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Apalachicola
Community Listening Session
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UF Oyster Recovery Team

Apalachicola Community Listening Session

Apalachicola Community Center, Franklin County, FL
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INTRODUCTION

Apalachicola Bay, home to one of the most prized oyster fisheries in the US, experienced a disaster in 2012. After back-to-back years of drought, low river inflows and high bay salinities, the oyster population crashed to extreme low levels. Since that event, the oysters have not recovered. Several million dollars were appropriated by Congress in response to NOAA's declaration of a Federal Fishery Disaster. The funds are intended to support bay restoration programs, and to foster economic development in the affected seafood industry and economic diversification in the community-at-large. The State of Florida also has embarked on an effort to develop an updated Bay Management Plan that would address short- and long-term actions to achieve recovery and sustainability of the ecosystem and the local economy.

Since the oyster population collapse, members of the University of Florida Oyster Recovery Team (UF ORT) have been conducting research related to the effects of the collapse and potential recovery options. We have also been working with community and regional partners to identify new approaches for a successful participatory management approach to sustaining the bay's resources and the local economy. UF researchers have partnered with local seafood workers, regulatory agencies and community members to work towards re-building the oyster population while minimizing negative impacts on the community.

Due to the slow recovery, seafood workers and community members have recently expressed concerns about the consequences of a possible closure of the bay to oyster harvesting, as well as concern about lack of transparency in (a) plans for spending Congressionally-appropriated funds and (b) development of a plan to manage their bay resource. Seafood workers collectively have hundreds of years of experience on the water in Apalachicola Bay, and a wealth of knowledge that potentially could be used to help guide restoration and management activities and decisions.

These circumstances led the UF ORT to hold a community listening session in Apalachicola on October 1, 2014. Approximately 70 people attended the two-hour event. Attendees included regional seafood workers, community members-at-large, local community leaders, political and media representatives.

After an initial introduction and overview of the session objectives, attendees were divided into five facilitated breakout groups. Each group had 10-15 participants, and was facilitated by a UF researcher and an Apalachicola community leader. A table of facilitators and co-facilitators is provided in Table 1 below. Additional support, including meeting registration, was provided by Valentina Webb, Hali Thompson, Jeanette Taylor and Joe Taylor (Franklin's Promise Coalition), and Erik Lovestrand (Florida Sea Grant agent, UF/IFAS Extension).

Table 1. Facilitators and co-facilitators who supported the five breakout discussion groups during the October 1, 2014 Community Listening Session.

Group Facilitators	Group Co-Facilitators/Recorders
Andy Kane, UF ORT; and UF Environmental and Global Health	**Jennifer German** CareerSource Gulf Coast
Angela Lindsey, UF ORT; and IFAS Center for Public Issues Education	**Erik Lovestrand,** Sea Grant agent, UF/IFAS Extension, Franklin County
Joan Flocks, UF/IFAS Center for Public Issues Education	**Lee Ellzey** CareerSource Gulf Coast
Paul Monaghan, UF/IFAS Agricultural Education and Communications	**John Hosey** The Corps Network
Pete Vergot, UF/IFAS Extension, NW District Director	**Betty Webb** City of Apalachicola

Facilitators used a series of questions focused on the topics of bay closure, industry engagement and future management. All persons in breakout groups were encouraged to voice their concerns, talk about anticipated future impacts of a depleted oyster population, and offer potential solutions. By breaking the large group into smaller breakout groups, it was possible for all participants to actively participate. Notes were taken on large flip charts in each group.

In addition, participants were offered the opportunity to provide confidential feedback on index cards, or to speak with oyster recovery team members independently. At the conclusion of the meeting, each facilitator reported the main points from their respective group. Audience members were asked if there were additional comments, concerns or suggestions to add. A list of written comments from flip charts, index cards and onsite discussions is included as an appendix at the end of this document.

The meeting was constructive and produced substantive information. This report summarizes the main points that came out of the listening session. The content was developed from notes taken from each breakout group, comments left on index cards, independent conversations from community members with UF ORT members, and final comments provided at the conclusion of the meeting. Comments were organized into nine major topics (Table 2). At the end of the report, an Appendix contains the raw input that was collected from the program participants at the meeting.

Table 2. Discussion topics based on consolidated input from breakout groups.

- Oysters and condition of the bay
- Water quality
- Bay closure
- Restoration and shelling
- Management
- Regulations
- Workforce development and training
- Enforcement
- Other comments and questions

This report was produced to provide information and insights that possibly can be used by state agencies, local governments, the oyster recovery team, UF/IFAS and Florida Sea Grant extension to help fine-tune monitoring, restoration and community outreach in a manner that is responsive to concerns, and that takes into consideration deep knowledge of the Apalachicola Bay contributed by seafood workers. The long-term goal of this and related work being done by UF and its partners is to help restore the Apalachicola Bay ecosystem to a condition that can be sustainably used through future generations.

The following sections provide a summary of what participants shared during the facilitated sessions. The statements are opinions and perceptions, offered by many based on first-hand experiences. The report is an accounting of these understandings and perceptions, not a report based on scientific data. Further, viewpoints are those expressed by the meeting attendees, and it is not necessarily clear if comments provided and amassed reflect the broader views of oyster harvesters, the oyster industry, or the community.

CONTRIBUTIONS BY DISCUSSION TOPIC

Oysters and Condition of the Bay*.* Discussions on this topic focused on current conditions in the bay, including water quality, changes in oyster productivity and interactions between these variables. General comments echoed that conditions of the bay have been getting worse over time, as evidenced by degraded shell substrate, depleted oyster stocks and reduced harvest.

