the areas as a retiree.
- Stresses importance of getting information about the Bay to the local oystermen.
- It is not enough to have information on websites and meetings.
- He indicated that he found it difficult to find information about the CAB and ABSI.
- Expressed his concern for oystermen and their situation not being able to fish.

- The CAB should utilize oystermen and their knowledge and local expertise in making decisions.

Matt Polous, Oysterman:

- Researchers are not looking at the places that used to be productive.
- Should look at Platform reef and the areas that used to be productive.
- Researchers need to change the locations they are evaluating.

XVI. NEXT MEETING OVERVIEW AND ISSUES

The 28 September 2022 meeting will focus on ABSI science and data collection and decision support tools updates, FWC NFWF Stage 2 restoration update, sub-committee reports, the review and discussion of model simulation results for priority Fisheries Management (Goal B) scenarios (combinations of strategies/options), and agreement on the next suite of scenarios for model simulations.

NEXT STEPS AND AGENDA ITEMS

- Review of updated Workplan and Meeting Schedule.
- Science and data collection, and Restoration updates.
- Subcommittees and Working Group updates.
- Review and discussion of Fisheries (Socioecological) model simulation results for draft priority Fisheries Management (Goal B) strategies (Active harvest management scenario, management strategies under range of different assumptions to see what works best).
- Agreement on next suite of scenarios for Fisheries Model simulations.
- Public Comment.

MEETING CHAT COMMENTS

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

(Attachment 5 — Meeting Zoom Chat Summary)

MEETING EVALUATION AND ONLINE SURVEY RESULTS

The CAB members were requested to complete a meeting evaluation. The results are compiled and included as *Attachment 6* of this Summary Report.

(Attachment 6 — Meeting Zoom Poll and Written Evaluation Results)

ADJOURNMENT

The Facilitator thanked CAB members, ABSI Project Team members, and the public for their participation, and adjourned the meeting at 2:28 PM on Wednesday, July 27, 2022.

ATTACHMENT 1
KEY TO COMMON PROJECT ABBREVIATIONS

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

ATTACHMENT 2
MEETING PARTICIPATION LIST

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

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

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

MEMBERS OF THE PUBLIC	
1. <i>Adam Alfasso</i>	Florida State University (FSU)
2. <i>Cameron Baxley</i>	Apalachicola Riverkeeper
3. <i>Fabio Caltabellota</i>	Florida State University (FSU)
4. Ed Camp	University of Florida (UF)
5. <i>Cheryl Carr</i>	No Affiliation Offered
6. Jon Creamer	FWC Law Enforcement
7. Jeff Dutrow	ANERR
8. Jared Fuqua	FSU ABSI Outreach and Education
9. <i>Laura Geselbracht</i>	TNC
10. Kennedy Hanson	ANERR
11. Melanie Humble	ANERR
12. <i>Kia Lorenzen</i>	University of Florida (UF)
13. <i>Betsy Mansfield</i>	Florida State University (FSU)
14. Randy McDonald	FWC Law Enforcement
15. <i>Beatriz Mejia-Mercado</i>	Florida State University (FSU)
16. Bill Pine	University of Florida (UF)
17. Matt Polous	Oysterman
18. <i>Andy Shantz</i>	FSU
19. Russell Turner	Local Retiree
20. Wayne Williams	Oystermen
21. Capt. Charlie Wood	FWC Law Enforcement
<i>*The names of members of the public attending virtually are italicized.</i>	

ATTACHMENT 3
27 JULY 2022 MEETING AGENDA

ABSI COMMUNITY ADVISORY BOARD MEETING OBJECTIVES

- ✓ To Approve Regular Procedural Topics (Meeting Agenda and Summary Report)
- ✓ To Review Updated Workplan and Meeting Schedule
- ✓ To Receive Reports from RFWG, Community Outreach, and CAB Successor Group
- ✓ ~~To Receive Science and Data Collection Update~~
- ✓ To Receive Update from FWC on NFWF Funded Restoration Project
- ✓ To Discuss Protection and Enforcement of Restoration and Restoration Experiment Sites Approach
- ✓ To Receive Briefing on Overarching Considerations for Model Simulation Results
- ✓ ~~To Receive Presentations on Apalachicola Bay Oyster Abundance Index Data~~
- ✓ To Review Fisheries Model Simulation Results and Provide Guidance on Simulations to Model
- ✓ To Review Fisheries Model Scenario Simulation Results and Acceptability Rate Scenarios
- ✓ To Identify and Agree on the Next Suite of Scenarios, New Scenarios, and Combinations for Modeling
- ✓ To Identify Next Steps: Information, Presentations, Assignments, Agenda Items for Next Meeting

