

APALACHICOLA BAY SYSTEM INITIATIVE COMMUNITY ADVISORY BOARD

STRATEGY EVALUATION AND ACCEPTABILITY RATING WORKSHEET

SEPTEMBER 9, 2020—MEETING VII

THESE ARE PRELIMINARY DRAFT STRATEGIES FOR DISCUSSION AND
EVALUATION BY THE CAB AND ARE NOT RECOMMENDATIONS



FACILITATED BY JEFF BLAIR AND ROBERT JONES



**APALACHICOLA BAY SYSTEM INITIATIVE COMMUNITY ADVISORY BOARD
KEY TOPICAL ISSUES—STRATEGIES ACCEPTABILITY RATING WORKSHEET**

ACCEPTABILITY RATING EXERCISE OVERVIEW

During previous meetings Apalachicola Bay System Initiative (ABSI), Community Advisory Board (CAB) members were asked to propose an initial suite of strategies for achieving the objectives of Goals A, B, D, and E. During the upcoming September 9, 2020 meeting, CAB members will be asked to evaluate proposed strategies for Goal C, and then to continue their review of existing proposed strategies, propose any additional strategies for CAB consideration, and then rate the strategies for acceptability. Each strategy should be rated on its own merit, independently, rather than in relation to the other strategies. Initially, constraints such as funding and statutory authority should not be a limiting factor regarding whether a strategy has merit.

Following discussion and refinement of existing strategies, members may be asked to revisit proposed strategies if requested by either a CAB or project team member. Members should be prepared to offer specific refinements to address their reservations.

The strategies for Goals A- E are preliminary draft strategies for discussion and evaluation by the CAB, and are not recommendations at this stage of the process.

Once rated for acceptability, strategies with a 75% or greater number of 4s and 3s in proportion to 2s and 1s (\geq a 3.0 average rating) will be considered preliminary consensus recommendations for inclusion in the final package of recommendations for the Apalachicola Bay System Ecosystem-Based Management and Restoration Plan. A lead entity and key implementation steps should be identified for each consensus level strategy.

At any point during the process, any strategy may be re-evaluated and rated at the request of any CAB or project team member. The status of a rated strategy will not be final until the final CAB meeting, when a vote will be taken on the entire package of consensus ranked recommendations for inclusion in the Plan. The following scale will be utilized for the rating exercises:

ACCEPTABILITY RATING SCALE	4= <i>Acceptable</i>, I agree	3= <i>Acceptable</i>, I agree with <i>minor</i> <i>reservations</i>	2= <i>Not Acceptable</i>, I don't agree unless <i>major</i> <i>reservations</i> addressed	1= <i>Not</i> <i>Acceptable</i>
-----------------------------------	--	--	--	--

Please be prepared to state your minor and major reservations when asked, and to offer proposed refinements to the strategy to address your concerns. If you are not able to offer refinements to make the strategy acceptable (4) or acceptable with minor reservations (3) you should rate the strategy with a 1 (not acceptable).

CRITERIA TO CONSIDER FOR PROPOSING, EVALUATING, AND ACCEPTABILITY RATING STRATEGIES		
EFFECTIVE STRATEGIES ARE SMARTS		
CRITERIA		EXPLANATION
S	SPECIFIC	It is detailed enough so that anyone reviewing the <i>Strategy</i> will know what is intended to be accomplished.
M	MEASURABLE	The end result can be identified in terms of quantity, quality, acceptable standards, etc. You know you have a measurable <i>Strategy</i> when it states in objective terms the end result or product.
A	ATTAINABLE	The <i>Strategy</i> is likely to be implemented, and there are resources available, or likely to become available for implementing the <i>Strategy</i> .
R	RELEVANT	The <i>Strategy</i> is relevant, and if implemented it is likely to be successful in achieving the relevant goals and objectives of the ABSI.
T	TIME-FRAMED	There are milestones with a specific date attached for completion.
S	SUPPORT	There is commitment and support from key stakeholders and regulators for implementation of the <i>Strategy</i> .

STRATEGIES WORKSHEET OVERVIEW

This Worksheet will be used to guide discussions at Apalachicola Bay System Initiative (ABSI) Community Advisory Board (CAB) meetings. **All strategies** that were proposed by CAB members at meetings were evaluated by the ABSI Project Team (scientists and facilitators) and put into the following **categories**:

SECTION I: CAB DRAFT ABSI STRATEGIES

Goal A: A Healthy and Productive Bay Ecosystem

Goal B: Sustainable Management of Oyster Resources

Goal E: Science-Informed Ecosystem-Based Management and Restoration Plan Supported by Apalachicola Bay System Stakeholders

SECTION II: STRATEGIES TO BE REFERRED TO OTHER PROGRAMS OR ENTITIES

Goal C: A Thriving Economy Connected to a Restored Apalachicola Bay System

Goal D: An Engaged Stakeholder Community and Informed Public

SECTION III: STRATEGIES RATED AS NOT ACHIEVING CONSENSUS

SECTION IV: PERFORMANCE MEASURES

Performance measures are the decision-support tools forecast results that CAB members will use for weighing the potential outcomes of different strategies.

SECTION V: TERMS AND DEFINITIONS AND PROJECT BOUNDARY

The categories above will be reviewed and discussed at subsequent ABSI CAB meetings where they will be refined and could be combined with other categories or split into new categories as appropriate. The underlined strategies are being offered for discussion purposes by the ABSI Project Team (scientists and facilitators).

