

**OYSTER ECOSYSTEM-BASED FISHERY MANAGEMENT PLAN (O-EBFM)  
FOR THE PENSACOLA BAY SYSTEM (PBS)**

**PBS WATERMEN WORKSHOP #2 SUMMARY**

**DECEMBER 8, 2020**

**HOSTS: THE NATURE CONSERVANCY, SANTA ROSA COUNTY IFAS/SEA GRANT**

**FACILITATORS: FACILITATED SOLUTIONS, LLC**

**IN-PERSON AND ONLINE MEETING**

*Convened by:*



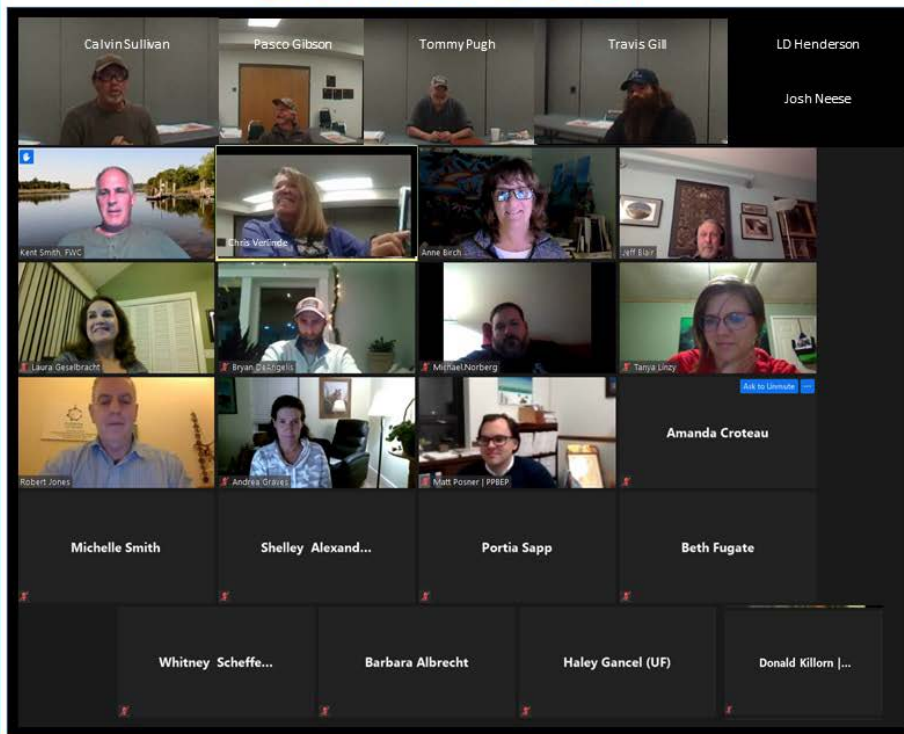
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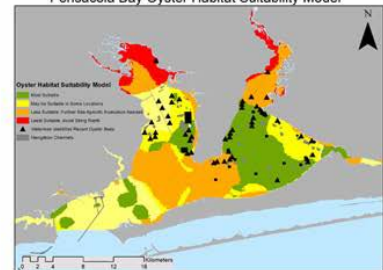
<http://facilitatedsolutions.org>

**THANK YOU!**



**Pensacola Bay System  
Oyster EBFM Plan  
Watermen Workshop #2  
December 8, 2020**

Pensacola Bay Oyster Habitat Suitability Model



**Watermen's Vision for the  
Pensacola Oyster Fishery  
Artist: Sheppard, circa 1964**



# **PBS WATERMEN WORKSHOP #2 SUMMARY**

**December 8, 2020**

## *Table of Contents*

<b>WORKSHOP SUMMARY</b>	<b>2</b>
<b>WELCOME AND AGENDA REVIEW</b>	<b>2</b>
<b>REVIEW OF THE RESULTS OF THE WATERMEN WORKSHOP #1, JUNE 2020</b>	<b>2</b>
<b>WATERMEN FEEDBACK ON KEY QUESTIONS REGARDING THE OYSTER FISHERY</b>	<b>2</b>
<b>A. UNDERSTANDING THE PAST</b>	<b>3</b>
Harvest Strategies and Ideas	3
Habitat Strategies	7
<b>B. A VISION FOR THE FUTURE OF THE FISHERY</b>	<b>8</b>
<b>C. TAPPING THE WATERMEN’S EXPERTISE TO RECOVER THE OYSTER FISHERY</b>	<b>10</b>
<b>NEXT STEPS</b>	<b>11</b>
<b>APPENDICES</b>	
Appendix #1 Workshop Agenda	12
Appendix #2 Workshop Participants, Working Group Members, TNC Team, Facilitators	13
Appendix #3 Workshop Zoom Chat Notes	15
Appendix #4 Working Group Schedule and Workplan	16
Appendix #5 Project Summary and Statement of Purpose	18

**OYSTER ECOSYSTEM-BASED FISHERY MANAGEMENT PLAN (O-EBFM)  
FOR THE PENSACOLA BAY SYSTEM (PBS)  
PBS STAKEHOLDER WORKING GROUP**

**WATERMEN WORKSHOP #2 SUMMARY**

December 8, 2020

**INTRODUCTIONS AND AGENDA REVIEW**

Anne Birch, Florida Marine Program Manager, The Nature Conservancy, welcomed the workshop participants to the online Zoom and in-person workshop and thanked Chris Verlinde for her continuing efforts to engage watermen in the PBS O-EBFM process. Anne welcomed Donald Killorn as the new Executive Director for the Pensacola and Perdido Bays Estuary Program and introduced the PBS facilitation team of Jeff Blair and Bob Jones with Facilitated Solutions LLC. Jeff welcomed the workshop participants and briefly reviewed the workshop objectives and agenda, which participants agreed to follow. There were 26 people in attendance of which 6 were watermen. See Appendix 2 for the full list of working group members and those in attendance.