ABSI COMMUNITY ADVISORY BOARD AGENDA

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

1)	8:30 AM	WELCOME AND ROLL CALL
2)	8:35	SOCIAL SCIENCE SURVEY
3)	8:40	AGENDA REVIEW AND MEETING OBJECTIVES
4)	8:45	APPROVAL OF FACILITATOR’S SUMMARY REPORT (May 25, 2022)
5)	8:50	REVIEW OF UPDATED PROJECT MEETING SCHEDULE AND WORKPLAN <i>(See Attachment 2)</i>
6)	9:00	PROJECT BRIEFING ABSI Science and Data Collection Update. Sandra Brooke, FSUCML (20)
7)	9:20	WORKING GROUP AND SUBCOMMITTEE UPDATES <ul style="list-style-type: none"> • <i>Successor Group Subcommittee Update.</i> Anita Grove and Shannon Hartsfield (5) • <i>Restoration Funding Working Group Update.</i> Joel Trexler (5) • <i>Community Outreach Subcommittee Update.</i> Chad Hanson (10)
8)	9:30	FWC NFWF FUNDED RESTORATION PROJECT UPDATE <ul style="list-style-type: none"> • Status of FWC (NFWF Funded) Restoration Project. Devin Resko, FWC (15)
~9:45 AM		BREAK
9)	10:00	PROTECTION AND ENFORCEMENT OF RESTORATION AND RESTORATION EXPERIMENT SITES APPROACH DISCUSSION <i>(See Attachment 3)</i>
10)	10:15	OVERARCHING CONSIDERATIONS FOR MODEL SIMULATION RESULTS BRIEFING <i>(See Attachment 3)</i> APALACHICOLA BAY OYSTER ABUNDANCE INDEX DATA PRESENTATIONS <ul style="list-style-type: none"> • Fishery-Dependent Data Presentation, Ed Camp, UF • Fishery-Independent Data Presentation, Ed Camp, UF • Restoration Data Presentation, Bill Pine, UF • Tonging Data Presentation, Sandra Brooke, FSUCML

11)	10:30	OVERVIEW AND DISCUSSION OF THE RESULTS OF SCENARIOS (STRATEGIES) SIMULATED (MODELED) WITH THE FISHERIES MODEL (<i>See Attachment 4</i>)
~12:00 PM		LUNCH — ON CAMPUS
12)	12:30	EVALUATION AND ACCEPTABILITY RATING OF MODELED SCENARIOS RELATIVE TO PERFORMANCE MEASURES AND PROJECT GOALS
13)	1:00	REVIEW OF SCENARIOS FOR NEXT ROUND OF MODELING: IDENTIFICATION OF NEXT SUITE OF SCENARIOS, COMBINATIONS OF SCENARIOS, NEW SCENARIOS, AND ANY SCENARIOS TO BE REMOVED FROM FURTHER EVALUATION (<i>See Attachment 5</i>)
14)	~2:10 PM	PUBLIC COMMENT — THREE MINUTES PER PERSON
15)	~2:25	ACTION ITEMS AND AGENDA ITEMS FOR NEXT MEETING (Sept. 28, 2022) <ul style="list-style-type: none"> • Review of Action Items and Assignments from Meeting • Identify Agenda Items, Presentations, and Information Needs for Next Meeting • Complete Meeting Evaluation
~2:30 PM		ADJOURN