Several community participants expressed a concern that in the bay no longer allows oysters to grow like they used to. Comments included specific observations and concerns, many of which cannot be substantiated without additional monitoring data. These comments included:

- There is reduced oyster spawning in recent history. This is based on observations of fewer spat on many oyster bars.
- Big oysters are present at the “head of the bay” while there are very few spat and smaller oysters there to support the continued survival of the oyster population into future years.
- Private leases also have been affected, similar to other parts of the bay, with low oyster production and high mortality.
- It was asked ‘are there specific bars that are better spawning grounds for the rest of the bay?’ The locations called Nicks Hole and Hotel Bar, considered important to spat production for the bay based on research by an academic oyster biologist (Livingston) now are highly depleted.
- Over-harvesting now is said to be contributing to the problems of the bay.
- Overharvesting of sub-legal sized oysters versus just harvesting too many oysters is said to be an issue.

- Recent installation of power poles drilled up sand that covered bars, and chemicals added to drilled holes where poles went are thought by some to have had a negative impact on oysters. Removal of old bridge pilings using dynamite also is thought to have had negative impact on oysters.
- Expenses for harvesters are higher than income in many cases.
- There is insufficient knowledge about suitable bay habitat, factors that affect successful spat settlement, and that affects subsequent growth to mature-size oysters.
- Cultch is gone or it is notably degraded in many areas of the bay, particularly the western portion of the bay, i.e., in The Miles.
- There is a need to monitor water flow, salinity, temperature and directional flow dynamics that are important to larval transport and spat settlement.

Water Quality. Many community participants thought that water quality conditions were a "likely culprit" behind many of the problems seen in the bay today. Water quality meant various things to different discussion session participants.

Freshwater flow from the Apalachicola River, which contributes to the bay's estuarine environment, was the key issue. *Estuarine* refers to the mixing of fresh water and salt water to provide a "moderate-salinity" that betters supports oyster health and productivity, and keeps predators, parasites and pathogens that like saltier water out in the Gulf of Mexico instead of in the bay where they can impact oysters. Too little flow and high bay salinity over long periods of time was voiced as the dominant concern. This factor was discussed in the context of a view shared by some participants that: (a) too much water being used upstream; (b) drought conditions have reduced flow; and (c) water management has reduced flow across the multiple dams along the upstream river system.

Also, concerns were expressed about the short freshwater residence time (the amount of time the fresh water remains in the bay system prior to exiting out of east and west passes). Some participants continued to express concerns about an opening to the Gulf called Sikes Cut. Note: this is despite hydrodynamic modeling results indicating that the amount of water moving through this cut is tiny compared to movement in and out of the bay at its east and west ends. Several participants wanted to know more about acceptable, optimal and toxic salinity levels that can affect oyster health and production.

Too much freshwater inflow, as noted by other participants, can carry bacteria into the bay, some of which can be harmful to people (by direct contact with the water or by eating filter-feeding animals like oysters). Too much freshwater flow, associated with periods of high rainfall and upstream surface runoff into the river system draining into the bay, at times leads to temporary oyster harvest closure to protect public health.

The *quality* of water flowing from the upstream drainage basin and Apalachicola River also was a concern. Several participants suggested that lack of nutrients could be a

problem. Lack of nutrients was discussed relative to plankton production that serves as food for oysters. Increased runoff and river flow might bring more nutrients into the system.

Despite the hundreds of samples that have been analyzed and shown to be free of oil or dispersant-related contaminants, there remains among some a view that the oil spill was in part responsible for the collapse of oysters in Apalachicola Bay. Although there has been extensive monitoring for oil spill-related contaminants by UF, other contaminants that are not related to the oil spill have not been monitored. For example, there are concerns about downstream pollution from Gulf Power, particularly heavy metals, and also possible surface runoff from lands immediately surrounding the bay shoreline (as previously noted, these were just points of view and no data were provided). Additional concerns included possible ocean acidification in the bay; a participant asked whether or not changing pH could be hurting oysters. Note: there are pH data readily available, and a first step might be to determine if it has changed.

It was suggested that more monitoring of the bay and incoming river conditions is needed to better understand and manage the overall health of the bay ecosystem. It was asked whether university and/or environmental groups could provide such monitoring assistance. Note: funding sources were not discussed. Participants thought that more monitoring stations for water quality are needed to represent bay-wide conditions, vs. stations only at Dry Bar, one lease site, Cat Point and East Bay.

Bay Closure. There were passionate voices regarding bay closure, both “for” and “against.” The rationale for those who voiced support for closing the bay was based on the depleted nature of the oyster resource, particularly at a historically productive oyster bar, Cat Point – where there is some substrate remaining, and western areas of the bay along The Miles – where much of the substrate is degraded and insufficient for spat settlement. Many participants in breakout groups indicated that “giving the bay a rest” would be essential in order to avoid negative consequences of overharvesting of oysters and rebound from current conditions. This view was underscored by several comments relating to the current limit of five bags of oysters, where because of the scarcity of oysters, that limit no longer has meaning because it is nearly impossible to collect that many full bags. In summary, continued harvesting of oysters from depleted bars was a concern because of the risks of further depletion, killing off remaining spawning stock and a longer time to recovery.

Several community participants, who felt that temporary closure of the bay is critical, also mentioned that oysters take more than a year to grow to harvest size (typically 18-20 months). Hence, they said, closure for anything less than one or two generation times would not be meaningful in regard to restoring the population. Notably, these same participants also voiced anxiety and deep concern for the lack of income they would face – worse than even now.

Many community participants recommended keeping the bay open - *wide open*. The perception of too many boats harvesting in just one area was a great concern to many

who indicated support for leaving the entire bay open to harvest. Observations of a large number of oyster boats at Cat Point, one of the few winter bars that remains open to harvest, was common in weeks prior to the listening session. The extremely low catch per unit effort, coupled with the large number of boats on that one bar, was described as unsettling. As such, keeping the *entire bay open*, so that harvest pressure could be dispersed over a larger area, was mentioned by several watermen as an approach to prevent further depletion of individual bars. Related thoughts included a 9-month harvest season for all oyster bars, except for those that could pose human health concerns associated with river runoff.

