

# N.C. Oysters: A Workshop to Chart Future Restoration, Learning from the Past

National Oceanic & Atmospheric Administration – Beaufort Laboratory Auditorium  
101 Pivers Island Road – Beaufort, NC 28516

**March 12-13, 2014**

## Purpose

The workshop will engage participants in a two-day forum focused on assessing the existing body of North Carolina's oyster research and restoration efforts to highlight lessons learned, identify knowledge gaps and recommend options for future oyster research and restoration. Through poster and oral presentations, facilitated discussions and group consensus-building, participants will produce a set of workshop findings that will help determine future action items, strategies, resources and partnerships to achieve robust and resilient N.C. oyster populations that support a viable fishery and provide valuable ecological services. These findings will be used ultimately to revise and update the existing *Oyster Restoration and Protection Plan for N.C.: A Blueprint for Action*. At an anticipated January 2015 N.C. Oyster Summit, workshop findings will be reviewed, and then, incorporated into a third edition of the *Restoration and Protection Plan* that will guide state research and restoration efforts from 2015 to 2020.

## Objectives

- Participants will hear and discuss lessons learned from the last 20 years of oyster research, restoration, harvest and management; and
- Participants will aid in the identification and development of needed actions, strategies and resources to ensure healthy oyster habitats as essential fish habitat, as well as for sustainable recreational and commercial harvest.

## Agenda

<b>Wednesday, March 12</b>	
<b>9:00 a.m.</b>	<b>Registration &amp; Coffee</b>
<b>9:30 a.m.</b>	<b>Welcome, Introductions and Meeting Objectives</b> <b>Facilitator:</b> Whitney Jenkins, North Carolina Division of Coastal Management (DCM) & North Carolina National Estuarine Research Reserve (NERR)
<b>9:45 a.m.</b>	<b>N.C. Oyster Blueprint: Summary of Major Accomplishments</b> Todd Miller, North Carolina Coastal Federation (NCCF)
<b>10:00 a.m.</b>	<b>Oyster Workshop Survey Overview</b> Brandon Puckett, North Carolina State University, Center for Marine Sciences and Technology (CMAST)
<b>10:15 a.m.</b>	<b>Lightning Round: Organization Updates on Recent Research and Restoration Efforts</b> <b>Facilitator:</b> Whitney Jenkins, DCM <b>Speakers:</b> <ul style="list-style-type: none"><li>• Craig Hardy, North Carolina Division of Marine Fisheries (DMF)</li><li>• Martin Posey, University of North Carolina Wilmington (UNCW)</li><li>• Brandon Puckett, CMAST</li><li>• Niels Lindquist, University of North Carolina at Chapel Hill, Institute of Marine</li></ul>