**SECTION I
COMMUNITY ADVISORY GROUP DRAFT ABSI STRATEGIES**

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

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 OBJECTIVES

Ensure there are strategies for all of the objectives of Goal A.

The following 5 Objectives (A1 – A5) are proposed by the Project Team to replace the previous A1 – A5.

A1) To use observations, monitoring, experiments and modeling conducted through ABSI and related efforts to create decision support tools that can inform how disease, predation, human activities and future climate scenarios will affect the ABS ecosystem.

[A new A1 includes the previous A1 and a combination of the previous A2, and A5]

A2) To help establish a comprehensive monitoring plan to evaluate the health of the ABS oyster resource and its measurable ecosystem services with clearly defined performance measures and strong coordination among the various entities conducting research in the Bay.

[A new A2 moved from Goal E and revised for Goal A]

A3) ~~A5)~~ To use decision support tools* to identify viable strategies for restoration and management of the oyster habitat and the function of the ABS ecosystem. *See A1

A4) To define measurable ecosystem services that can be used to determine the level of ~~and~~ change in ecological health (e.g., abundance and condition indices for oyster reef and population health) and societal benefit ~~indicators~~ derived from Apalachicola Bay System restoration efforts ~~recovery~~, with target and threshold levels identified.

A5) To enhance stakeholder and public interest in and understanding of the science conducted to support restoration efforts designed to improve the health of oyster resources and the overall health of the Bay ecosystem; and to encourage their participation in the development of the management and restoration plans for the Bay.

[The Project Team proposes adding a new A5 to capture outreach to stakeholders]

[PROJECT TEAM PROPOSED DELETIONS WITH EXPLANATIONS]

A4) To ~~use~~ define and quantify measurements ~~measures~~ of oyster reef and population conditions, with target and threshold levels identified.

[The Project Team combined the previous A4 into an expanded and revised A4 above]

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

A2) To ~~consider impacts from human activities and future climate scenarios that affect the health and restoration of the ABS ecosystem and address ways to minimize negative effects on the ABS ecosystem.~~

A5) To use observations, experiments and modeling efforts conducted through ABSI and related efforts to create decision support tools that will be used to identify viable strategies for management and restoration.

[The Project Team proposes that the previous A1, A2, and A5 be replaced with a new A1]

GOAL A PRELIMINARY DRAFT STRATEGIES

The ABSI Project Team revised language and combined a number of strategies to create a revised list of 6 strategies as follows:

- 1) Increase productivity of the Apalachicola Bay oyster ecosystem by restoring, enhancing, and/or developing new ~~subtidal and intertidal~~ reef structures (some of which would be maintained as non-harvest protection areas) based on experimental evidence for the most suitable substrate (e.g., granite, spat-on-shell, artificial structures) and on habitat suitability analyses using the best available scientific information coupled with the knowledge and experience of managers and stakeholders.
- 2) Develop criteria for sustaining specific reefs or reef systems damaged by environmental conditions or natural disasters that includes (1) degree of damage and potential for recovery; (2) approach for mitigating damage (e.g., physical repair, spat supplements, or some combination of both); (3) periodicity of spat addition (e.g., annually or longer); (4) specific timeline for continuing the approach (e.g., 3 years or longer). This approach is not intended to create a put-and-take fishery.
- 3) Determine area (acres or km²) of healthy oyster reefs that currently exists as well as the area needed to ensure sufficient spat production that will support sustainability of oyster reefs and sustainability of a limited entry fishery throughout the ABS.
- 4) 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 to understand the root causes of oyster decline.
- 5) Develop ecosystem models that forecast future environmental conditions and oyster population status. These should include the effects of climate change, such as increasing sea level and ocean

acidification, ~~altered freshwater and~~ salinity gradients, water temperatures, storm intensity and rainfall events, and the availability of freshwater.

- 6) Form a sub-committee within the CAB that can spearhead an outreach and community engagement effort intended to inform and educate stakeholders and the public about the research, restoration plan, and management plan developing through ABSI and focusing on a healthy ABS ecosystem. The intended audience includes city, county, and state government officials, local businesses and organizations, and citizens of every age.

[PROJECT TEAM PROPOSED DELETIONS WITH EXPLANATIONS]

~~Use decision support tools to develop permanently closed areas in strategic locations (e.g., near fully open harvestable reefs, rotational reefs or that include newly placed restoration structures) as conservation areas that can provide spat locally and protect ecosystem function.~~

[The Project Team proposes that this is captured in strategy 1)]

~~Restore habitat in the Apalachicola Bay System that includes targeted quality and quantity of oysters across subtidal and intertidal habitats throughout the ABS.~~

[The Project Team proposes that this is captured in strategy 1)]

~~Continue to monitor for oyster diseases.~~

[The Project Team proposes this is captured in strategy 4 above and is not a separate strategy for the ABSI.]

~~Base all management decisions and monitoring requirements on high quality scientific data.~~

[The Project Team proposes that this inherent in the goal of the ABSI, and is included in all relevant strategies and is not a separate strategy]

GOAL B

SUSTAINABLE MANAGEMENT OF OYSTER RESOURCES

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

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

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

GOAL B OBJECTIVES

Ensure there are strategies for all of the objectives of Goal B.