**JUNE 2020 WATERMEN WORKSHOP #1 RESULTS**

Jeff reviewed how the June 4, 2020 Workshop #1 input was received and reviewed by the Working Group at its next meeting following the Workshop. Underscoring the value of the input, Jeff reviewed how issues raised had been addressed and incorporated into the plan's draft strategies and actions. Based on the input from the June Workshop, strategies were added addressing areas such as:

- Bringing shell back into the Pensacola Bay System;
- Consideration of an oyster relay program strategy;
- Continuing review of different management scenarios;
- Cooperating with FWC on issues of enforcement;
- Considering how the reef structure can best attract spat;
- Ideas on what kind of cultch should be used for restoration;
- Reviewing harvest gear; and
- Including a mentoring education program for the next generation of young people.

**WATERMEN FEEDBACK ON KEY QUESTIONS REGARDING THE OYSTER FISHERY**

The facilitator noted the Working Group and TNC Team wanted to hear from the watermen on their feedback on key questions regarding understanding the past and a vision for the future. He indicated the Working Group's last three meetings to finalize the plan would take place between January-March

2021. TNC and the Working Group will continue to solicit watermen's knowledge regarding the plan's strategies and actions for restoration and recovery of the system. Figure 1 is the Habitat Suitability Model map created by TNC that the watermen used during the workshop as they provided comments. Figure 2 is the same map with notations of locations made by the watermen as referenced in the comments sections in this document.

The video and audio recordings of this workshop can be downloaded from a Box folder administered by TNC at the following links: Video recording: <https://tnc.box.com/s/cf4q6jj2nlqi3dvvu1v7s6wvuj7ujkslp>  
Audio only recording: <https://tnc.box.com/s/vebqv2qmef3ipbwzjvsslx5jr32ohpi9>

## **A. UNDERSTANDING THE PAST**

### **1. Harvest**

The facilitator reviewed the following questions regarding harvest with the workshop participants:

- 1. How many harvesters were supported during the "height" of oyster harvesting?*
- 2. On average, how many bushels/pounds of oysters were harvested/year/season over the last 10-15 years?*
- 3. Have oystermen typically been supported solely by harvesting or did they have other sources of income?*
- 4. Did harvesting occur across the bay or were there certain key harvest grounds, and, if so, where were/are they?*
- 5. Are you aware of any intertidal areas for oysters that you haven't already pointed out to us? How about in the Escambia Bay area?*