ATTACHMENT 4
WORKPLAN, SCHEDULE, AND PROJECT FLOWCHART AND MAP

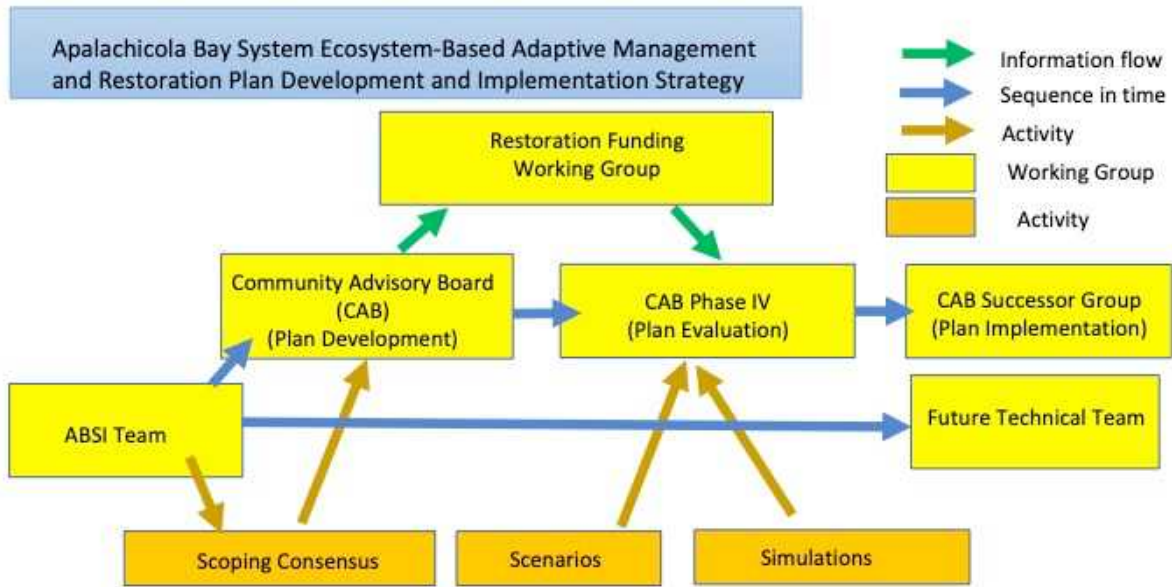
UPDATED AS OF THE 27 JULY 2022 CAB MEETING
<p style="text-align: center;">PHASE I (2019) — STANDING UP AND ORGANIZATION OF THE ABSI CAB — <i>Status Complete</i> <i>May 2019 – December 2019 (Assessment Process, Questionnaire, and 2 CAB Meetings)</i></p>
<p style="text-align: center;">PHASE II (2020) — SCOPING OF ISSUES, IDENTIFICATION OF PERFORMANCE MEASURES & STRATEGIES — <i>Status Complete</i> <i>Jan. 2020 – Dec. 2020 (7 CAB Meeting & 1 Oystermen’s Workshop)</i></p>
<p style="text-align: center;">PHASE III (2021) — BUILDING CONSENSUS ON CAB RECOMMENDATIONS FOR THE ABS ECOSYSTEM-BASED ADAPTIVE MANAGEMENT AND RESTORATION PLAN Adoption of Final Draft Management and Restoration Plan Framework for Phase IV Evaluation — <i>Status Complete</i> <i>Jan. 2021 – Nov. 2021 (7 CAB Meeting & 2 Oystermen’s Workshops)</i></p>
<p style="text-align: center;">PHASE IV (2022) — EVALUATION OF DRAFT ADAPTIVE MANAGEMENT AND RESTORATION PLAN FRAMEWORK’S RESTORATION AND MANAGEMENT STRATEGIES, RESTORATION PROJECTS SELECTION AND IMPLEMENTATION, AND FUNDING PLANNING — <i>Status Initiated</i> <i>Dec. 2021 – Dec. 2022 (6 CAB Meetings, Public Workshops)</i></p>

COMMUNITY ADVISORY BOARD (CAB). The CAB initiated Phase IV in December of 2021 and is currently evaluating the best combination of strategies (scenarios) predicted to achieve restoration and management objectives for the Bay using decision support tools including predictive socio-economic and ecological models coupled with available and emerging data and research. The scenarios are being evaluated with the overarching goal of restoring oyster reef habitat to a level that can sustainably provide needed ecosystem services for the System, and concurrently provide for a sustainable and economically viable level of commercial oyster harvesting. During the course of the project the CAB will vet their recommendations with restoration and management agencies to gauge support and feasibility for implementation. The CAB will evaluate the priority and efficacy of scenarios and associated actions and identify specific recommended restoration projects and management approaches for inclusion in the Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan (Plan). *Status Initiated*