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

[The Project Team proposes a new B1 to incorporate the key points of and replace the previous B3, and B4]

B2 To investigate the feasibility of developing shell recycling programs that can return a significant portion of the harvested oyster shell back to the ABS to restore substrate for recruitment of spat and to enhance oyster population growth

[The Project Team proposes the new B2 above to replace the shell recycling components of the previous B1 so that it is a separate objective]

B3 B5) To make recommendations to FDACS for oyster aquaculture best management practices that allow for the unimpeded recovery of oysters reefs, the oyster fishery, and the ecological and societal health of the ABS ecosystem while providing economic opportunities to the aquaculture industry.

[PROJECT TEAM PROPOSED DELETIONS WITH EXPLANATIONS]

~~To establish and implement policies and programs that provide the means to return a significant portion of the harvested oyster shell back to the ABS for recruitment substrate to enhance settlement and population productivity.~~

[The Project Team proposes to replace the shell recycling components of the previous B1 into a separate objective B2]

~~B1) To establish, implement, and evaluate a long-term, comprehensive monitoring plan for oyster resources for the ABS with strong coordination among the various entities conducting research in the Bay.~~

[The Project Team proposes replace the previous B1 with a new B2]

~~B3) To develop by year four (2022) of ABSI a science-based oyster recovery and management plan for both commercial and recreational industries that has broad stakeholder and community support and can be implemented by the State of Florida (e.g., FWC, FDACS, State Legislature) for the ABS that considers, at a minimum: rotational harvest, open and closed areas (both permanent and seasonal), harvesting methods, limited entry, surcharge fees, shell recycling, and a shell budget.~~

~~B4) To recommend enforceable regulations for oyster management with penalties sufficient to deter violations and harm to the resource.~~

[The Project Team proposes a new B1 to incorporate the key points of and replace the previous B3, and B4]

GOAL B RECOMMENDATION

Closing the Apalachicola Bay to Wild Oyster Harvest. At the March 11, 2020 ABSI CAB meeting, the CAB voted unanimously to recommend that the FWC immediately close Apalachicola Bay to all wild harvest of oysters (commercial and recreational). This recommendation was reviewed and accepted by FWC and the Final Rule will be addressed at the October 2020 Commission meeting. The closure to recreational and commercial harvest went into effect on August 1, 2020. ~~The proposed oyster fishery closed area closure in Apalachicola Bay will have~~ has well-defined boundaries (set by FWC in consultation with FDACS and contained within the Apalachicola Bay System as defined in FWC's Rule 68B-27, F.A.C.¹).

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

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

GOAL B PRELIMINARY DRAFT STRATEGIES

The ABSI Project Team revised language and combined a number of strategies to create a revised list of 7 strategies as follows:

- 1) ~~Recommend will require a well-defined and transparent rationale for why the closure is needed (prepared by the ABSI science team in consultation with the ABSI CAB for dissemination to the community), and with specific criteria and/or conditions identified with related performance measures recommended required for the reopening of Apalachicola Bay to limited wild oyster harvesting.~~
- 2) ~~The ABSI Plan will Incorporate scientifically-derived and coordinated long-term monitoring guidelines and metrics for assessing water quality, oyster abundance, and demographics that will implemented by FWC and regularly reviewed by the CAB to maintain healthy and sustainable oyster and other resources.~~

[The Project Team proposes to move this strategy from Goal C ~~E~~ and add it here to provide a strategy for Objective B1]

- 3) Use the best available scientific data and decision-support tools to develop a system of 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.
- 4) Supplement shelling of oyster reefs bars, either through a recycling program combined with or State legislation; that provides staff, funding strategies, and incentives for involving local watermen, restaurants, aquaculture operations, and private citizens in an effort to increase the viability of the oyster resource.
- 5) Define performance criteria (e.g. shell budget that will maintain sufficient habitat) 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.
- 6) Work with FDACS to ensure that oyster aquaculture practices and locations in the Bay are compatible with the goals and strategies for restoration and management of the ecosystem and are compatible with a wild harvest fishery and the important cultural role of a working waterfront and seafood industry.
- 7) Propose to FWC and FDACS 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.

[PROJECT TEAM PROPOSED DELETIONS WITH EXPLANATIONS]

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

[The Project Team proposes to include this strategy in a revised #3]

- ~~➤ Focus on developing a shell budget for maintaining reef habitat that will sustain healthy oyster populations and develop strategies and incentives for increasing the funding for and reclamation of local (ABS) shells from local watermen, restaurants, aquaculture operations, and private citizens to supplement shelling of oyster bars and increasing the viability of the oyster resource.~~
- ~~➤ Develop shell recycling program. Locate funding mechanisms to provide staffing to recycle shell and to provide incentives for shucking houses/restaurants to recycle shell (i.e., North Carolina).~~

[The Project Team proposes to combine the 2 bulleted strategies above into a new #4]

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

[The Project Team proposes to combine the 3 bulleted strategies above into a new #5]

- ~~➤ Propose enforcement strategies and appropriate penalties for violations that will support restoration efforts in the ABS by reducing poaching (e.g., through increased FWC enforcement presence and increased number of checkpoints) and ensuring uniformity in the marketable size of oysters for fishers and buyers.~~
- ~~➤ Work with FWC/FDACS to develop and implement program to protect wild and leased oyster bars including enforcement mechanisms.~~

[The Project Team proposes to combine the 2 bulleted strategies above into a new #7]

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

VISION THEME C: The Apalachicola Bay System Ecosystem-Based Management and Restoration Plan is science-based and developed with engagement and support from the Apalachicola Bay System stakeholders and fully funded and informed by the best available science and other relevant socio-economic information.