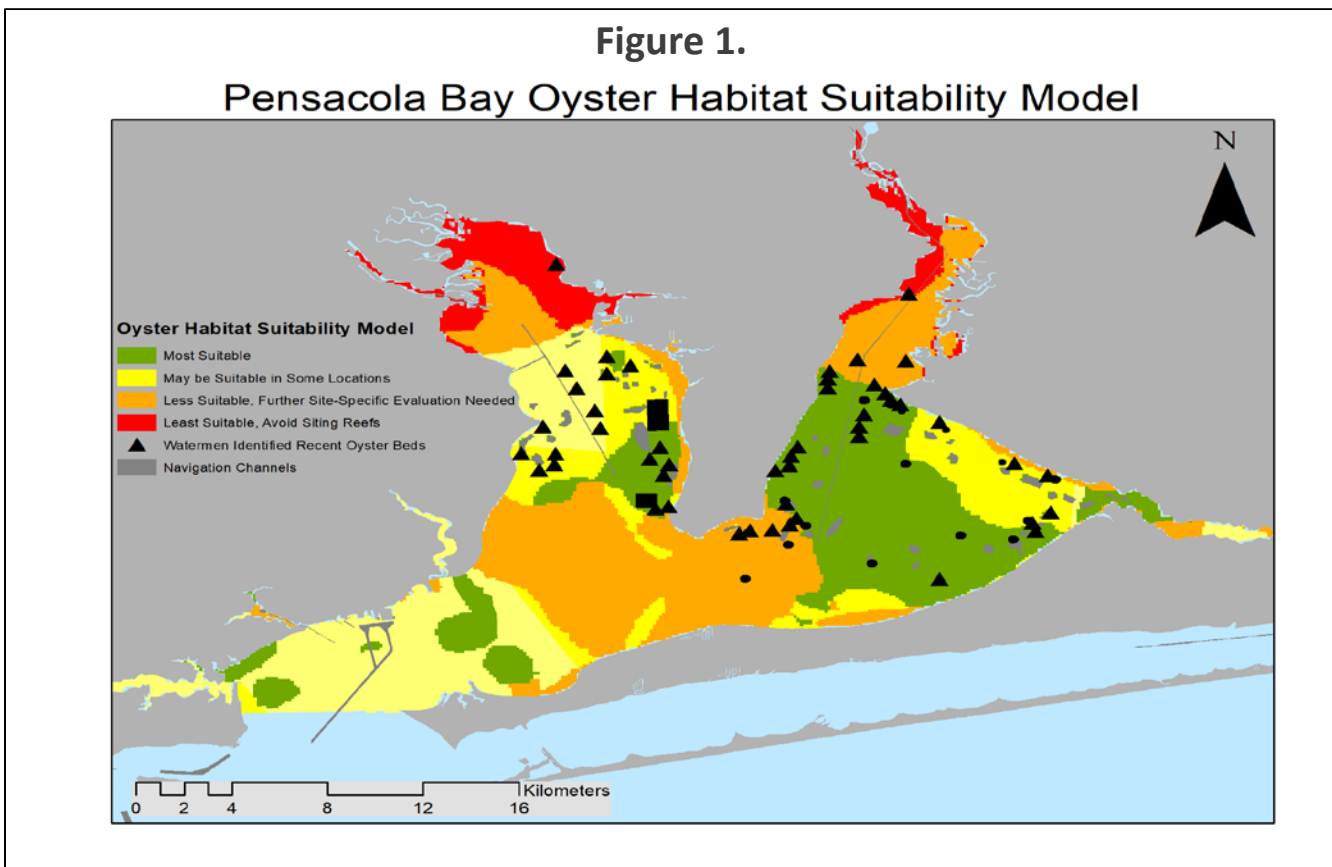
#### *Workshop Comments*

#### **Oyster fishery supporting oystermen**

- Pasco said that back when he was a teenager in the early 1970's he remembers about 20-25 boats a day in Escambia Bay along the east shore north of Garcon Point when he went out with his grandfather. Not sure if that was the height of harvesting. When he was a kid most of the oysters were going to Phil Rollo's on Hwy 90. Pete Nichols still has his lease but isn't harvesting anything off of it and never has produced much because of the mud bottom.
- Blackwater Bay was the same way. In the mid-60's and 70s he would see 100 bags/day harvested.
- In the mid-1990s, as a dealer he worked with 8-12 different oystermen and would take in an average of 100+ sacks (50-pound bags) a day, from Escambia Bay and East Bay (areas 0222 and 0232) depending on weather.
- Chris Verlinde chat message: Pete Nichols said yesterday that in the '60s there would be about 75 boats in Escambia and about half that in East Bay.
- Barbara Albrecht chat message: The 'Old Timers' from the BFA said that there used to be upwards of 40 crabbers, mullet fishermen and oystermen that would fish the upper bays

(Escambia & East Bay) before the 1970s. By 1995, Hurricanes Erin & Opal took out all of the crabbers, oysters - many were up along the causeway of Hwy 90.

- Chris Verlinde said that in 2006-2007 her son worked with oystermen for Pete Nichols and were bringing in 600-800 pounds a day in the bays in the Springtime.
- When they were young, they would be in an inner tube off Garcon Point and dig up 2-3 bushels in a little while. This was in our lifetime. Now it's hard to find a dozen.
- All the triangles we have on the oyster beds map were good for oyster fishing.

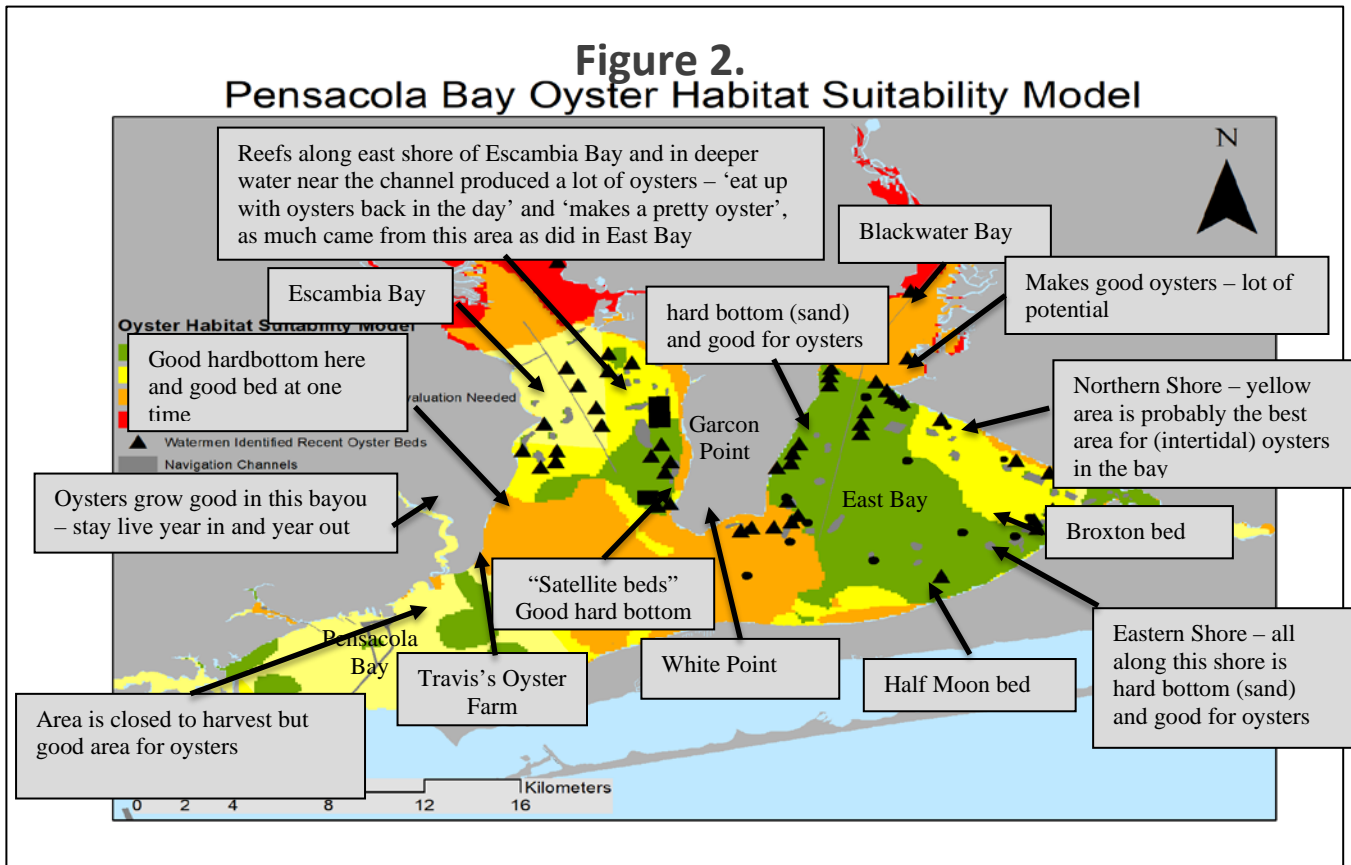


- As winter progressed, East Bay would get better and better.
- One guy worked the “square” every day. (On map as a large rectangle on east side of Escambia Bay). It was good for approximately 20 sacks a day.
- Southern Bed in East Bay (bottom triangle in bay) was completely washed up on the beach by Hurricane Ivan (2004).
- Oystering has always been a winter thing in PBS. Oysters would get fat starting the first of the year. By spring it was prime season.