1. **COMMUNITY OUTREACH SUBCOMMITTEE - PUBLIC ENGAGEMENT IN 2022.** The CAB working through the Community Outreach Subcommittee initiated a community feedback initiative by providing information and seeking community input on the Plan Framework. The CAB will vet the results of their prioritized strategies with the larger ABS community through multiple forums including questionnaires administered through a variety of methods including Facebook, online via the ABSI website, and direct mailings. In addition, public workshops will be conducted in various locations to provide the Community with information on ABSI and solicit community feedback. *Status Initiated*
2. **RESTORATION FUNDING WORKING GROUP (RFWG).** Initiated in late 2021 the Restoration Funding Working Group’s role is to seek resources and political, governmental, and organizational support for the CAB’s priority recommendations. *Status Initiated*
3. **CAB SUCCESSOR GROUP.** The CAB Successor Group will be ready to convene when the CAB completes their work on the Apalachicola Bay System Ecosystem-Based Adaptive Management and Restoration Plan. The Successor Group’s role will be to organize a group of key stakeholders committed to working collaboratively for the long-term, once the CAB process is complete (~June 2024), and to ensure that the

Plan is implemented, monitored, and adaptively managed over time and has the support of the Community. <i>Status Pending Development of Plan</i>		
Meeting I. Virtual	Jan. 26, 2022 <ul style="list-style-type: none"> Review of Predictive Models 	Initiation of Phase IV of ABSI. B
Meeting II. ANERR	Mar. 30, 2022 <ul style="list-style-type: none"> Fisheries (Socioecological) Model Guidance Management Strategies discussion with FWC 	ABSI Science and data collection update. Sub-committee reports. Public Engagement Initiative strategy and plan discussion and approval of approach. Guidance regarding restoration and management scenarios and performance measures for development of the Fisheries (Socioecological) Model. Comprehensive review and discussion on draft management strategies with FWC Division of Marine Fisheries Management. Public comment.
Meeting III. ANERR	May 25, 2022 <ul style="list-style-type: none"> Presentations and discussions on restoration approaches Discussion with FWC/DEP/ANERR on restoration strategies 	ABSI science and data collection and decision support tools update. Sub-committee reports and public engagement initiative update. Chesapeake Bay Oyster Management and Habitat Restoration Modeling presentation, and Alabama Management and Restoration Approach presentation. Comprehensive review and discussion on draft restoration approaches (strategies), and CAB discussion and feedback from FWC Division of Habitat and Species Conservation, FWC Division of Marine Fisheries, ANERR, and DEP Office of Resilience & Coastal Protection on proposed ABSI restoration scenarios (strategies). Public comment.
Meeting IV. ANERR	July 27, 2022 <ul style="list-style-type: none"> FWC NFWF restoration project Oyster abundance index data Fisheries model simulation results & scenarios refinements 	Sub-committee reports and public engagement initiative update. Update on FWC (NFWF funded) restoration project. Discussion on approach for encouraging protection and enforcement of restoration and restoration experiment sites. Overarching Considerations for model simulation results briefing. Apalachicola Bay oyster abundance index data presentations. Review and discussion of Fisheries (Socioecological) Model simulation results for initial priority Fisheries Management (Goal B) strategies. Agreement on next suite of scenarios for Fisheries Model simulations. Public comment.
Meeting V. ANERR	Sept. 28, 2022 <ul style="list-style-type: none"> Fisheries Model Simulation Results & Scenarios Refinements 	ABSI science and data collection and decision support tools update. Sub-committee reports and public engagement initiative update. Review and discussion of Fisheries Model simulation results for revised priority Habitat Restoration (Goal A) and Fisheries Management (Goal B) strategies. Agreement on next suite of scenarios for model simulations. Public comment.
Meeting VI. ANERR	Nov. 30, 2022 <ul style="list-style-type: none"> Fisheries Model Simulation Results & Scenarios Refinements 	ABSI science and data collection and decision support tools update. Sub-committee reports and public engagement initiative update. Review and discussion of Fisheries Model simulation results for revised priority Habitat Restoration (Goal A) and Fisheries Management (Goal B) strategies. Agreement on next suite of scenarios for model simulations. Public comment.
FUTURE ABSI CAB MEETINGS PLANNED — 2023		
2023 CAB Meetings - Six	VII-February, VII-April, IX-June, X-August, XI-October, XII-December	
2023 Public Workshops	Additional workshops planned by the Community Outreach Subcommittee	

ABSI CAB PROCESS FLOWCHART AND PROJECT AREA MAP



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



ABSI Project Area Map

ATTACHMENT 5
MEETING CHAT SUMMARY (ZOOM)

MEETING CHAT – 27 JULY 2022

08:45:38 **Maddie Mahood:** Hi everyone , I'm working on getting the agenda and presentations up on the Zoom. Thanks for your patience!