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

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

GOAL C OBJECTIVES

Ensure there are strategies for all of the objectives of Goal E.

~~C1) E5)~~ To establish a fully funded permanent, representative stakeholder process to monitor the long-term implementation of the ABS Management and Restoration Plan.

~~C2) E4)~~ To support efforts to identify funding sources and define mechanisms for full implementation of the ABS Management and Restoration Plan.

[The Project Team proposes the above 2 revised objectives for Goal C, and that all of the other previous objectives listed below are already incorporated either above, or in the objectives of Goals A and B]

[PROJECT TEAM PROPOSED DELETIONS WITH EXPLANATIONS]

- ~~B5) To regulate the oyster aquaculture industry using best management practices that enable economic opportunities while preventing negative effects to the ABS ecosystem and its users.~~
- ~~C1) To ensure that the ABSI Community Advisory Board approves a stakeholder driven and science informed Ecosystem-Based Management and Restoration Plan for the Apalachicola Bay System with broad community support by 2022 that is implemented.~~
- ~~C2) To ensure that the ABS Management and Restoration Plan has clearly defined performance measures used to monitor the health of the oyster resource and ABS ecosystem, including indicators of social and economic welfare of the area's coastal and surrounding communities.~~
- ~~C3) To encourage the State of Florida to accept, approve, adopt, and implement the ABS Management and Restoration Plan working in close coordination among agencies and with other responsible entities.~~

- ~~To encourage agencies and other entities responsible for implementing the ABS Management and Restoration Plan to work in close coordination.~~

GOAL C PRELIMINARY DRAFT STRATEGIES

The ABSI Project Team combined a number of strategies to create a revised list of 4 strategies as follows:

CAB Proposed Strategies During the ABSI Process:

- 1) The ABSI Team and the CAB will continue to have an open and transparent process for the development of the ABS Management and Restoration 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.

CAB Proposed Strategies Subsequent to the ABSI Process:

- 2) After the Plan is completed, the CAB should transition to a nonprofit 501c3 Task Force (with membership composition similar to the ABSI CAB) that is recognized by the state as a partner in overseeing the Bay Management Plan. The Task Force will explore regulatory processes and will engage with and be accountable to decision-makers and the public for the actions laid out in the management plan and the implementation thereof. It also can seek the necessary funding it needs to build the capacity of the organization, to ensure its longevity, and to hire a Director.
- 3) The Task Force should encourage FWC to adopt ABSI's scientifically-derived coordinated long-term monitoring guidelines and metrics for assessing water quality, oyster abundance, and demographics and to regularly review and update these guidelines and metrics to maintain a healthy and sustainable oyster harvest and ecosystem with input from the Task Force.
- 4) The Task Force should encourage agencies to prioritize CAB recommendations for investing more funding in the management and restoration of oyster resources.

[PROJECT TEAM PROPOSED DELETIONS WITH EXPLANATIONS]

- ~~The draft ABS Management and Restoration Plan is presented to the public 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.~~
- ~~Continue to have an open and transparent process for the development of the Plan with many opportunities for stakeholder engagement and input.~~

[The Project Team proposes to combine the 2 bulleted strategies above into a new #1]

- 5) The Task Force should incorporate socio-economic information into the management plan that will be used to adaptively manage the ABS.

[The Project Team proposes that this strategy is captured in A4 and elsewhere.]

~~Work with out of state user groups within the ACF basin to foster the goals of the ABSI. [Taylor]~~

[The Project Team proposes that this strategy is captured in strategy #4]

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

[The Project Team proposes that this strategy is already included in the model developed by Steve Leitman]

~~The ABS Plan will incorporate scientifically derived coordinated long-term monitoring guidelines and metrics for assessing water quality, oyster abundance, and demographics that will implemented by FWC and regularly reviewed by the CAB to maintain healthy and sustainable oyster and other resources.~~

- ~~The ABS Plan will incorporate scientific derived performance criteria, such as water quality, oyster abundance and demographics, socio-economic, that will be monitored and used to adaptively manage the oysters and ABS in general.~~
- ~~Develop water quality strategies as common ground that can address pollution impacts on the oyster resource.~~
- ~~A coordinated long-term monitoring and research plan will be fully funded and implemented to maintain healthy and sustainable oyster and other resources in the ABS.~~
- ~~The ABSI Team and the CAB will work with the state agencies to ensure the acceptance, adoption, and implementation of the ABS Management and Restoration Plan.~~
- ~~After the Plan is completed, the CAB should transition to a Task Force (complete with bylaws and other organizational documents) by developing the structure and funding the Task Force needs to build the capacity of the organization, to ensure its longevity, to hire a Director, and to help it evolve in to a nonprofit 501c3 entity with representation from the local leadership, industry, harvesters, state agencies that is recognized by the state as the main entity overseeing the Bay Management Plan. The Task Force will explore regulatory processes and will engage with and be accountable to decision-makers and the public for the actions laid out in the management plan and the implementation thereof.~~
- ~~A subset of CAB members will form a subcommittee to explore regulatory processes and will engage and coordinate with the appropriate government agencies and officials to implement the ABS Plan.~~
- ~~Need to have regular reviews of management plan that is accepted and have a plan for maintaining the committee via organizational documents- bylaws, etc.~~
- ~~After the Plan is completed, the Advisory Board should transition to a Task Force that is accountable to decision-makers and the public for the actions laid out in the management plan.~~
- ~~The Plan should be reviewed and modified regularly to ensure progress toward goals (adaptive management).~~
- ~~Develop performance measures for gauging the health of the resource and the health of the economy.~~
- ~~Regular updates on the progress of the Plan should be provided to decision-makers and the public.~~