**Productive historic oyster sites**

- The west side of Garcon Point in Escambia Bay was productive for oysters as was White Point north of Garcon Bridge, and Half Moon bed (~11 acres) and Broxton bed (4-5 acres) on the southernmost shore.

- A good spot for restoration is where there is now a living shoreline at the southern end of Garcon Point that grows oysters that can't be tonged.
- East Bay in the north has a lot of potential as you can currently get some oysters there.
- There about 200 acres hard bottom (defined as not mud) in East Bay near the Blackwater River that is good for oyster restoration.
- There are another approximately 150 acres of hard bottom in Escambia Bay.
- Yellow map area in East Bay is probably one of the best areas for oysters in both bays.



### Oyster growth

- Oysters in Pensacola Bay are always closed in summer. “It’s been a winter thing.”
- By January, they are getting fat and by Springtime they are prime for a good yield.
- These areas make spat in the spring, but they die by late summer. We don’t know why they die. Possibly due to lots of fresh water this year from tropical systems.
- Wild spat- there is a good flow of spat in the bay.
- How big is the spat before they start dying? ½ dollar size. 10 to 15% kill of these oysters along east shore of East Bay.
- The BP oil spill (2010) is when it hit rock bottom. The oysters were poached to next to nothing due to emergency opening for 3 months into after June when the bays are usually closed. There

was no law enforcement present. Others from outside the community came in with dredges, which destroyed the oyster beds and was the 'death blow' to the oysters. There was an emergency opening in May and June (following the spill).

- First few years after the BP spill cultching occurred but not many oyster spat were produced. Mussels came in and settled on the cultch.
- Taking forever for oysters to grow since BP spill.
- BP restoration- 57 Gravel spats (wild spat, not aquaculture spat). This material cultches well. Beds need to be propagated. However there has been a lack of proper harvesting. Can get 25 one-inch oysters in a grab but they do not grow out to the full potential and don't know why. Something is stunting the wild oysters.
- There is sufficient cultch for the spat to settle on.
- Every dock covered with live oysters.
- Pollutants in the water could be affecting the food oysters eat and limiting their growth.

### **Storms and impacts on the fishery**

- Hurricane Sally dumped 22 in. of water in the bay and killed all the mussels (a good thing), but the oysters weren't as damaged (only about a 10% kill).
- It takes a lot of time to cull the oysters due to mussels.
- Oysters were caught all the way up to Hurricane Ivan (2004). Oyster gradually went downhill after the hurricane but there were still oysters to harvest, enough to make a day's pay.

### **Aquaculture**

- In terms of aquaculture, in the first 3 feet in the water column, plenty of spat attaches. These oysters mature and are knocked off the aquaculture cages. They fall to the bottom and typically grow to a mature size. Travis is farming in the orange area on the map on west side of Escambia Bay. Within a year up to 3 inches long, not dying like on the bay bottom. Travis has a 10-acre farm.

### **Development impact on the fishery**

- The biggest threat to the Pensacola East Bay Blackwater oyster fishery is man.
- Development is a problem. New subdivisions being built on top of estuaries. Clay is being brought in to fill swamps, interstates crossing estuaries.
- There are no comprehensive stormwater runoff programs
- Subdivisions being built close to the water.
- Standard of construction 10 years ago was no clay allowed.
- Now they're allowing clay to be brought in and spills in the water.
- We need to use alternatives such as silt ponds to collect the sediment from homes and development.
- Development relates to the coastal stormwater system and runoff.
- Septic systems are a big problem with leaching into the bays and bayous. Converting to sewer would be a big improvement for oysters and other life in the bay (crabs, flounder).
- Act on grant funding available to municipalities to extend the sewer system to the coastal areas that are on septic.
- Much of new development on septic, no sewer.

PBS Watermen's Workshop #2 Summary, December 8, 2020

- We need to find a way to get municipalities to put central sewer systems and to connect new and old development to get rid of the septic tanks.
- Problem is development growth and water not being monitored with respect to stormwater impacts
- People are oblivious to what goes into the bay system, e.g., a new dock owner at Pearson Point was spraying shellac on the deck and into the water.
- Round-up sprayed on lawns and weeds for years that produces runoff that isn't good for the bay system.
- Fertilizers on lawns is a big problem. Everyone wants a lush green yard.
- Crab, oysters, flounders, none are thriving.
- Need to watch what goes into the bays.
- A county landfill was not managed and is now covered up and closed but will leak into the groundwater.
- Navarre water system allowed untreated water to flow for 6 weeks before it was capped
- Some lift stations don't function resulting in spills into the bay.
- Eglin AFB now manages runoff to keep on site for the cleaner used for jet planes. In the 1980s this runoff may have caused fish kills.
- A lot of sediment comes down the Escambia river – pours a lot of water and sediment into the bay along the west shore of Escambia Bay.
- Escambia Bay had very clean water with lots of water coming down the Escambia River.

## 2. Habitat

The facilitator reviewed the following questions regarding habitat with the workshop participants:

1. *To your knowledge, was there ever any viable oyster habitat in the lower PBS lower than where the identified reefs are shown on the HSM map? (See the orange, yellow and green areas lower in the system than the identified reefs)  
If not, why do you think oysters do not occur here?*
2. *How big a problem were oyster predators and/or parasites on the oyster reefs? Have these problems increased over time? If so, why do you think?*

*Workshop Comments- Refer to Figure 2 for locations mentioned in comments*

### **Areas of viable oyster habitat**

*Lower part of Escambia Bay system? Is it viable in the bottom yellow or green areas?*

- Oysters in Travis's oyster farm do well in this region and oysters grow great in the area south that is closed for harvest
  - Oysters are present in Project Greenshores and behind the baseball stadium.
  - Escambia Bay orange and yellow border area on the map was good at one time but was closed because of runoff.
  - Filter water out of Pensacola 3 Mile Bridge provides a good habitat for oysters and lots of fish
- PBS Watermen's Workshop #2 Summary, December 8, 2020



- *Closed areas on north side of bay?* Oysters growing there now- areas for both closed and open areas for oyster harvest.
- Escambia Bay- east side green on map. In the 70s this was a relatively continuous oyster reef where you would regularly see 20 boats. The bottom is hard but still silted.
- Satellite reef near Garcon Point had lots of oyster beds. There was a satellite dish landmark on shore. The southeast portion of East Bay is sandy.