It was noted that recent observations at Cat Point indicated the presence of many burrs, i.e., clumps of oysters of various age classes growing together, including young immature oysters. Although the vast majority of oysters within these burrs were not of harvest size, the ability of watermen to access burrs in order to break them up (both by tonging and culling) is helpful in order to produce better single oysters for grow-out in the long run. This was posed as a rationalization for keeping Cat Point open, should other areas be closed.

There also were concerns that closure of the bay would lead to a loss of access to the resource for a possibly long and unknown period of time. Some community participants feared that bay closure could be a prelude to the institution of oyster aquaculture and that such aquaculture would preclude 'working watermen' from participating, given the high costs of startup infrastructure and the need for considerable training. Some of these concerns were said to be based on a lack of trust of the state's resource management agencies and their lack of ability to: (a) 'do what's right' for the bay, or to (b) work with the community in an open and transparent manner.

Restoration and Shelling. Shelling efforts to restore oyster bars focus on replacing missing and degraded substrate and enhancing the stability of the bars. Such efforts have been a long-standing part of the Apalachicola Bay oyster fishery as many seafood workers depend on employment during shelling operations to supplement their income. Comments and discussions regarding shelling efforts primarily focused on: (a) employment opportunities; (b) shelling strategies; and (c) consideration of alternate shelling materials.

Many participants at the session voiced concerns about inequity in the opportunity to engage in (paid) shelling operations. These concerns included the requirement that applicants must have been active oystermen in 2012, and that applicants must pass a drug test. Several participants felt that it was unfair to allow non-local (licensed) persons to participate in shelling programs to the exclusion of local watermen. Many participants felt that only full-time (or licensed oystermen, or those who depend on oystering as a primary source of income ($\geq$80%) should be entitled to apply for shelling jobs. Other participants felt that if you are an oyster harvester you should be eligible to participate in shelling efforts, with or without having to pass a drug test.

Some persons suggested that politics determined in part who got to be part of shelling operations, and also how much shelling could be done with limited resources (dollars and shell material) “by hand” versus by barge. It was noted by participants that shelling by barge offers the benefit of being able to put a larger amount of shell into the bay in a shorter period of time, i.e., it is more economical than “hand shelling” by seafood workers from oyster boats. Even so, most participants were strongly in favor of “hand shelling” and strongly disfavored barge shelling. This is because barge shelling is accomplished by contracting out the job – often to persons outside the community and outside the state, and therefore restoration dollars are flowing outside the community that depends on the local fishery and resource. Further, there was said to be (anecdotal and) real evidence that barge shelling operations are not closely supervised or monitored. The barge and tug operators are not local and the effort for state agencies to provide functional oversight requires a notable effort. This was said to have resulted in barge shelling of areas where there was no existing oyster reef or hard bottom. If indeed that had occurred, it would (according to the participants) have amounted to a waste of effort, dollars and shell material. Last, but not least, barge shelling takes jobs away from seafood workers. It was noted that recent “hand shelling” operations have been closely monitored by seafood workers with leadership training, and have demonstrated that well organized and supervised “hand shelling” can work efficiently and effectively.

Some of the recent efforts that have brought the Florida Department of Agriculture and Consumer Services (FDACS), Florida Fish and Wildlife Conservation Commission (FWC) and Florida Department of Environmental Protection (FDEP) to the table together with the Seafood Management Assistance Resource Recovery Team (SMARRT) and the UF ORT were viewed as a step in the right direction. According to participants, previous monitoring and management efforts do not appear to have been successful – they asked “if they were, would we be in this situation now?” It was suggested that perhaps there would have been some early warning signs of the collapse before it occurred.

The following are additional comments/suggestions from participants, related to restoration and shelling:

- Shelling should be limited to existing, hard-bottom oyster bars, not off the bars or on soft bottom areas.
- The oyster bar known as Cat Point was shelled in areas where there were oysters and a moderate amount of substrate. Participants asked “why was this area shelled?” They suggested that perhaps it was not optimal use of substrate.
- There still were concerns about using fossil shell, or non-shell materials, compared with “natural shell.” Concerns also include the consideration of using lime rock in the bay. Questions included: Can it alter bay chemistry? Is it a good substrate? Has it worked in other oyster fisheries? What is the impact of lime rock as alternate substrate? Is lime rock toxic in some fisheries? What are other states using for supplementing substrate?
- Shelling, it was said, should be done in sufficient quantities to ensure enough substrate to be functional for spat settlement.

- Shelling with the right substrate, in the correct amount, in the right places together with bay closure for several years may be needed.
- Science- and field-based evidence is needed to guide shelling, restoration and monitoring efforts.
- Coordinated efforts by DEP, FDACS, FWC and UF are needed for bay-wide restoration and monitoring.
- Oysterman should be involved in monitoring - they know the bay.
- Monitoring oyster growth is important.
- Rubber-coated galvanized crab traps appear to attract spat.
- Monitoring of water quality in shelled areas is important; need more sensors for continuous monitoring.

Management. Viewpoints related to management of Apalachicola Bay and its oyster resources addressed both short-term and long-term issues. A large number of participants said that state management efforts to support and maintain a healthy oyster fishery in Apalachicola Bay have failed. This conclusion by the participants was based on their perception that other fishery resources in the state have more monitoring and management efforts than Apalachicola Bay, and that there is a lack of meaningful communication between state agency managers, biologists and the community to establish a sense of trust and caring. Many participants said that management decisions are made by persons who know relatively little about the bay, and that agencies historically have cared little about community and seafood worker input. Further, some participants thought that management decisions often are motivated by politics rather than by the biological and ecological needs of the bay.

Participants generally agreed that both short- and long-term management plans are needed for Apalachicola Bay. Those plans, according to participants, should be developed by a team of knowledgeable biologists, watermen and state agency managers. Such a team is viewed as being able to provide needed information, perspectives and transparency. Mapping of natural bars and areas where shelling restoration has been implemented is viewed by participants as needed in order to develop more cohesive management, restoration and monitoring plans.

Multiple comments were shared that related to the need for centralized coordination and management of both the oyster fishery and restoration efforts. Such coordination was viewed by the participants as currently being absent.