	<p>Sciences (IMS)</p> <ul style="list-style-type: none"> <li>• Carolyn Currin, Center for Coastal Fisheries and Habitat Research, National Oceanic Atmospheric Administration (NOAA)</li> <li>• Aaron McCall, The Nature Conservancy (TNC)</li> <li>• Ted Wilgis, NCCF</li> </ul>
<b>11:15 a.m.</b>	<b>Break</b>
<b>11:30 a.m.</b>	<p><b>Keynote Address: An overview of current oyster reef ecology and restoration efforts across the U.S. with a focus on related goals, metrics, and methodologies</b></p> <p>Loren Coen, Florida Atlantic University (FAU)</p>
<b>12:00 p.m.</b>	<b>Lunch</b> – provided, catered onsite
<b>12:45 p.m.</b>	<p><b>Introduction to Panel and Breakout Session Structure</b></p> <p>Erin Fleckenstein, NCCF</p>
<b>12:50 p.m.</b>	<p><b>Panel I: Scaling-up Restoration and Enhancement Efforts – Where are we going and how are we going to get there?</b></p> <ul style="list-style-type: none"> <li>• <b>Objective:</b> Speakers will discuss setting goals and targets for oyster restoration by identifying the status of the current and/or historical oyster population, setting future population goals, and determining how restoration and enhancement will be used to meet identified goal(s).</li> <li>• <b>Facilitator:</b> Erin Fleckenstein, NCCF</li> <li>• <b>Speakers:</b> <ul style="list-style-type: none"> <li>○ Mike Marshall, DMF</li> <li>○ Brandon Puckett, CMAST</li> <li>○ Jay Styron, UNCW</li> <li>○ Ami Wilbur, UNCW</li> <li>○ Lindsey Smart, Albemarle-Pamlico National Estuary Partnership (APNEP)</li> <li>○ Bryan DeAngelis, TNC</li> </ul> </li> </ul>
<b>1:50 p.m.</b>	<p><b>Breakout Groups I: Scaling-up Restoration and Enhancement Efforts</b></p> <ul style="list-style-type: none"> <li>• <b>Room Assignments:</b> <ul style="list-style-type: none"> <li>○ Group 1: Auditorium; Facilitator: Lexia Weaver, NCCF</li> <li>○ Group 2: Upstairs Glass Conference Room; Facilitator: Jimmy Johnson, APNEP</li> <li>○ Group 3: NERR Classroom; Facilitator: Brandon Puckett, CMAST</li> <li>○ Group 4: Building 2 Conference Room; Facilitator: Whitney Jenkins, DCM</li> </ul> </li> <li>• <b>Objective:</b> Participants will discuss setting goals and targets for oyster restoration by identifying the status of the current and/or historical oyster population, setting future population goals, and determining how restoration and enhancement will be used to meet identified goal(s).</li> <li>• <b>Discussion Questions:</b> <ol style="list-style-type: none"> <li>1. Do we know the oyster stock status or acreage of oyster reef habitat (healthy, degraded, etc)? If not, what is needed to determine current stock status?</li> <li>2. How do we set a baseline to identify population, habitat, and harvest/mariculture goals?</li> <li>3. How should oyster restoration and enhancement goals be set? Should goals be qualitative (e.g., viable commercial fishery) or quantitative (e.g., x acres of oyster reef based on a proportion of historical reef footprint)?</li> <li>4. What are the ultimate goals for oyster restoration and enhancement efforts?</li> </ol> </li> </ul>

<b>2:50 p.m.</b>	<b>Break – Return to Auditorium</b>
<b>3:05 p.m.</b>	<p><b>Panel II: Implementing Restoration, Research, and Enhancement Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Objective:</b> Speakers will provide guidance on the development of a project decision-support tool, which would help identify and support site selection, project design, coordination and construction, as well as site-specific best management practices.</li> <li>• <b>Facilitator:</b> Brandon Puckett, CMAST</li> <li>• <b>Speakers:</b> <ul style="list-style-type: none"> <li>○ Jessie Baker, DCM</li> <li>○ Raleigh Bland, USACE</li> <li>○ Craig Hardy, DMF</li> <li>○ Martin Posey, UNCW</li> <li>○ Niels Lindquist, IMS</li> <li>○ Loren Coen, FAU</li> </ul> </li> </ul>
<b>3:50 p.m.</b>	<p><b>Breakout Groups II: Implementing Restoration, Research, and Enhancement Projects</b></p> <ul style="list-style-type: none"> <li>• <b>Room Assignments:</b> <ul style="list-style-type: none"> <li>○ Group 1: Auditorium; Facilitator: Tracy Skrabal, NCCF</li> <li>○ Group 2: Upstairs Glass Conference Room; Facilitator: Jimmy Johnson, APNEP</li> <li>○ Group 3: NERR Classroom; Facilitator: Brandon Puckett, CMAST</li> <li>○ Group 4: Building 2 Conference Room; Facilitator: Whitney Jenkins, DCM</li> </ul> </li> <li>• <b>Objective:</b> Participants will provide guidance on the development of a project decision-support tool, which would help identify and support site selection, project design, coordination and construction, as well as site-specific best management practices.</li> <li>• <b>Discussion Questions:</b> <ol style="list-style-type: none"> <li>1. What decision-support tools are available for implementing oyster restoration? Are these tools sufficient to keep going as we have been, applying adaptive management techniques as we go? If so, where are these tools available?</li> <li>2. If not, what decision-support tools are needed to more effectively implement oyster restoration?</li> <li>3. To develop tools, where should resources be allocated? Testing techniques? Identifying limiting factors? Site selection criteria?</li> <li>4. Identify lessons learned, critical knowledge gaps, and necessary management tools/resources to develop tools identified in question 2.</li> </ol> </li> </ul>
<b>4:45 p.m.</b>	<b>Return to Auditorium</b>
<b>4:50 p.m.</b>	<b>Closing Remarks</b>
<b>5:00 p.m.</b>	<b>Adjourn</b>
<b>5:30 p.m.</b>	<p><b>Poster Social</b>  Duke University Marine Lab Auditorium – Hors d'oeuvres &amp; Cash Bar</p>
<b>7:00 p.m.</b>	<b>Adjourn Poster Social</b>
<b>Thursday, March 13</b>	
<b>8:00 a.m.</b>	<b>Coffee</b>
<b>8:30 a.m.</b>	<b>Welcome Back and Announcements</b>