### **Predation**

- There is a minimum problem with predation. Drills are biggest predator when we have them are “few and far between.”
- Aquaculture cages are designed to eliminate predation.
- Blue crab are biggest predators to aquaculture bags.
- Salinity levels affect both drills and mussels – they die off with lower salinity.
- Haven’t had a drought year in recent times. We have had lots of rain.

### **B. A VISION FOR THE FISHERY**

The facilitator reviewed the following questions regarding a hopeful vision for the future of the fishery with the workshop participants:

1. *What would you like to see for wild harvest fishery in 10-20 years from now?*
2. *What level of oyster aquaculture do you think the bay system can support together with oyster wild harvest and habitat restoration?*
3. *Where are the best locations (inside and outside the closed harvest areas) for restoration using the Habitat Suitability Model and Why?* (see comments in above sections and Figure 2 for the watermen’s input on this question.)

### *Workshop Comments*

- **What could the PBS support under the right conditions in terms of levels of aquaculture, harvest and habitat:** Endless, anywhere there’s a hard bottom for wild harvest
- **Aquaculture is compatible with wild harvest.** How many farms is ideal? Wild harvest is and will be compatible with aquaculture. Farms cages catch wild spat that falls to the bottom and hopefully live to spawn again.
- **Restoration areas for habitat and set aside for clean water and provide spat:** Yes, it’s a good situation for everyone. There are probably as many oysters growing in Blackwater Bay (closed to harvest) as there is in East Bay. Less silting along the eastern shore of East Bay than comes into Escambia Bay.
- **Productive oyster reefs.** Bring us back to the ‘90s in terms of the productivity of the fishery. If an oysterman could catch ten 50 lbs. sacks a day, there could be oystermen working the bay. Using yesterday’s standards, it could support 20 fishermen. Today’s standard it won’t support 3.
- **East Bay Oysters** – people would drive 100 miles just to get a bag of them. They’re known for being one of the best in the country.



*Vision for the Future: Painting of oystermen in Pensacola Bay shown by Calvin Sullivan during the workshop. Artist: Sheppard, circa 1964*

- **Protect the nutrients oyster rely on.** We will have protected the rich nutrients that feed the oysters.
- **Setbacks on the water edge.** Setbacks more than 200 feet distance from shore will be in place.
- **Stop the runoff and pollution into the bays.** In order to recover a wild harvest fishery, we have to change to minimize the runoff entering the bay, such as septic tanks not connected to municipal sewer lines and plants. Bagdad plant could accommodate more wastewater to treat but would require city to run a collection line down to where septic systems are concentrated.
- **Funding to extend sewer systems.** We will have grant \$ for cities to extend the sewer systems and remove septic tanks to protect the bay's health.
- **Fishermen cooperation to recover the bays.** Accelerate with cooperation from fisherman in securing \$ for enhancing the beds and reefs.
- Fisherman work together and the general public take steps in the backyards to look out for the health of the bays.
- Only way to accelerate expectations of what could be 20 years from now is a lot of cooperation from fishermen, a large amount of funding for material to establish beds. Expedite it by

harvesting oysters out of the closed areas to establish beds. This would give us 3-4 years jumpstart on restoration.

- **Closed and open areas.** Harvesting oysters out of closed areas and relaying to open areas.
- **BP Oil Spill:** oystermen volunteered time on the reefs restored with funding and were optimistic there would be more to it but after 6 and a half years there's not enough to make a living off of it. It is an excellent spot to get small oysters and spat to expedite any beds we work and get funding to do this.
- **Funding for restoration:** watermen asked about funding sources for restoration. Matt Posner with the PPBEP wants to partner with them to find funding, use their expertise, and implement their suggestions.

### **C. TAPPING THE WATERMEN'S EXPERTISE TO RECOVER THE OYSTER FISHERY**

The facilitator reviewed the following questions regarding taping the watermen's expertise in the recovery of the fishery:

#### **Investing Your Expertise to Influence Recovery and see the Vision Become Reality**

1. *How would you and your family like to be involved in recovery of the oyster fishery?*
2. *How would you like your expertise to be included in future fishery management decisions?*
3. *How would you like your voice to be included in other actions that impact the health of the fishery, for example water quality issues?*

#### *Workshop Comments*

- Like to see the local Pensacola oysters served in restaurants, sold in market, and be available to the public. Back when fishery was good couldn't keep enough oysters in the restaurants like the Fish House restaurant. Come back to where the public appreciate the availability of oysters through the winter and we wouldn't be eating Louisiana or Texas oysters.
- Bring young people back to the industry. This is a dying industry. We need to get young people involved again that will be possible if there is a better oyster industry and healthy fishery.
- We could get 10 people to participate in the industry tomorrow if the resource could support it.
- Responsive management. Management historically didn't consider fishermen's expertise on the water.
- Spat on shell. Would hatcheries spat on shell be useful like in the Chesapeake?
- Lend a hand, lend a boat. Willing to work to help facilitate the effort to make this recovery happen. Research helps but experience and knowledge of being on the water and seeing what's happening is valuable and can capture information that pure research can't.
- Willing to take anyone on a boat ride to run the whole bay out and see what's there.
- Christmas trees are good for oysters, really good.
- Black sand pines- trees and limbs that stick up and catch spat. Limb rots- drop to bottom as a natural process and produce reefs over time

- Hard bottom, with bio-degradable Christmas trees would be good for the environment. Would make oyster rafts in Apalachicola Bay. Spat was floating high in water column. Once the right size, put them on hardbottom. Rafts are biodegradable.
- Inexpensive oyster reef restoration- get the go ahead to implement.
- Important as ever that this committee was formed to enhance our bay and fishery
- Oyster heritage is being lost. Historically, Indians and people from up north came down to East Bay harvest oysters. Shell mounds along the bay 5 feet deep, oyster are artifacts.
- Management decisions in the past didn't take into account the opinions of the fishermen, they weren't respected. It's gotten better. Important to have oystermen's voices heard in decision making including land use decisions. For example, put in silt ponds to settle out pollutants and silt.