There were some additional comments and suggestions related to management considerations:

- The new generation of oystermen knows little about oyster biology and bay ecology.
- Leases may serve as an alternate fishery for some watermen, and a sanctuary if not harvested heavily since they are not open to public harvest.

- Shell material from shucked local oysters (both from oyster houses and retailers) should be put back into Apalachicola Bay. Some persons said that this should be required.
- Acquisition of shell from whole oysters shipped to regional retailers should be brought back and returned into the bay (e.g., Tampa Bay Watch – part of the Visit Florida campaign; and the Bring it Back Program). Other shell recycling programs exist and work.
- Culling of oysters (removal of immature oysters growing on shells of harvest-size oysters) should be conducted at the location where oysters are harvested, not somewhere else in the bay. Further, oysters confiscated from harvesters because of illegal harvest practices should be returned to the oyster bars in the bay – not discarded on land or on soft bottom in the bay.
- A participant asked if relaying of oysters could help to replenish bars after shelling.
- It was suggested that a component of restoration could be “working the bars” to break up burrs. This would help to produce better growing oysters that can contribute to both spawning and increased harvest. The concept of “working the bars” is not to harvest, but to help cultivate the oysters.
- It was stated that Apalachicola needs a hatchery to produce spat (although UF ORT data suggest that the bay is not spat-limited).
- It was stated that rapid cooling of oysters in oyster houses during summer months results in high mortality of product.
- Some oystermen feel that they are still being blamed for the oyster decline due to harvesting sub-legal oysters as well as exceeding bag limits.
- If the bay remains open to harvest, based on current conditions and practices, the bay will “kill itself.” The concept being expressed by this person was that continued high harvesting will drive the oysters over a tipping point where they will not be able to recover.
- Oystermen need to care about the bay now and in the future, and stop making bad decisions such as catching illegal oysters and bad culling practices.
- FWC should send out a newsletter with license renewal like they did before as a means of outreach and communications.
- Oyster biologists and researchers from Florida and the Gulf region have documented a lot about oyster biology and fishery management challenges. How can more of this information be shared to include in Apalachicola Bay management and monitoring decisions?
- The bay today is not the same as the bay ten years ago. Management needs to consider current conditions as a snapshot of the bay today and what it will be tomorrow, as a way forward when developing management plans.

Regulations. There were consistent comments from all break-out groups that checkpoints (places where the product of oystermen is checked to make sure it does not contain small illegal-size product) need to be re-established. Many oystermen felt that the primary accountability for the sale of legal oysters needs to be where oysters arrive at processing facilities. The purpose of checkpoints would be to fairly ensure that oystermen are harvesting legal-size oysters, and that dealers are buying only legal-size oysters. The view of the participants was that both oystermen and dealers need to be accountable.

Participants thought that there needs to be a balance between having enough checkpoints to ensure legal product was being harvested, but not so many that it impedes their work flow. It was noted that the daily 2:00 PM harvest closure time gets in the way of more checkpoints since dealers cannot possess oysters after that time. Regardless, it was stated that FWC officers should man the check stations so that the process cannot be corrupted.

Some suggested that checkpoints could include observations after the point of sale at the oyster houses. Participants said that this would help to relieve the 2:00 PM possession rule, assuming that all bags were labelled with the name and license number of the harvester, so that if there were sub-legal oysters, they could be traced back to the source.

Several comments were shared about the ability of the community to support a greater consistency of legally-harvested oysters. Oystermen may be able to “police” within their own community to some degree. Shuckers in the oyster houses may be a resource to help account for and prevent sub-legal oysters from entering the market. Comments by seafood workers also supported stronger penalties for repeat offenders of illegal oyster harvest or sale. Some participants suggested “three strikes and license is revoked,” while others suggested “zero tolerance.”

Some participants said that the number of oyster harvesting licenses is too high. There are said to be over 1,500 licenses right now, versus approximately 200 people “who really depend on the bay and oystering for their primary income on a day-to-day basis.” Some participants suggested limiting licenses to oystermen who earn at least 80% of their income from oystering. It is notable, however, that some participants also did not like the idea of this same rule being applied to determine who gets paid to help with shelling operations.

Some participants said that the state should consider a *Master Oysterman Program* as part of licensure. Some participants said that the Franklin County Seafood Workers Association and SMARRT should be able to provide input relative to bag limits. Participants said that better communications with state agencies is needed regarding regulations. Some suggested bringing back a bag tax to support enforcement of regulations.

It was suggested that there be an increased opportunity for “hand shelling” in the planned restoration programs. There was discussion about the number of persons who could do hand shelling and the amount of shelling (time) that could be worked. Some participants said that persons with smaller boats (<20 feet) were discriminated against in past shelling operations.

Workforce Development and Training. This dialogue had multiple focus points including: needed job and leadership training, employment opportunities associated with shelling programs, and employment opportunities during restoration in the case of potential bay closure. Although there was general interest in training for supplemental or new employment opportunities, the primary discussion focused on the lack of employment opportunities associated with depleted oyster resources (and harvest). Concerns were shared among oyster harvesters and dealers alike. It was said that some 5-10% of Apalachicola Bay seafood workers have already left their jobs and/or the region.

In the past, job training opportunities have been provided in the region. Vocational opportunities, e.g., engine repair, welding, nursing, etc., are considered to be very important since there is the potential for longer-term employment in these fields. Some participants felt that certain training opportunities in the past were not available to the community-at-large (i.e., seafood workers not licensed in 2012 were not eligible; and non-seafood workers were not eligible).

Opportunities for existing community leaders to contribute to training programs is viewed as helpful, both for the expertise as well as to strengthen working relationships. This concept could include law enforcement, management agencies, SMARRT and UF, and could be extended to further provide improved management training associated with harvest, culling and licensure.