- ~~Develop the structure the CAB needs to help it evolve in to a nonprofit 501e3 entity with representation from the local leadership, industry, harvesters, state agencies that is recognized by the state as the main entity overseeing the Bay Management Plan.~~
- ~~Pursue funding to build the capacity of the organization and to ensure its longevity. Consider hiring a director to help sustain the CAB.~~

[The Project Team proposes that all of the strategies above are already covered in C or in other Goal areas]

SECTION II

STRATEGIES OUTSIDE THE SPECIFIC SCOPE OF ABSI AND TO BE REFERRED TO OTHER PROGRAMS OR ENTITIES

The strategies that are not a part of the Ecological (Goal A), Sustainable Management of Oyster Resources (Goal B), and The Management and Restoration Plan (Goal C & E) components of the Apalachicola Bay System Ecosystem-Based Management and Restoration Plan including: training, marketing, education, communication, economic development, funding, and the formation of a Task Force are being moved to this category. They will be included as recommendations in an appendix, and the CAB should identify a responsible entity to refer the recommendations to for their development, implementation, monitoring, and maintenance.

GOAL D €

A THRIVING ECONOMY CONNECTED TO A RESTORED APALACHICOLA BAY SYSTEM

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

GOAL D: The broader Apalachicola Bay Region is thriving economically as a result of a fully-restored Apalachicola Bay System.

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

GOAL D OBJECTIVES

Ensure there are strategies for all of the objectives of Goal D.

D1) To ensure that economic indicators of the commercial oyster fishery and associated industries in the ABS demonstrate increasing viability and growth over the course of the ABSI project by *year X*.

D2) To ensure that industries and businesses within the ABS are compatible with a healthy and well-managed ABS ecosystem.

D3) To develop growth management policies, plans and regulations affecting the ABS that are compatible with a healthy and well-managed ABS ecosystem while maintaining a thriving economy and supporting cultural heritage.

D4) To develop an oyster aquaculture industry that provides economic opportunities and is complementary to the wild harvest fishery.

GOAL D PRELIMINARY DRAFT STRATEGIES

The ABSI Project Team combined a number of strategies to create a revised list of 9 strategies as follows:

CAB Proposed Strategies:

- 1) ~~Work with existing partners to monitor and report on the economic benefits to a restored ABS including~~ (e.g., the Chamber of Commerce, Apalachee Regional Planning Council, and city and county staff) to monitor and report on the economic benefits of a restored ABS, including key economic indicators relevant to the commercial oyster fishery and associated industries in the region. This can be displayed as a dashboard that includes key economic indicators over time based on restoration efforts in the Apalachicola Bay System (ABS).
- 2) ~~Recommend~~ Ensure monitoring² and enforcement programs continue with appropriate metrics to measure output from and impact of harvest ~~on~~ from oyster ~~reefs~~ bars.
- 3) Support planning tied to economic indicators that consider future conditions (climate, SLR, reduced river flow) and their effects on the ABS.
- 4) Work with oystermen and other community stakeholders to promote post-recovery Apalachicola oysters.
- 5) Develop complementary industries in wild oyster harvest and oyster aquaculture that provide new economic opportunities by building a network of experts that can help Franklin County citizens build successful programs through business training, identifying sources of funding for equipment, and developing products that will enhance and diversify local industries.
- 6) Develop new markets for selling oysters to areas within and outside of Florida in part by investing in location (Apalachicola Bay) branding.
- 7) Review land development regulations to provide flexibility while supporting and enhancing efforts to maintain and revitalize working waterfronts in Apalachicola and Eastpoint to ensure preservation of Franklin County's cultural heritage and a viable seafood industry.
- 8) Coordinate with the local business community and governing bodies (i.e., city and county commissions) to ensure that growth management plans, land use and development regulations meet strong standards that are compatible with and minimize the environmental impact of industry and business activities within the ABS and are conducive to a healthy ecosystem.
- 9) Engage fishermen in the restoration of the bay and encourage future participation in restoration such as shell recycling, shelling, and relaying.

[The Project Team proposes to move this strategy from Goal E to Goal D]

² Ongoing fisheries-dependent and fisheries-independent monitoring by FWRI, coupled with ABSI complementary data based on request of watermen. Both entities are sharing data with one another which is critical for ABSI model development. (We remain unable to get FWRI data.)