09:05:31 **Maddie Mahood:** Hi again! Thank you all again for your patience – I will continue to try and make sure we can hear the meeting as clear as possible! 😊

10:09:15 **Maddie Mahood:** Thanks everyone! We will be back soon. 😊

10:20:38 **Maddie Mahood:** And we are back! 😊

11:21:39 **Maddie Mahood:** Apologies for the audio everyone – we are working on adjusting the internet connection in ANERR.

11:24:02 **Andrew Shantz:** That sounds great Josh. I'll be out next week as well but let's chat early the following week.

11:49:17 **Maddie Mahood:** Thanks everyone! See you at 12:20 after lunch. 😊

02:26:14 **Maddie Mahood:** I'm going to launch the CAB member evaluation survey for Chad to take. Thanks!

02:28:10 **Andrew Shantz:** Thanks y'all, have a good day

02:28:43 **Fabio Caltabellotta:** Thanks everyone.

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

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

There were 9 hard copy end of meeting survey questions (Evaluations) completed, and 1 completed virtually.

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

<i>Average Rating of 5</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
4.6	7	4	0	0	0

2.) The meeting objectives were met.

<i>Average Rating of 5</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
4.5	5	5	0	0	0

3.) The presentations were effective and informative.

<i>Average Rating of 5</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
4.7	7	3	0	0	0

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

<i>Average Rating of 5</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
4.6	7	2	1	0	0

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

<i>Average Rating of 5</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
4.7	7	3	0	0	0

6.) The facilitator accurately documented CAB Member input

<i>Average Rating of 5</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
4.6	7	2	1	0	0

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

<i>Average Rating of 5</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
4.6	6	4	0	0	0

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

<i>Average Rating of 5</i>	<i>5. Strongly Agree</i>	<i>4. Agree</i>	<i>3. Neutral</i>	<i>2. Disagree</i>	<i>1. Strongly Disagree</i>
4.7	8	1	1	0	0

Open Ended Survey Questions – Virtual Responses

- None were offered.

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

APALACHICOLA BAY SYSTEM ECOSYSTEM-BASED ADAPTIVE MANAGEMENT AND RESTORATION PLAN

GOAL A — A HEALTHY AND PRODUCTIVE BAY ECOSYSTEM
ELEMENTS TO BE CONSIDERED FOR THE PLAN

VISION THEME A: 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 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 PRIORITIZED STRATEGIES (8)

PRIORITY 1 RESTORATION STRATEGIES (5)

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

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

Lead: FSU	Partners: UF, FWC, FDACS, CAB
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- 3) Determine area (acres or km²) of oyster reefs that currently support live oysters as well as the area needed to ensure sufficient spat production that will support sustainability of oyster reefs and sustainability of a wild oyster fishery throughout the ABS.

- *Action 3-A.):* Map existing oyster reefs using multibeam sonar and backscatter, and ground-truth for accuracy.
- *Action 3-B.):* Apply model that uses reproductive output, recruitment, natural mortality rates and fishery harvest to assess oyster population dynamics.

Lead: FWC	Partners: FDACS, FSU, UF
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- 4) Develop criteria for restoring specific reefs or reef systems damaged by environmental conditions or natural disasters.
- *Action 4-A.):* Evaluate degree of damage and potential for recovery.
 - *Action 4-B.):* Develop an approach for mitigating damage (e.g., physical repair, spat supplements, or some combination of both).
 - *Action 4-C.):* Determine periodicity of hatchery-produced spat addition (e.g., annually or longer) with a specific timeline for continuing the approach. This approach is not intended to create a put-and-take fishery.

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

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

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

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

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

Lead: FSU	Partners: FWC, FDACS, ANERR
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PRIORITY 2 RESTORATION STRATEGIES (2)
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- 6) Develop ecosystem models that forecast future environmental conditions and oyster population status.
- *Action 6-A.):* Collect data needed by the models and follow up with testing the models to refine accuracy of output.
 - *Action 6-B.):* Coordinate with appropriate state and federal agencies, pertinent out of state user groups, and other initiatives working on both geographically constrained and basin-wide water-flow alterations and management strategies that contribute positively to the health of the ABS.