Vocational training and education is viewed as particularly important for older and younger members of the community. Older fishermen may be resistant to retraining in something that takes them away from their boat and the water, however targeted and focused education is viewed as something that may help make sense of other opportunities. It was noted that “there are lots of younger folks – seafood workers and non-seafood workers – who would likely benefit the most from vocational training.” They represent a longer-term viewpoint that spans past the current generation. Perhaps the Corps Network and ROTC programs can involve more of the younger generation and expose them to opportunities other than oystering.

Education and outreach initiatives were viewed as being needed to highlight training and job opportunities, as well as encouragement to participate in programs. Such outreach can address the subliminal consensus on “the bay holding back economic opportunity” since many residents would not “choose regular jobs” as long as they can harvest oysters.

Aquaculture is something that many participants want to know more about. There were many concerns about aquaculture training and application in Apalachicola Bay, however. These concerns included the perceived high start-up costs for watermen (it was said that it is unrealistic to think that oystermen could get $50K+ loans), selective leasing, and insecurity about whether or not the product will be high quality. A participant asked whether or not a cultured oyster product might negatively affect the Apalachicola brand.

Many seafood workers felt like they are work-capable and willing to engage in vocational training. They felt that there is an existing workforce in the region, but no jobs to take advantage of their existing or potential new skills. It was asked if the state or Federal government could take better advantage of this workforce with new opportunities.

Enforcement. This topic was brought up in all discussion groups. Enforcement was discussed in relation to the regulation of oyster harvests, as well as providing needed, consistent oversight to support the industry.

Chief concerns included the harvest of sub-legal size (undersize) oysters, both as unculled product and single oysters. These concerns included the harvest and bagging of small oysters on the water, as well as the acceptance/sale of oysters at the oyster houses. Participants believed that better enforcement of regulations is needed both on the water and at the dealer's point of purchase. They said that enforcement officers should be able to check coolers at dealers and in trucks *en route* to dealer's docks.

Of further concern was the inclusion of "trash" in bagged harvest product. Trash consists of unculled burrs, undersized oysters and non-oyster material that has weight and takes up space in the bag. Inclusion of undersized oysters, both mature males and immature specimens, affects future harvest potential based on (a) lack of individuals to grow to harvest size in the next season, and (b) reduced spawning potential. Associated with poor harvest procedures is the culling of tonged material in areas other than the bar of origin. This would include, for example, accumulating large amounts of tonged material from a bar on the culling board and then going elsewhere (such as under a bridge for shelter/relief from heat) to do the culling. All of the culled material and shell is therefore no longer on the bar to provide reef stability and substrate for spat settlement.

Additional discussion points included the need for more enforcement officers both on the water and at the oyster houses. Some individuals reported that there is a remarkable lack of enforcement during hunting season (because, participants say, officers are more engaged with hunter checkpoints and there are not enough personnel to be on the water too). Consistency and fairness in the manner that enforcement officers interact with watermen is viewed by the participants as highly important. It was suggested that SMARRT can work with enforcement officers (and vice versa) to foster more optimal and consistent interactions.

Other Comments and Questions from the Participants.

- Not all watermen are “squeaky wheels” who cause problems for the fishery. Respect is important for the industry, and it is important to recognize and foster self-perpetuation within the community. Related is the concept of watermen as part of the community-at-large to enhance situational understanding and the ability to lobby more effectively with a more unified voice.
- Are there more regional events that can engage and support seafood workers?
- Care needs to be taken whenever anything can impact the Apalachicola brand for oysters harvested from Apalachicola Bay.
- The collective experience of the regional fishing community may be better used to support more efficient and sustained restoration efforts and improved future management for the bay. These concepts included possibly reinitiating an Oysterman Cooperative, engaging experienced watermen in implementing the training process associated with licensure and shelling, and providing additional input and support for SMARRT and University of Florida research and monitoring efforts.
- It was said that ‘the failed path of litigation has done nothing for the bay or the community in over 20 years.’
- It was said that ‘politicians seem to now care more about bay than ever before.’
- Some participants had concern and anxiety that future development will replace the bay’s fisheries if the bay does not re-open, or if parts of the bay are permanently closed. Those participants want to make sure that does not happen.
- It was said that a cash and barter economy leads to problems when work and income documentation is needed.
- It was suggested to build advocacy and political will. If oystermen do not appear unified, political support is less likely to be available to help the community and bay issues.
- Community organizations can help through fundraising for the bay and by training and empowering oyster fishers to become politically aware and empowered.
- There is no motivation among community members to obtain an education because it is so easy just "get a license." There needs to be motivation to obtain an education.
- Oyster fishers should work with other seafood groups across the Gulf states to address common issues. Working with other Gulf oyster fisheries and academics to solve issue will help support knowledge base and may provide options.

TAKE-HOME MESSAGES

There were mixed views from community participants on major issues such as whether or not to close the bay, and there were different perspectives on factors that contribute to poor oyster production in Apalachicola Bay. Common themes that emerged included: (1) the need for enhanced and consistent enforcement of regulations regarding the harvesting of legal-size oysters; (2) a need for changes in the manner in which regulation occurs, e.g., the reinstatement of check stations, as long as they do not interfere with getting product to dealers in a timely manner; (3) training opportunities for displaced workers; (4) increased collaboration among the state agencies and between the state agencies and the oyster industry; and (5) increased transparency in how decisions are made regarding management of the resource. Participants overwhelmingly want things done differently than in the past, because they view past management actions as having been ineffective. They expressed a desire to be actively involved in bay restoration and monitoring, and in having input into a transparent management plan that ensures a sustainable resource for future generations.

APPENDIX

Raw output from flip charts, index cards and direct discussions, Apalachicola Community Listening Session, October 1, 2014.