[PROJECT TEAM PROPOSED DELETIONS WITH EXPLANATIONS]

- ~~Create a dashboard and monitor key economic indicators in for changes over time based on restoration efforts to the Apalachicola Bay System (ABS).~~

[The Project Team proposes to combine this strategy above into a revised strategy #1]

- ~~Identify and monitor key economic indicators relevant to the commercial oyster fishery and associated industries in the region.~~

[The Project Team proposes to combine the strategy above into a revised #2]

- ~~Work with oystermen and other community stakeholders to develop an oyster aquaculture brand for the ABS that emphasizes clean water and local connection.~~
- ~~Work with aquaculture industry to assist with restoration and providing oysters for restaurants.~~

[The Project Team proposes to combine the 2 bulleted strategies above into a new #4]

- ~~Promote farmed oysters as product from Apalachicola Bay, in addition to promotion of local wild-caught oysters.~~
- ~~Develop an oyster aquaculture industry that provides new economic opportunities and is complementary to the wild harvest fishery. Find resources to fund education, businesses assistance and capital to make the transition.~~
- ~~Create a comprehensive aquaculture training program that assists harvesters in transitioning in to aquaculture helping to diversify their current harvest. Program needs to include businesses training and funding for equipment.~~
- ~~Find funds to develop aquaculture program and training. Pursue funding to help oyster harvesters purchase aquaculture equipment.~~
- ~~Build network of successful aquaculture experts that can help the CAB build a successful aquaculture program. (Sea Grant, IFAS, U of Alabama).~~
- ~~Research new aquaculture products that can be produced in Apalachicola Bay to enhance and diversify aquaculture industry.~~

[The Project Team proposes to combine the 6 bulleted strategies above into a new #5]

- ~~Develop new markets for selling oysters to areas outside of Florida.~~
- ~~Invest in branding of Apalachicola Bay and the Apalachicola Oyster.~~

[The Project Team proposes to combine the 2 bulleted strategies above into a new #6]

- ~~Support and enhance efforts to maintain and revitalize the working waterfronts in Apalachicola and Eastpoint to ensure preservation of Franklin County's cultural heritage.~~

[The Project Team proposes to combine the bulleted strategy above into a new #7]

- ~~Coordinate with the local business community and government bodies (i.e., city/county commissions) to ensure environmental impact of industry and business within the ABS are minimized and conducive to a healthy ecosystem.~~
- ~~Maintain strong land use and development regulations that ensure future uses of Apalachicola Bay are not adversely impacted by development projects.~~
- ~~Amend local growth management policy plans as necessary to ensure local planning and building regulations meet strong standards compatible with a healthy ABS ecosystem.~~

- ~~Review land development regulations to provide flexibility while ensuring access to a working waterfront and maintaining a viable seafood industry.~~

[The Project Team proposes to combine the 4 bulleted strategies above into a new #8]

GOAL E ~~D~~
AN ENGAGED STAKEHOLDER COMMUNITY AND INFORMED PUBLIC

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

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

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

GOAL E OBJECTIVES

Ensure there are strategies for all of the objectives of Goal E.

E1) To expand coordinated outreach and education efforts originally initiated through ABSI to increase public awareness of and support for a healthy and well-managed ABS ecosystem; and to ensure that businesses, industries, non-profits, and local governments are supportive and included in these efforts.

~~E2) ~~D3)~~~~ To measure public and stakeholder ~~improve and enhance public~~ understanding of the issues important to the health and restoration of the Bay through surveys ~~as measured by public and stakeholder surveys~~ and socio-economic indicators.

[PROJECT TEAM PROPOSED DELETIONS WITH EXPLANATIONS]

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

[The Project Team proposes to combine the 2 bulleted objectives above into a new E1]

~~D2) To identify and pursue funding resources during and following the ABSI project that will help generate awareness, education, and support for a healthy oyster and ABS ecosystem.~~

[The Project Team proposes that this objective is covered in Goal C]

GOAL E PRELIMINARY DRAFT STRATEGIES

The ABSI Project Team combined a number of strategies to create a revised list of 6 strategies as follows:

CAB Proposed Strategies:

- 1) Build community stewardship by educating stakeholders on the importance of maintaining healthy oyster reefs and by engaging them in the Bay restoration through shell recycling, shelling, and relaying initiatives. Develop a “Bay Stewards” program to honor, reward, and provide incentives for businesses and individuals that demonstrate their stewardship of the resource.
- 2) Develop surveys that can be used to measure and track changes in stakeholder and public understanding of the issues important to the health and restoration of the Bay.
- 3) Provide training and financial support for new workforce entrants (particularly young entrants) interested in being employed in existing industries as well as and developing industries in new fisheries, aquaculture, and restoration science.
- 4) Engage the general public (students, residents and tourists) in learning about the history and the ecological and economic importance of the Apalachicola Bay region, including the natural resources, and lumber, cotton shipping, and fishing industries.
- 5) Build Gulf-wide mechanism for communities interested in the restoration and revitalization of fisheries to exchange best practices and lessons learned.
- 6) The Task Force should coordinate and communicate with appropriate agencies (e.g., USACE, USFWS, NWFWM, FWC), pertinent out of state user groups, and other initiatives working on both geographically-constrained and basin-wide water-flow alterations and management strategies that focus on solutions including reasonable changes in freshwater delivery in low water conditions through manipulation of the water control plan and actions by other user groups that fairly manage the resource and contribute positively to the health of the ABS based on the best available science and data. [Taylor] [Project Team]

[PROJECT TEAM PROPOSED DELETIONS WITH EXPLANATIONS]

- ~~Build a program to educate harvesters on the importance of managing public oyster beds. Honor, reward, and provide incentives for businesses (and individuals) that demonstrate stewardship and sustainable use of the ABS's resources (“Bay Stewards”).~~
- ~~Build a program to educate harvesters on the importance of managing public oyster beds.~~
- ~~Honor, reward, and provide incentives for businesses (and individuals) that demonstrate stewardship and sustainable use of the ABS's resources (“Bay Stewards”).~~

[The Project Team proposes to combine the 3 bulleted strategies above into a new #1]

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

[The Project Team proposes this is covered in a new #2]

- Support (education, training, financial) the development of alternative fisheries, aquaculture, and restoration science.
- Identify education programs that would be beneficial to the industry, especially young entrants.