Lead: UF	Partners: FWC, FDACS, FSU
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- 7) Assess existing ecosystem services metrics used for other oyster studies and develop a list of ABSI specific metrics to assess change over time.
- *Action 7-A.):* Conduct literature review and work with Florida Oyster Recovery Science (FORS) working group to identify measurable indicators of changes in ecosystem services
 - *Action 7-B.):* Integrate ecosystem services metrics into monitoring program.

Lead: FSU	Partners: UF, FWC, FDACS, universities, government agencies
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PRIORITY 3 RESTORATION STRATEGIES (1)

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

Lead: DEP	Partners: Franklin Co., FSU, UF, FWC, FDACS
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APALACHICOLA BAY SYSTEM ECOSYSTEM-BASED ADAPTIVE MANAGEMENT AND RESTORATION PLAN

GOAL B — SUSTAINABLE MANAGEMENT OF OYSTER RESOURCES

ELEMENTS TO BE CONSIDERED FOR THE PLAN

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 the protection of the habitat and the fishery it supports is based on science, stakeholder input, and industry experience, and is implemented in a manner that provides both fair and equitable access to and protection of 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 PRIORITIZED STRATEGIES

PRIORITY 1 MANAGEMENT STRATEGIES

1. Evaluate a suite of management approaches that in combination achieve the goal of maintaining a sustainable wild oyster fishery as measured in relation to relevant performance metrics for determining success.
 - *Action 1-A.):* Evaluate and develop standards for a potential limited-entry fishery that would be managed adaptively with the number of entrants in the fishery based on the current sustainable harvest level. Evaluate the potential for establishing a limited-entry oyster fishery program and various management strategies through a transparent representative stakeholder driven consensus-building process that includes vetting the plan with local oystermen and FWC law enforcement.
 - *Action 1-B.):* Implement a Bay-wide summer wild harvest fishery closure.
 - *Action 1-C.):* Provide daily harvest limits in conjunction with a Monday – Friday five-day harvest week.
 - *Action 1-D.):* Implement a recreational wild oyster harvest limit of for example, one 5-gallon bucket of oysters, and allow recreational harvest during the same season the fishery is open to commercial harvest using the same gear.

- *Action 1-E.):* Manage harvest areas to prevent the concentration of effort in specific locations by allowing all of the legal and approved (FDACS) harvest areas of the Bay to be open during the harvest season and harvesting hours (Strategy 10-B and 10-C above).
- *Action 1-F.):* Establish the 5% undersize oyster limit for both harvesters and dealers.
- *Action 1-G.):* Clarify that it is an allowable practice for oystermen to weigh oyster bags while on the water to ensure the bags meet the weight limit regulations.
- *Action 1-H.):* Implement stock-based temporary wild harvest closures in conjunction with regular stock assessments of the oyster density.
- *Action 1-I.):* Evaluate and determine a metric used to manage oyster reef harvest at a sustainable threshold. Consider a graduated set of thresholds.
- *Action 1-J.):* Implement an annual stock assessment using fisheries dependent and independent data, with data collection methods and site selection done in collaboration with oystermen, for determining a sustainable level of wild oyster harvest for each season.

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

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

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

Lead: FWC	Partners: oystermen, FSU, UF, Sea Grant
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5. Work with FWC Law Enforcement to develop enforcement strategies and appropriate penalties sufficient to deter harvest or sale of undersized oysters as well as violations that harm wild or leased oyster reefs and other natural resources, and that will support restoration efforts in the ABS.
 - *Action 5-A.):* Develop strategies to increase FWC enforcement presence and number of checkpoints to provide a deterrent to illegal activities.
 - Provide law enforcement presence during peak harvesting periods, and on the water during harvest season hours.