- The bay needs rest and many agreed that bay should be closed - mentioned that it had worked for them in the past and last time bay was closed, Oysters came back beautifully
- 1-1.5 years needed for closure but open earlier if sampling good
- Lack of trust in government, once closed may not open and concerned if not re-opened, it will go to development
- Leave the bay open - the majority of the oystermen in this group felt that the bay needed to be closed in order to be fully restored. There was only one that disagreed
- Close bay for rest period
- Shut cat point/open the rest - there was a great deal of talk regarding how it was determined what to open and what to close. May stated that Cat Point needed to be closed, but the rest of the areas needed to be opened. Several Oystermen were curios on how they determined which areas to open and close
- Close Sike's cut
- Open whole bay - let bars have a break, people will move bar to bar
- Close the bay
- If they had $ to pay bills and live on, they would support Bay closing until it is revived. They want to stay here.
- The bay needs to be closed in order to come back
- If we don't do something - there is not going to be oysters to spawn
- The bay needs to rest
- Open entire bay for 9 months close only when water quality problem
- Depends on management - close or not (agencies do not talk to workers to make closure/open decisions)
- Fear of leaving it closed and never open again
- Aquaculture concern - will result in no more wild oyster product
- Feels/concern there has been a long-term plan to permanently close bay for a while
- How many who are oystermen think the bay should be closed? Hand vote: 4 yes 1 no. No vote pointed out that UF report concluded overharvesting not the issue
- If not closed it will be gone, maybe in a year - "Abuse has caught up with us"
- Agreement on critical condition of the bay (50 sacks to hardly nothing)
- Closure - facing too many boats in one area
- Depleting what's left
- Closure until? Not several years
- From river channel to Ind. pass shell base gone
- Big oysters at head of the bay. Grows quicker there.
- Cat Point is depleted
- Bag limit (5 each) not the problem, catching the bag limit is

- 4-7 bags a day at the miles
- The private leases are dying off too
- What do we know about bay? Bad habitat - low larvae, etc.
- Sonar - monitor direction of activity as in Chesapeake Bay (direction of water flows (fresh and salt) that could carry larvae or spat to breeding areas)
- Very few oysters spawning on bars
- Not enough oysters - expenses higher than income (for harvesters)
- Mapping (of natural bars and where shelling is completed)
- Conditions in bay don't allow oysters to grow
- Years ago, Skip Livingston said Nicks Hole and Hotel where breeding grounds - both have been damaged. Sequence of negative events has affected the bay.
- Everything in the bay needs something to eat - feels lack of nutrients from river flow and septic systems makes the bay too sterile
- Getting worse every year
- Was over-harvesting a cause for current condition?
- Illegal harvesting hurts everyone
- Should be able to check coolers at dealers and trucks - it was stated enforcement needed to happen from boat to truck and from truck to dealer dock
- Better training for FWC off. regarding resources - again, potential partnership with SMARRT to obtain this training
- Concern w/culling under bridge in shade/not where caught!
- More enforcement of law
- Big fines for silly regs., i.e., no ink pen? Focus on real issues for enforcement
- Too many people bringing in undersized and the house is buying them
- Have to have enforcement
- Marine patrol ineffective during hunting season, diverted from the bay.
- Enforcement comes up repeatedly
- Get rid of "trash" catchers. oyster bars will not come back until you stop this
- Dealers stop buying illegal oysters
- There are no more legal oysters. Can’t harvest enough to pay for fuel. If that applies to everyone, how are others still harvesting? Undersize is the only way
- More people needed for law enforcement
- Better regulation and enforcement - both dealers and fishermen
- Enforce current laws, consistency
- Over regulation of harvesting, pushing commercial harvesters out
- Should be no tolerance of undersized oysters
- there is no motivation among community member to obtain an education because it is so easy just to go "get a license" - there needs to be a motivation to go and obtain an education
- Fear of development replacing industry if the bay does not re-open or if parts of the Bay are permanently closed - want to make sure that does not happen

- Zoning right now restricts level, long-term management plan components
- Oyster fishers should work with other seafood groups across the Gulf states to address common issues. Working with other Gulf states to solve issue
- Politicians seem to now care more about bay than ever before
- Some type of limited entry may be needed and should be included in a management plan
- Needs to be stronger regulation regarding oyster license - have to go through training to receive license and the number of license should be taken into consideration based upon the health of the bay, which areas are open, etc. There needs to be a qualifying program in order to oyster in the Bay such as: 80% of their yearly income must come from oystering
- When the bay comes back, there needs to be a 10 bag limit
- Tye - tye vines - done in past - catch spawn
- Vats w/shells - add larvae (hatchery)
- Don't need any more workers under current conditions (moratorium on license issuance was intent)
- Comprehensive management plan (need)
- Re-acquiring shells shipped to other places (visit Florida campaign)
- Our own hatchery
- Leases - should have been planted a long time ago to fall back on
- When oysters taken out of bay take shells back to bay
- Local shells are not kept here
- Work together - coordinate effort - all info should go to one place - (A council?)
- Meet together and talk, state agencies need to work together, states responsibility - agencies do not communicate with each other
- State cares about other resources in FL (more so than Apalachicola Bay)
- There will be no future without good management plan
- New generation oystermen think oysters grow out of ground and don't need spat/spawn
- Takes longer than year to grow legal oyster
- Who makes decisions? Close bay or not, shelling program, how - another sign of lack of education and communication to harvesters
- Decisions are made by people that don't know or work in the bay
- Oysterman need to care about the bay now and in the future - stop making bad decisions such as catching illegal oysters and bad culling practices
- Replicate those who are doing it right
- Current practice – the bay will kill itself
- Need more bottom open, reduced pressure in small area
- Bad to relay from coon bars
- Breaking up burrs to allow oyster to develop management technique
- Cat Point full of burrs. Keep open to cultivate through burrs - bar has to be cultivated
- The bay has to be cultivated. Oysters need to be broken from clumps so the can grow pretty