### **NEXT STEPS IN DEVELOPMENT OF THE PLAN**

The facilitator and Anne Birch thanked the watermen for their time and lending their expertise and good ideas that will be considered at the next Working Group meeting in January 2021. They were encouraged and welcomed to participate in the last three meetings as their perspectives could help ensure the plan can be finalized and implemented.

Matt Posner asked if the waterman would be able to provide their input to the online PPBEP watershed survey that will be up until January 7, 2021. Chris Verlinde offered to help make this happen.

*The Workshop adjourned at 6:50 p.m. CT.*

**Appendix #1 - Workshop Agenda**

**OYSTER ECOSYSTEM-BASED FISHERY MANAGEMENT PLAN  
FOR THE PENSACOLA BAY SYSTEM (PBS)**

**PBS STAKEHOLDER WORKING GROUP**

**WATERMEN’S WORKSHOP #2**

**DECEMBER 8, 2020—5:30 PM CT**

**VIRTUAL MEETING VIA ZOOM: <https://tnc.zoom.us/j/95652492743>**

**MEETING ID: 956 5249 2743    PASSWORD: 721245**

**If you cannot connect on your computer or other electronic device call (646) 876-9923**

**HOST: THE NATURE CONSERVANCY, FLORIDA**

**FACILITATOR: FACILITATED SOLUTIONS, LLC**

**PBS STAKEHOLDER WORKING GROUP**

**WATERMEN WORKSHOP #2**

**Purpose: To learn from the watermen’s experience with the oyster fishery and help set goals for the future.**

**PBS STAKEHOLDER WORKING GROUP WATERMEN’S WORKSHOP #2 AGENDA—DECEMBER 8, 2020**

**All Agenda Times are Central Time Zone**

**All Times Are Approximate and Subject to Change (including Public Comment and Adjournment)**

<b>5:30 PM CT</b>		<b>CALL TO ORDER</b>
<b>1.</b>	<b>5:30</b>	<b>WELCOME AND REVIEW OF MEETING PARTICIPATION GUIDELINES</b>
<b>2.</b>	<b>5:35</b>	<b>REVIEW OF AGENDA</b>
<b>3.</b>	<b>5:40</b>	<b>REVIEW OF WATERMEN’S INPUT FROM JUNE WORKSHOP AND HOW IT WAS INTEGRATED INTO THE DRAFT PLAN</b>
<b>4.</b>	<b>5:50</b>	<b>TO RECEIVE WATERMEN FEEDBACK ON KEY QUESTIONS</b> <ul style="list-style-type: none"> <li>• Understanding the Past</li> <li>• Vision for the Future</li> <li>• Soliciting Watermen’s Knowledge for Restoration and Recovery of the System</li> </ul>
<b>5.</b>	<b>6:55</b>	<b>NEXT STEPS IN DEVELOPMENT OF THE PLAN</b>
<b>7:00 PM CT</b>		<b>ADJOURN</b>

## Appendix #2 -Workshop Participants, Project Team, Facilitators

(**Bold** = members who attended the December 8, 2020 Workshop. When two people are listed on the same line the first person listed is the Working Group member and the second person listed is their Alternate)

MEMBER	AFFILIATION
<b>Building/Development</b>	
<i>Shelby Johnson</i>	<i>Johnson Construction of Pensacola, Inc.</i>
<i>Glen Miley</i>	<i>biome Consulting Group</i>
<b>Business/Real Estate/Economic Development/Tourism</b>	
<i>Will Dunaway/Barbara Albrecht</i>	<i>Environmental Lawyer/Alternate</i>
<i>Donnie McMahon</i>	<i>Business and Aquaculture</i>
<b>Environmental/Citizen</b>	
<i>Christian Wagley</i>	<i>Healthy Gulf</i>
<b>Local Government</b>	
<b>1. Shelley Alexander</b>	<b>Santa Rosa County Environmental Programs</b>
<i>Chips Kirschenfeld</i>	<i>Escambia County Natural Resources Management</i>
<b>2. Matt Posner/Whitney Scheffel/Don Killorn</b>	<b>Pensacola and Perdido Bays Estuary Program</b>
<i>Keith Wilkins</i>	<i>Pensacola City Administrator</i>
<b>Recreational Fishing</b>	
<i>Chris Phillips</i>	<i>Hot Spot Charters</i>
<b>Seafood Industry</b>	
<b>3. Pasco Gibson</b>	<b>Seafood Industry/Waterman</b>
<b>4. LD Henderson Sr.</b>	<b>Waterman</b>
<b>5. Josh Neese</b>	<b>Aquaculture</b>
<i>Pete Nichols</i>	<i>Seafood Industry/Waterman</i>
<b>6. Tommy Pugh</b>	<b>Seafood Dealer</b>
<i>Phil Rollo</i>	<i>Seafood Dealer</i>
<b>7. Calvin Sullivan</b>	<b>Waterman</b>
<i>William (Hub) Williamson</i>	<i>Oyster Harvester</i>
<b>State Government</b>	
<b>8. Beth Fugate</b>	<b>FDEP/Aquatic Preserves</b>
<b>9. Kent Smith</b>	<b>FWC Division of Habitat and Species Conservation</b>
<b>10. Mike Norberg</b>	<b>FWC Division of Marine Fisheries Management</b>
<b>11. Portia Sapp</b>	<b>FDACS Division of Aquaculture</b>
<i>Paul Thurman</i>	<i>NWFWMD</i>
<b>Tourism</b>	
<i>Shawn Brown</i>	<i>Visit Pensacola</i>
<b>University/Research</b>	
<i>Jane Caffrey</i>	<i>UWF</i>
<i>Rick O'Connor</i>	<i>UF/IFAS Escambia County</i>
<b>12. Chris Verlinde</b>	<b>UF/IFAS/Sea Grant Santa Rosa County</b>
<b>PUBLIC</b>	
<b>13. Travis Gill</b>	<b>Aquaculture</b>
<b>14. Haley Gancel</b>	<b>UF Grad Student</b>
<b>15. Amanda Croteau</b>	<b>UWF Grad student</b>
<b>16. Michelle Smith</b>	<b>FDACS Alternate</b>
<b>17. Tanya Linzy</b>	<b>Santa Rosa County Alternate</b>