[The Project Team proposes to combine the 2 bulleted strategies above into a new #3]

~~Partner on new and existing grant opportunities.~~

[The Project Team proposes this is covered in Goal C]

- Educate Franklin County youth on the history of the region, the fisheries and the value of the ABS.
- ~~Continue and expand efforts to educate the public (residents and tourists) about the history of the region, the fisheries and the value of ABS.~~

[The Project Team proposes to combine the 2 bulleted strategies above into a new #4]

~~Lessons learned/learning from other places—build a community of practice (i.e., Gulf wide) for communities interested in the restoration and revitalization of fisheries. Review best practices and outcomes and adapt successful techniques from other places/regions.~~

[The Project Team proposes the above strategy is covered in a new #5]

- Develop outreach and educational materials that include the vision, goals, and strategies for a healthy ABS ecosystem that can be communicated to Franklin County city and county government as well as local businesses, organizations, and citizens either in person, in print, or via electronic distribution through a mailing list.
- Form an outreach and education sub-committee from the CAB that can spearhead development of educational materials and an outreach plan. The committee would also identify and pursue potential funding mechanisms (e.g., surcharge fees, incentives) and resources to help with education and outreach efforts including ways to measure understanding.

[The Project Team proposes that the 2 strategies above should be moved to Goal A and combined into a new strategy #6]

- ~~Form an outreach and education sub-committee from the CAB that can spearhead development of educational materials and an outreach plan.~~
- ~~Establish a CAB funding subcommittee that can identify and pursue potential funding mechanisms (e.g., surcharge fees, incentives) and resources to help with education and outreach efforts including ways to measure understanding.~~
- ~~Develop an outreach plan to distribute and communicate project goals and objectives for a healthy ABS ecosystem and economy.~~
- ~~Plan how to get updates to community leaders and elected officials.~~
- ~~Decide key messaging for outreach & education plan. Related, identifying target audiences— who are we trying to reach.~~
- ~~Coordinated media plan on key topics needed.~~
- ~~Collateral (“marketing materials) published via print and electronic distribution.~~
- ~~Develop educational material that includes the vision and goals of the ABSI project that can be communicated with local businesses, organizations, and citizens.~~

[The Project Team proposes that the 8 bulleted strategies above are covered under the new Goal A strategy #6]

The CAB should also evaluate the following for inclusion in existing strategies as appropriate:

- A. **Collaboration.** Establish and communicate a long-term shared vision of success for oyster resources among stakeholders that can be sustained, implemented and strengthened into the future.
- B. **Existing Programs.** Collaborate with existing programs.
- C. **Education.** Support education in fisheries science and management.
- D. **Community Advisory Board Process.** The ABSI CAB itself represents an educational initiative and a forum for communication among stakeholders.
- E. **Develop Programs.** Identify and implement education programs that would be beneficial to the industry, especially young entrants.
- F. **Lessons Learned.** Look at lessons learned from other areas and fisheries in terms of how they addressed and solve issues around oyster resource management and education, such as Puget Sound, Virginia, Delaware, Maryland, Apalachicola, Gulf States, scallop and clam fisheries etc. Review best practices and outcomes and adapt successful techniques from other places/regions.
- G. **School Education.** Support the role of oyster resources and ecology for aquaculture and commercial fishing, education programs for primary & secondary school students along with help from community college.

SECTION III
STRATEGIES RATED AS NOT ACHIEVING CONSENSUS

None to date.

SECTION IV PERFORMANCE MEASURES

Performance measures are the decision-support tools forecast results that CAB members will use for weighing the potential outcomes of different strategies.