- Return shells guides to bars, local oysters only. (Winter) from shucking oysters/houses.
- Cheap local substrate: recycled rubber, coarse tire shreds, etc?
- Relay to replenish - shell, relay oysters on top of shell
- Putting back little oysters/shell. As long as oysters are shipped (and not shucked here), we are exporting the shells out of the bay. Oyster houses should be required to return shells back to the bay
- Respect is important for the industry
- Fishermen doubling up to save on gas
- Anything is better than what we are doing now
- Everyone stand w/ oystermen march on capital if needed to get state involved locally
- Events to support oystermen
- Apalachicola oysters have their own brand quality gets bad response
- No condos due to height limit, will not be a Destin - need oystering
- New power poles - drilled up sand that covered bars and they added a chemical to drilled holes where poles went in - negative event
- Removal of old bridge pilings - dynamited out, causing another negative event
- Expenses high - not making enough $ now under current conditions (for harvesters)
- Funding from whom?
- Research should include generational fisherman. When did it start?
- Ed Cake, Oyster biologist in MS has documented the importance of timing in oyster aquaculture and the difficulties of planting oysters. Are the different aquaculture researchers in the Gulf sharing information?
- Cash and barter economy leads to problems when you are forced to document work and income. What are alternatives?
- Build advocacy/political will. As long as oystermen fighting amongst themselves, politicians don't have to listen
- State investment vs Fed. investment
- Fish and Wildlife should send out newsletter with license renewal like they did before
- Community organizations can help through fundraising for the bay and by training the oyster fishers on how to become politically empowered
- The bay needs to be declared a Federal Disaster Area so that more funding opportunities can be accessed
- Proposals to lease oyster beds will not work, there is not enough to lease, typical oystermen will be shut out because it will be too expensive
- The Harbor Branch oyster demonstration project (that some of these men participated in) was a waste of time and money
- The failed path of litigation has gotten nothing in over 20 years
- Regional oyster decline/collapse. Federal disaster and assistance
- Oysterman should be involved in monitoring - they know the bay
- Monitoring growth. Is it important? Yes. Plant wire/screen (galvanized) rubber coating on crab traps. Attracts spat.
- Monitor areas where shells are put, use sensors

- Long-term monitoring
- State should evaluate health of bars. AFTER CLOSURE - State should be the entity to evaluate when to reopen.
- Oyster Assoc. evaluate health of bars AFTER CLOSURE - Oystermen Association should be entity to evaluate when to reopen
- Dispersant issue - several mentioned that she shells put out before DWH in 2010 are now gone and they believe that the dispersant "ate" the shells; in addition, there was discussion that the dispersant is to blame for several bird and fish species that they no longer see
- BP disbursements - one of the negative events
- Oil - dispersant is a concern
- Dealers paying for undersized - if they won't buy, they won't harvest them - The enforcement truly hast to come at the dealer level
- Reduce fraud when money comes in
- Stronger penalty for breaking rule - 3 strikes rule and done - if they receive 3 tickets in one year, their license is revoked & they will have to re-apply a year later : also discussion over stricter penalties
- Check stations - would like to see Check Stations come back and think that the dealers should be the main thrust of the enforcement
- Concern over time involved w/checking
- Check records/trucks, etc rather than boats for undersized/+ trash -stated that enforcement needed to check for trash. Stated that the "crooks" were good at hiding the trash under the good oysters
- Centralize regulation too many "cooks" - there was one comment that there was regulation coming from many different agencies/organizations that one group needed to be in charge of regulating this industry to help cut down on confusion. There needed to be more communication among the agencies to simplify regulation and avoid overlap or conflicts
- Oystermen can "police" their own ranks
- Put checkpoints back in - open the bay - regulations need to be reviewed taking current situations into account
- Bring back the checkpoints. Have to have them at the oyster houses - have to have enough checkpoints to allow for time
- Have to develop a process to make it efficient and meet 2pm cutoff. Bag tax to increase personnel for marine patrol
- Drop and label bags, check while cooling; 3 strikes, you're out; zero tolerance; currently 25% allowed w/out ticket; undersized
- Favor of pulling license if multiple times caught with undersized oysters; officer discretion
- Confiscated oysters must be put back where they were caught (at least put back on bars to replenish substrate)
- If you don't earn 80% of income from oystering, no license
- Bag tax to increase support
- Checkpoints have to be out of dealer. Buyer $.
- Seller should be held accountable

- Revenue through bag tax. Increase coverage of marine patrol
- Re-establish check stations in the bay
- Open check stations (re-establish them)
- Check stations (repeat)
- Marine patrol back in oyster houses not just check boats
- Check stations needed (repeat)
- Years ago 9 months season not year around like now
- Shuckers helped to monitor product
- Limited licensure - the thought here was to only allow "full-time" harvesters work the bay until it improves, limiting to those that have other full time employment
- Inconsistent limits for oystering, some areas legal some not
- Lose of certain license since not used - past actions will happen/affect future (crabbing) - when you call to discuss shuckers, I will explain details on this, Betty
- Open the entire bay for nine months and close for three
- Check stations
- Better management and checkpoints at every step to ensure legal oysters
- Focus inspections at oyster houses. Unfair to target oystermen only (individuals feel they are singled out constantly) when wholesalers will purchase undersized oysters.
- FWC officers man the check stations- not just someone who can be bribed. All agencies, local, state and federal must be accountable. No one gets fired for not doing their job.
- Follow trails (trip tickets and harvest records) in order to evaluate how shelling has worked, whether lime rock is beneficial or not.
- Dealers held accountable; not the whole problem
- Increase # of shelling opps. (regulations) - (revisions)
- 20 foot boat regulation hurts those with smaller boat
- Oysters return - if everything is improved/regulations. Who is responsible for this held accountable, - FWC enforcement - state not trusted
- Rules, checkpoints - back, time 2:00 is issue - possession
- FWC back in dealer's coolers - allow oysters time to grow - size
- Harvest should be monitored
- Bag limit when bay reopens - 5? per card holder - yes, they said 5 bags was a good number until the bay comes back
- 1875 cardholders vs people who depend on the bay - 1875 cardholders v. 200 who really depend on bay
- Let association determine limits
- Restricted species license
- Size enforcement - Put officer in packing house, be consistent
- Some burden should be on dealers, they need to stop buy undersized oysters.
- More inclusive shelling ops. Through workforce - they think the 2012 requirement is unfair
- All oystermen should be able to participate in shelling - disagree with mandate that they had to be oystering in 2012