PROJECT TEAM AND FACILITATORS	
THE NATURE CONSERVANCY	
18. <a href="#">Anne Birch</a>	Marine Program Manager, Florida
19. <a href="#">Bryan DeAngelis</a>	Marine Habitat Scientist, North America
20. <a href="#">Laura Geselbracht</a>	Sr. Marine Scientist, Florida
21. <a href="#">Andrea Graves</a>	Marine Projects Coordinator, Florida
FACILITATED SOLUTIONS, LLC	
22. <a href="#">Jeff Blair</a>	Working Group Facilitator
23. <a href="#">Robert Jones</a>	Working Group Facilitator

### Appendix #3 -Workshop Zoom Chat Comments

chrismv@ufl.edu: Pasco Did join us

Anne Birch: Thanks! Hi Pasco!

chrismv@ufl.edu: Pete Nichols said yesterday that in the '60s there would be about 75 boats in Escambia and about half that in East Bay.

Beth Fugate: we have put in almost 1000 reefs there: its doing well in some locations and not in others: between Garcon Point and White Point that is

Kent Smith, FWC: How large is the average reef that you installed, Beth?

Beth Fugate: id have to look back at the specs but they were roughly 4x6 x 3 two rows in most places and staggered/offset

Kent Smith, FWC: OK, so a bit over 1/2 acre at 3' high. Thanks, Beth.

Barbara Albrecht: The 'Old Timers' from the BFA said that there used to be upwards of 40 crabbers, mullet fishermen and oystermen that would fish the upper bays (Escambia & East Bay) before the 1970s. By 1995, Hurricanes Erin & Opal took out all of the crabbers, oysters - many were up along the causeway of Hwy 90.

Beth Fugate: Kent, would have to go back and confirm. They were being built just before, during and after oil spill. You can see on Google earth! Main purpose was for fishery habitat, with secondary being oyster habitat

Kent Smith, FWC: I'll check them out on G-earth. I know you all put a lot of effort into installing them.

Shelley Alexander|SRC: Establishing the biofilm for spat development on newly added substrate is exactly the type of observations that supports spat settlement science that is published

Shelley Alexander|SRC: Santa Rosa County is financially, through the Restore Act, will remove two Wastewater Treatment plant outfalls from Blackwater and Santa Rosa Sound

Kent Smith, FWC: Impressive lengthy reef system in Escambia. Would be worth investigating the depth of the fine sediments to get to harder bottom for restoration in this area.

Shelley Alexander|SRC: It makes sense woody debris is important in all waterways

Matt Posner | PPBEP: Kent did it

Beth Fugate: (:

Whitney Scheffel | PPBEP: It would be great if we could get the watermen's input with our PPBEP watershed survey that's live until Jan 7. We will get with Chris V and see how we can make this happen. It's entirely online. Thank you for this conversation! It's been great!



## Appendix #4 - Project Schedule & Workplan

<b>PBS STAKEHOLDER WORKING GROUP WORKPLAN AND MEETING SCHEDULE</b>		
<b>STANDING UP AND ORGANIZATION OF THE PBS STAKEHOLDER WORKING GROUP</b>		
<i>TNC/Facilitated Solutions LLC Stakeholder Assessment and Report</i>	<i>May-Sept. 2019</i>	<i>TNC contracted <b>Facilitated Solutions, LLC</b>, based in Tallahassee, to conduct a series of stakeholder interviews and meetings in the community outline key issues and to recommend stakeholder representatives on a Working Group. Facilitated Solutions LLC subsequently designed and facilitated the Working Group meetings and process going forward.</i>
<i>Stakeholder Working Group Questionnaire</i>	<i>Sept. 2019</i>	<i>Working Group members completed a questionnaire in advance of the Organizational Meeting</i>
<b>Meeting I. Studer Institute</b>	Oct. 9, 2019	Scoping and organizational meeting, review of the assessment report and questionnaire, and review and refinement of overall project purpose, vision and goal framework.
<b>Meeting II. UF/IFAS SRC Extension</b>	Nov. 15, 2019	Introduction to tools (e.g. oyster calculator, etc.) and member requested presentations on oyster ecology and restoration. Review and refinement of vision themes and goal framework.
<b>SCOPING OF PBS ISSUES, IDENTIFICATION OF PERFORMANCE MEASURES &amp; OPTIONS</b>		
<b>Meeting III. Sanders Beach</b>	Jan. 15, 2020	Presentations on regulatory management roles and framework for oysters, and strategic communications. Review and refinement of vision goals (4) framework continued. Introduction to potential performance measures to evaluate strategies.
<b>Meeting IV. Virtual Meeting Zoom Platform</b>	April 9, 2020	Presentations on Oyster Habitat Restoration Suitability Model, Pensacola & Perdido Bays Estuary Program (PPBEP) and <u>G</u> ulf of Mexico <u>E</u> cosystem Service Logic Models & <u>S</u> ocio-Economic Indicators-GEMS Project. Review of draft vision theme and objectives, identification of strategies and related performance measures to evaluate strategies.
<b>Meeting V. Virtual Meeting Zoom Platform</b>	May 19, 2020	Member requested presentations on FDEP Responsibilities in Oyster and Estuarine Management in Florida, An Economic Research Agenda for the PBS, and Shell Budget Briefing. Review testing acceptability and refinement of strategies in the 4 goal areas, review performance measures for evaluating strategies, and identify potential Plan implementation actions and steps.
<b>Watermen Workshop Virtual Meeting Zoom Platform</b>	June 4, 2020	Workshop with Working Group watermen stakeholders to hear their comments and perspectives regarding draft Objectives and Strategies.
<b>BUILDING CONSENSUS ON PBS OYSTER ECOSYSTEM-BASED FISHERIES MANAGEMENT PLAN</b>		
Update and Presentation to PPBEP	July 14, 2020	Presentations by TNC to the Pensacola & Perdido Bays Estuary Program's Technical Advisory Committee on the Plan goals and framework.