- *Action 5-B.):* Develop strategies to ensure consistent practices are used for enforcement of regulations regarding the harvestable and marketable size of oysters. (See Actions 5-F and 5-G)
- *Action 5-C.):* Revise statutes and/or rules as needed to require FWC to check harvested oysters for size-limit enforcement* before they are washed and processed. Once processed, enforcement of oyster size-limits should be limited to oysters under 2.75” because processing changes shell height.
* *Sampling and other data collection activities shall not be impacted by this recommendation.*
- *Action 5-D.):* Evaluate and enhance, as needed, the regulations and enforcement practices to ensure dealers accurately identify the source of oysters after processing and packaging.
- *Action 5-E.):* Evaluate and revise, as needed, the statutory and/or regulatory requirements to ensure that FWC has authority to enforce oyster regulations at the dealers’ location.
- *Action 5-F.):* Work with FWC and FDACS to implement recommended enforcement changes.
- *Action 5-G.):* Work with oystermen to evaluate current rules and regulations to ensure they are enforced consistently, fairly, and practically with an understanding of real-world on-the-water harvesting practices and constraints.
- *Action 5-H.):* Evaluate and seek authority to implement a tiered system of penalties for purposeful violators (increased fines and license suspensions ranging from increased length of suspension to the permanent loss of license) to keep purposeful violators out of the industry.
- *Action 5-I.):* Encourage community and industry support for consistent judicial imposition of penalties within the existing penalties framework for oyster harvest violations, including imposing stricter penalties for habitual and willful violators.
- *Action 5-J.):* Prior to the opening of each harvest season FWC should conduct a joint workshop between FWC law enforcement and the oystermen to review the current rule and regulations, identify any changes, discuss enforcement approaches relative to harvest practices and constraints on the water, and to provide mutual two-way education, and enhance communication and collaboration between FWC and oystermen.
- *Action 5-K.):* Work together and with other stakeholders to seek funds to support the recommended increased law enforcement presence in the Bay.

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

Lead: FWC	Partners: FDACS, FSU, UF, local governments
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7. Restore and create reef structures suitable in size, location, and substrate type for healthy and sustainable oyster settlement, production, and harvesting.
 - *Action 7-A.):* Include oystermen in discussions to evaluate cultching techniques and materials for growing oysters (e.g., historical non-traditional, trees), adding spat on shell or other substrates.

- *Action 7-B.):* Include oystermen in discussions on spatial configuration of reefs (height, width, contours, etc.), locations (existing reefs and hard bottom), use of larger rock to protect restored reefs from siltation and sedimentation from prevailing currents and storms.

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

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

- Recommend policies and actions that retain and recycle shell for habitat replenishment in the ABS.
 - *Action 8-A.):* Develop agency rules and policies that require shell retention and recycling for habitat replenishment through a fee or incentive program.
 - *Action 8-B.):* Obtain legislative support for statutes that support or require shell recycling and oyster habitat replenishment. (e.g., Texas House Bill 51 (2017); [North Carolina General Statute §130A-309.10](#) (2010); Maryland House Bill 184; Chapter 157, F.S. (McClellan 1881).
 - *Action 7-C.):* Establish and/or expand partnerships with local organizations, stakeholder groups, industry, and universities in shell recycling programs.
- Use decision-support tools to develop a system of potential closed areas that are well defined in terms of size, location, and longevity and include rotational and seasonal harvest areas, as well as long-term closed areas in strategic locations to provide habitat for year-round protection for brood stock and enhanced spawning opportunities.
 - *Action 9-A.):* Engage local stakeholders in determining total coverage (how much to protect), placement (where to protect), and size (how large) of all types of potential closed areas using gridded maps as well as distributions of selected fishery and ecologically important species.
- Use ecological quantitative modeling and other decision support tools to evaluate strategies and actions and define performance criteria for an oyster population that can sustain a pre-determined level of wild oyster harvest, with a stipulated number of harvesters (limited entry), and protocols to ensure sustainability.
 - *Action 10-A.):* Use model outputs to identify the oyster population abundance that can support sustainable harvest.
 - *Action 10-B.):* Use model outputs to identify percentage of the total reef area that is sufficiently productive to support sustainable harvest.
 - *Action 10-C.):* Use model outputs to identify annual; recruitment required to support sustainable harvest.
 - *Action 10-D.):* Use model outputs to determine amount and frequency of habitat replacement to maintain productive oyster reefs.

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

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

Lead: FDACS	Partners: FSU, UF, FWC, oystermen
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12. Investigate oyster shell and oyster relay programs to move both cultch and live oysters to more favorable habitat (relay programs are recommended to only be used for restoration experiments).

- *Action 12-A.):* Use model and mapping information on larval source areas and environmental conditions to inform the potential programs.
- *Action 12-B.):* Research similar relay programs in other areas for potential models and cautions.

Lead: FDACS/FWC	Partners: FSU, UF, Sea Grant, FDEP, FDOH, stakeholders (oystermen)
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ADDITIONAL STRATEGIES FOR EVALUATION — APPROVED 27 JULY 2022

1) Assess the effectiveness of a put-and-take fishery for maintaining a sustainable wild oyster harvest in Apalachicola Bay. Specific areas would receive regular cultching and/or deployment of hatchery spat-on-shell and would be subject to the same fishery management regulations as non-supplemented areas.