- Shelling $$ should go to people who live in community
- Eligibility exception request - incapacity in 2012; aug for a while pastoring and now wants to get back to the bay
- Shelling programs ($ is going to barge shelling taking from workers)
- Oysterman Coop - Control activities/$
- Some think Coop will not work here - (seafood workers) won't stick together
- Shelling by oystermen works better
- Drug test, population addiction problems. Recognized locally, why not by regulators?
- Limited number selected to do shelling (200). Some who weren't interested last year now can't get on the list. Original phone list did not yield participants- couldn't make contact this year when there were openings.
- Issue that arise out of selection process, seems to be unfair? competition with barge shelling, political pull
- Prove you are an oystering/fisherman
- Those who have regular jobs should not be engaged in shelling, only those who make at least 80% of their income from oystering
- Shelling imp. to restoration- But the type of shell is a concern - whole bay needs to be re-shelled but with the right shells
- Oystermen (experienced) should be grandfathered in for training - but that ALL new oystermen were required to take training
- Exper. oystermen should be involved in training
- Shell in large quantity
- Shell and plant on bars (natural)
- Shelling is positive - oysters growing
- Oystermen need to know where to put shells
- Using natural/local shells is important (versus fossil shell or other non-shell materials)
- Experiment for best shelling (need to use science to determine)
- Cat Point was shelled - should not have been - there were oysters there and new growth and they put shells on top of shells
- Shelling plan needed
- Look into lime rock - Is it toxic to fisheries. Seem to be correlations every time it is used.
- Year around shelling program= shelling has been too limited, too many burdensome rules and regulations- why is that necessary? If you have oystered, you should qualify. Do farmers have to take a drug test to get support?
- Study the impact of fossil shells and reshelling. Oyster shells - research, return to the bay
- Lime rock?
- Lime water killing seafood?
- Reasons it is being used?
- Look at other states
- Barge shelling is not working, feel that it is political who gets contracts and it's not as effective has boat shelling

- Reshelling jobs. Paper work to do shelling, is it too difficult to complete?
- Shell right places together with the bay closure for several years
- Too much water allows bacterial growth
- Sykes cut - fresh water flow - goes right out that cut
- Water quality and quantity - affecting oyster production
- Close Sike's Cut
- More water from GA
- Close Sikes Cut
- Lack of water/drought - negative event
- Check into an opening/closing process for Sike’s cut - like a gate
- If the UF report says overharvesting not an issue, why blame the oystermen? Are there other toxins from upstream that are causing collapse of all fisheries?
- Fresh water from GA still an issue. Why don't they open the dams and provide us with water?
- River flow - content
- Something in water, bay doesn't grow things like it used to, nutrients a problem …
- Monitor river - environmental groups could help by providing information about the problems in the bay
- Ocean acidification changing of PH level
- We can't change geography; thus, river and bay is downstream
- Freshwater flows are currently dictated upstream
- Freshwater flows dictate the range of salinity in the bay (measurable at USGA Jaeger)
- There is an acceptable, an optimum, and a toxic salinity level for oysters in the bay
- Fund/monitor/enforce optimum level flows
- Pollutants from Gulf power
- Education Ops. important, small engine rep., nursing, welding - these opportunities need to open to all oystermen and not just those that meet the 2012 criteria -
- Job training / vocational also helps non-oystering people without skills - this is true for the enforcement agencies as well as folks that are new oystering- the idea was suggested that perhaps SMARRT could play a role in training/education - especially for the enforcement agencies
- Stronger ROTC effort to involve youth that need help - there was discussion of exposing youth to other opportunities besides oystering - ROTC was one avenue to show them of other options
- Involvement of local organizations in educational efforts - Involvement in SMARRT in oystering training and education pieces
- Funding to sustain workers/dealers while the bay is closed
- Re-training opportunities out there but not used - Education initiatives to highlight what is available and encourage participation in programs.
- When they put in applications never called, certain people get jobs - Talking about both shelling and Career Source OJT opportunities.
- State investment $ - into long-range rehab and management of the bay.

- Past training was not appropriate for jobs in area
- Government find jobs - we can do them!
- Need jobs in area - state responsibility
- Area has a workforce but no jobs here
- 5-10% have quit (seafood workers)
- Extensive outreach educate harvesters, dealers tourist
- Opportunities for the next generation?
- What will fishermen do during the closing
- Compensation for qualified fishermen
- Treat fishermen just like farmers; benefits - compensation, subsides
- Question about closing the bay and local programs to assist in retraining programs (FCPC); better jobs w/training, state funding
- Jobs? What type of jobs would they produce? Realize that older fishermen are not going to get retrained in something that takes them away from the boat. Has to be related to working on the water.
- Past programs are not/have not working, limited to short-term, limited to the kinds of jobs available locally, not the career you may want but don't have a choice with program
- Oyster farming possible? Lot of doubts about the effectiveness, the markets, see it as an inferior product. Have seen researchers do it successfully on leases.
- Viable product? Not like wild oysters (bay), price/selling issues, resources/cost/shipping, hatchery to produce spat, shells needed. Will dealers purchase them?
- University research (all states), growing oysters, LSU - UF - others. Research been ongoing for 30 years- what has been the result?
- Alternative technology to produce new jobs
- Oyster farming start-up cost to high ($50,000)? Unrealistic to think oystermen could get a start up loan.
- Utilize fisherman skills to do other jobs
- The bay holds back economic opportunity - people don't want regular jobs as long as they can oyster
- Self employment us a job
- Life change, consensus that people will return to oystering when bay is good
- The area needs ANY type of economic opportunities
- Barge shelling is not monitored. Substrate is not put down where it is supposed to be put (on existing hard bottom).
- Good spat set seen in The Miles and Hagens, but high mortality (up to 70% recently)
- Why no shelling on Dry Bar?

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