<b>Meeting VI.</b> <b>Virtual Meeting</b> <b>Zoom Platform</b>	July 22, 2020	Member requested presentations. Review of comments and suggestions from Watermen Workshop. Review testing acceptability and refinement of strategies in the 4 goal areas, review performance measures for evaluating strategies, and identify potential Plan implementation actions and steps.
<b>Meeting VII.</b> <b>Virtual Meeting</b> <b>Zoom Platform</b>	September 28, 2020	Test acceptability and refinement of strategies and action steps for the Goals (A-D). Review and revise performance measures.
<b>Update and Presentation to PPBEP</b>	October 7, 2020	Presentation by TNC to the Pensacola & Perdido Bays Estuary Program's Policy Board on the Plan goals and framework.
<b>Meeting VIII.</b> <b>Virtual Meeting</b> <b>Zoom Platform</b>	October 21, 2020	Test acceptability and refinement of strategies and action steps for each of the Goals in turn.
<b>FINALIZING CONSENSUS ON PBS OYSTER ECOSYSTEM-BASED FISHERIES MANAGEMENT PLAN</b>		
<b>Meeting IX.</b> <b>Virtual Meeting</b> <b>Zoom Platform</b>	Nov. 18, 2020	Test acceptability and refinement of strategies and action steps for each of the Goals in turn. Conduct strategies prioritization exercise. Evaluate habitat suitability spatial maps for identifying strategies. Approve the PBS Oyster Ecosystem-Based Fisheries Management Plan framework (Goals/Objectives/Strategies/Actions).
Watermen Workshop #2 <b>Virtual Meeting</b> <b>Zoom Platform</b>	December 8, 2020 5:30 PM CT	Review strategies and actions with watermen and solicit watermen feedback.
Update and Presentation to PPBEP	January 2021 Date TBD	Presentations by TNC to the Pensacola & Perdido Bays Estuary Program on the Plan's progress and the Estuary Program's role in implementing the Plan.
<b>Meeting X.</b> <b>Virtual Meeting</b> <b>Zoom Platform</b>	Jan. 21, 2021	Refinement of actions steps for strategies incorporating watermen's feedback. Review and consensus testing of strategies and action steps for Draft Plan. Review the PBS Oyster Ecosystem-Based Fisheries Management Plan draft outline.
<b>Meeting XI.</b> <b>Virtual Meeting</b> <b>Zoom Platform</b>	Feb. 17, 2021	Review and consensus testing of Draft Plan and implementation guidance, and agreement on Draft Plan.
<b>Meeting XII.</b> <b>Virtual Meeting</b> <b>Zoom Platform</b>	March 17, 2021	Refinement and agreement on the PBS Oyster Ecosystem-Based Fisheries Management Plan and implementation guidance. Plan will be presented to relevant agencies for evaluation and implementation.
<i>Presentation of final PBS Oyster Ecosystem-Based Fisheries Management Plan to the PPBEP</i>	<i>April 2021</i>	<i>Presentation by TNC and Working Group members to the Pensacola &amp; Perdido Bays Estuary Program on the Plan and the Estuary Program's role in implementing the Plan.</i>

## Appendix #5 Project Summary and Statement of Purpose

**PROJECT SUMMARY.** The Nature Conservancy (TNC) in Florida is convening stakeholders to develop an oyster ecosystem-based fisheries management plan for the Greater Pensacola Bay System (GPBS). For the purpose of this initiative the system is defined as Escambia, Pensacola, East and Blackwater Bays in Escambia and Santa Rosa Counties. TNC has been supporting and implementing projects in the GPBS for the past several years in collaboration with partners. Oysters and the once vibrant fishery are disappearing from the System. Significant funding as a result of the Deepwater Horizon oil spill is being dedicated to restoration of oysters throughout the Gulf of Mexico. This is a once-in-a-lifetime opportunity to reverse the trend and create a robust future for oysters and the fishery in Florida and the Gulf.

**STATEMENT OF PURPOSE.** The goal of the initiative is that by 2022 an oyster ecosystem-based fisheries management plan (Plan) for the GPBS is approved by the stakeholders. The Plan will be offered as a model for management of oyster resources throughout Florida's estuarine systems, the Gulf of Mexico and other regions. The intent is for the Plan to be developed, owned and implemented by the community and the State, not a "TNC plan".

The Working Group and the resulting Plan will seek to address and determine the priority of multiple objectives including wild harvest, oyster aquaculture, ecosystem service outcomes (i.e., clear water, more crabs and fish, nitrogen removal), and social benefits (e.g., recreational angling opportunities, and opportunity to participate in defining credible management processes) for the GPBS.

The Plan resulting from this initiative will help to define long-term estuary-scale goals for restoring and sustaining oysters in the estuary. It will work in the broader context of the Pensacola and Perdido Bays Estuary Program that received EPA funding in 2018 as part of the Deepwater Horizon oil spill settlement. The program hired an executive director in 2019 and is organizing to develop a Comprehensive Conservation and Management Plan (CCMP) for the Pensacola and Perdido Estuary System.

**PROJECT WEBPAGE (URL):** <https://www.ppbep.org/the-plan/oyster-plan>

**PROJECT FACILITATION:** Meetings are facilitated, and meeting reports drafted by Jeff Blair and Robert Jones from Facilitated Solutions, LLC. Information at: <http://facilitatedsolutions.org>.