A.) A HEALTHY AND PRODUCTIVE OYSTER REEF ECOSYSTEM

Related Draft Performance Measures to Evaluate Strategies/Options

- A. Development of a forecasting model for salinity, temperature, nutrients (including nitrogen) and organic carbon dynamics under different climate and management scenarios.
- B. Reef height (feet or meters), where "reef" means live and dead shell, as well as other restoration material.
- C. Reef habitat measured in terms of height (feet or meters) and area (acres or km²), where "reef" is defined as structural material suitable for oyster recruitment (e.g., live shell, dead shell, and/or restoration materials).
- D. Reef area, reef defined as above (acres or km²)
- E. Density of live oysters, new boxes and dead shell (#/m²)
- F. Density of live oysters, including density of recruits and spawning adults (#/m²).
- G. Oyster population demographics (size/frequency)
- H. Biomass of live oysters (calculated from demographic data)
- I. Amount of brood stock (abundance and biomass of mature adults)
- J. Spat settlement patterns (spatial and temporal)
- K. Oyster recruitment patterns, where recruitment is defined as survival beyond a density-dependent mortality stage (~1.4"/35mm).
- L. Incidence of oyster diseases, parasites and predators
- M. Assess and manage for sustainable natural mortality rates (e.g., due to predation, parasites, disease).
- N. Diversity and abundance/biomass of reef-associated species
- O. Community diversity and population abundance/biomass of reef-associated taxa, including (commercially or recreationally) fished populations like blue crabs, stone crabs, mullet, redfish, etc.
- P. Soft sediment community structure and associated fisheries species.
- Q. Levels of pollutants (PCB, Heavy metals etc.) in water, sediment and animal tissue
- R. Sedimentation rates
- S. Salinity regimes across the ABSI region under different climate and management scenarios.
- T. Organic carbon dynamics (food availability) under different climate and management scenarios.
- U. Water filtration rates (volume/day) and days to filter estuary volume
- V. Water clarity (visibility) – changes over time
- W. Area of seagrass in the ABS region
- X. Nutrient dynamics of the ABS region
- Y. Relative proportion of nitrogen removed compared to nitrogen input
- Z. Assess changes in coastal vulnerability indices (e.g., indices of shoreline erosion, which are related to changes in saltmarsh, mangrove, seagrass habitat, but also vulnerability to storms).
- AA. Assess changes in shoreline erosion protection

- BB. Assess changes in salt marsh, mangrove, and/or seagrass indices.
- CC. Number of sloughs connected to the Apalachicola River (depending on flow levels).

B.) SUSTAINABLE MANAGEMENT OF OYSTER RESOURCES

Related Draft Performance Measures to Evaluate Strategies/Options

- A. Total harvest in bags the oyster population can support
- B. Sustainable allowable catch in annual total biomass (kg) removed, under different management regimes.
- C. How close to a complete fishery (fraction harvested of allowable catch)
- D. Harvest (annual total biomass) by fishery type (recreational/commercial)
- E. Develop models for predicting sustainable allowable catch in annual total biomass (kg) removed, under different management regimes. This would include calculating harvest rate and accounting for shell budgets.
- F. Number of full-time harvesters that the fishery can support under most environmental conditions. [need to define full-time]
- G. Harvest (annual total biomass) by size category, location and gear type
- H. Timing of harvest during the fishing season [need to define]
- I. Catch per unit effort (catch per trip)
- J. Number of poaching violations and amount of captured illegal harvest (including illegal sale).
- K. Amount of harvest from rotation areas
- L. Fraction of total oyster population that is being harvested
- M. How many oysters can be harvested without a net loss of oysters.
- N. Creation of a harvest management plan that is ecologically sustainable and acceptable to stakeholders and includes plans for actions in case of unpredictable but inevitable environmental disturbances.
- O. An updated oyster fishery and aquaculture enforcement plan that is approved by fishers, farmers, distributors (fish houses), FWC Law Enforcement, and local judicial system.
- P. Number of large oysters (>3”) by location (different reefs, fished vs. closed areas, intertidal vs. subtidal).
- Q. Number of sanctuaries [moved from Goal A]
- R. Number of closed areas [moved from Goal A]
- S. Inclusion of oyster areas closed to fishing.

C.) THE ECOSYSTEM-BASED MANAGEMENT AND RESTORATION PLAN

This is covered by the Objectives for Goal E. and the performance measures in Goals A - D that collectively make up the Apalachicola Bay System Management and Restoration Plan.

D.) A THRIVING ECONOMY CONNECTED TO A RESTORED APALACHICOLA BAY SYSTEM

Related Draft Performance Measures to Evaluate Strategies/Options

- A. Value of harvest that meets an economic minimum for sustainability of watermen.
- B. Cost/value per bags
- C. Number of fishermen participating in the fishery
- D. Revenue per harvester (and perhaps its distribution)
- E. Travel time costs, and distance travelled
- F. Cost of management measures (e.g., restoration efforts)
- G. Revenue raised in fees/bag taxes
- H. Social benefits (value of ecosystem services)
- I. Value of harvest per day (bags per day)
- J. Performance metric for economic sustainability of the community
- K. Total economic investment versus economic benefit
- L. Socio-economic benefits – Improved/enhanced recreational fishing on oyster reefs including restored reefs.
- M. Total market activity (revenue) associated with commercial sale of oysters (including aquaculture, wild harvest, and any partial-ownership methods that fall in between the two).
- N. Total (amount or proportion) of jobs in Franklin County (should this include surrounding counties too?) associated with working waterfront (i.e., fishing, aquaculture, and tourism).

E.) AN ENGAGED STAKEHOLDER COMMUNITY AND INFORMED PUBLIC

Related Draft Performance Measures to Evaluate Strategies/Options

- A. Creation of a harvest management plan that is ecologically sustainable and acceptable to stakeholders and includes an adaptive plan of actions to rapidly respond to unpredictable but inevitable environmental disturbances.
- B. An updated oyster fishery and aquaculture enforcement plan that is approved by fishers, farmers, distributors (fish houses), FWC Law Enforcement, and local judicial system.

SECTION V

TERMS AND DEFINITIONS AND PROJECT BOUNDARY

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

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

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

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

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

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

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

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

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

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

HEALTHY APALACHICOLA BAY SYSTEM:

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

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

APALACHICOLA BAY SYSTEM INITIATIVE PROJECT BOUNDARY