- *Action I-A.)* Conduct field study of survival of planted spat-on-shell to harvestable size and time required to attain market size.
- *Action I-B.)* Use fishery models to estimate the amount and frequency of cultch and/or spat-on-shell required to maintain the minimum threshold for sustainable harvest (i.e., 400 bags/acre).
- *Action I-C.)* Conduct cost-benefit analysis of deploying cultch and/or spat-on-shell in support of wild oyster harvest in Apalachicola Bay. This includes cost of cultch and spat-on-shell production, cost of deployment, survival of hatchery spat and value of harvest and associated industry.
- *Action I-D.)* Monitor the stability of oyster populations using the put-and-take approach to wild fishery harvest, to determine whether deploying cultch or spat-on-shell helps reduce natural fluctuations in oyster populations.

Lead: FWC/FDACS	Partners: Hatcheries (FSU, other), FSU, FDEP
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PRIORITY OF STRATEGIES BY GOAL AREA	
ALL STRATEGIES WITHIN EACH PRIORITY LEVEL (1 – 3) ARE OF EQUAL PRIORITY AND WILL BE IMPLEMENTED BASED ON A LOGICAL SEQUENCING	
Priority 1 Strategies (Prioritization ranking between 10 and 8) = Important To Do Now	
GOAL A	GOAL B
1.) Restore and create reef structures suitable for sustained oyster settlement that enhance ecosystem services in designated restoration areas. (#1 – 9.6) <i>(#1 overall rank for Goal A – 9.6 mean/ average)</i>	1.) Evaluate a suite of management approaches that in combination achieve the goal of maintaining a sustainable wild oyster fishery as measured in relation to relevant performance metrics for determining success. (#1 – 9.3) <i>(#1 overall rank for Goal B – 9.3 mean/ average)</i>
2.) Use experimental evidence and habitat suitability analyses to determine the most suitable substrate (e.g., limestone, granite, spat-on-shell, artificial structures) for restoring, enhancing, and/or developing new reef structures that will increase productivity in the Apalachicola Bay oyster ecosystem. (#2 - 8.7)	2.) Recommend specific criteria and/or conditions, with related performance measures for the reopening of Apalachicola Bay to limited wild oyster harvesting. (#2 – 9.0)
3.) Determine area (acres or km ²) of oyster reefs that currently support live oysters as well as the area needed to ensure sufficient spat production that will support sustainability of oyster reefs and sustainability of a wild oyster fishery throughout the ABS. (#3 - 8.6)	3.) Conduct an oyster stock assessment for the ABS with periodic updates. (#3 – 8.8)
4.) [^] Develop criteria for restoring specific reefs or reef systems damaged by environmental conditions or natural disasters. (#4 – 8.2)	4.) Manage the commercial oyster industry and recreational oyster fishing to provide for sustainable spat production and the recovery of oyster populations. (#4 – 8.75)
5.) [^] Identify monitoring needs for assessing the health of oyster populations (including disease), and detecting changes in environmental conditions and habitat quality (for oysters and other reef-associated species) over time. (#4 – 8.2)	5.) Work with FWC Law Enforcement to develop enforcement strategies and appropriate penalties sufficient to deter harvest or sale of undersized oysters as well as violations that harm wild or leased oyster reefs and other natural resources, and that will support restoration efforts in the ABS. (#5 – 8.6)
[^] Priority #4 and #5 above received the same ranking.	6.) Evaluate the development of a policy that would require setting sustainable harvest goals and placing limitations on or a complete closure to harvesting based on the results of data (e.g., stock assessment) collected and evaluated under a comprehensive monitoring program designed to sustainably manage the resource. (#6 – 8.5)
	7.) Restore and create reef structures suitable in size, location, and substrate type for healthy and sustainable oyster settlement and production, and harvesting. (#7 – 8.3)
Priority 2 Strategies (Prioritization ranking between 7 and 5) = Important But Less Time Sensitive	

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

ATTACHMENT 8
STAKEHOLDER RESOURCES IN SUPPORT OF ABSI

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

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

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

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

STRATEGIES AND ACTIONS WITH PROPOSED LEADS, PARTNERS, AND RESOURCES

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

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

ATTACHMENT 10

ABSI OVERARCHING MESSAGE INITIAL IDEAS

ABSI OVERARCHING MESSAGE INITIAL IDEAS

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

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

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

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