8:40 a.m.	<b>Breakout Groups Report-out</b> <ul style="list-style-type: none"> <li>• Session I: Scaling-up Restoration and Enhancement Efforts (7 minutes/group)</li> <li>• Session II: Implementing Restoration, Research, and Enhancement Projects (7 minutes/group)</li> </ul>
9:40 a.m.	<b>Panel III: Project Evaluation and Monitoring</b> <ul style="list-style-type: none"> <li>• <b>Objective:</b> Speakers will discuss developing North Carolina "universal" monitoring procedures and metrics so that data collected in the state can be evaluated &amp; shared in a standard format.</li> <li>• <b>Facilitator:</b> Ted Wilgis, NCCF</li> <li>• <b>Speakers:</b> <ul style="list-style-type: none"> <li>○ Loren Coen, FAU</li> <li>○ Bryan DeAngelis, TNC</li> <li>○ Troy Alphin, UNCW</li> <li>○ Craig Hardy, DMF</li> <li>○ Patti Fowler, Shellfish Sanitation &amp; Recreation Water Quality Section, DMF</li> <li>○ Tony Rodriguez, IMS</li> <li>○ Mike Piehler, IMS</li> </ul> </li> </ul>
10:30 a.m.	<b>Break – Transition to Breakout Rooms</b>
10:45 a.m.	<b>Breakout Groups III: Project Evaluation and Monitoring</b> <ul style="list-style-type: none"> <li>• <b>Room Assignments:</b> <ul style="list-style-type: none"> <li>○ Group 1: Auditorium; Facilitator: Tracy Skrabal, NCCF</li> <li>○ Group 2: Upstairs Glass Conference Room; Facilitator: Jimmy Johnson, APNEP</li> <li>○ Group 3: NERR Classroom; Facilitator: Erin Fleckenstein, NCCF</li> <li>○ Group 4: Building 2 Conference Room; Facilitator: Whitney Jenkins, DCM</li> </ul> </li> <li>• <b>Objective:</b> Participants will discuss developing North Carolina "universal" monitoring procedures and metrics so that data collected in the state can be evaluated &amp; shared in a standard format.</li> <li>• <b>Discussion Questions:</b> <ol style="list-style-type: none"> <li>1. Should NC follow or base monitoring protocol on NOAA recommendations?</li> <li>2. What are the minimum monitoring standards that should be implemented on all restoration and enhancement projects and how should standardized data be shared?</li> <li>3. Do these monitoring standards focus only on oysters? If not, what else should be monitored?</li> <li>4. Do these monitoring standards enable the detection of any positive "signal" from restoration efforts?</li> <li>5. How often should the procedures and metrics be evaluated?</li> <li>6. What monitoring criteria and techniques are most versatile, practical, and valuable in providing data needed to set and evaluate restoration and management goals?</li> </ol> </li> </ul>
11:35 a.m.	<b>Return to Auditorium</b>
11:40 a.m.	<b>Panel IV: Building and Sustaining Effective Collaborations</b> <ul style="list-style-type: none"> <li>• <b>Objective:</b> Speakers will discuss what is needed for continued collaboration and</li> </ul>

	<p>coordination to build on momentum from current restoration efforts and to implement workshop recommendations.</p> <ul style="list-style-type: none"> <li>• <b>Facilitator:</b> Ted Wilgis, NCCF</li> <li>• <b>Speakers:</b> <ul style="list-style-type: none"> <li>○ Taylor Ryan, Town of St. James</li> <li>○ Craig Hardy, DMF</li> <li>○ Bill Crowell, APNEP</li> <li>○ Bryan DeAngelis, TNC</li> <li>○ Todd Miller, NCCF</li> <li>○ Loren Coen, FAU</li> </ul> </li> </ul>
<b>12:30 p.m.</b>	<b>Lunch</b> – provided, catered onsite
<b>1:15 p.m.</b>	<p><b>Breakout Groups IV: Building and Sustaining Effective Collaborations</b></p> <ul style="list-style-type: none"> <li>• <b>Room Assignments:</b> <ul style="list-style-type: none"> <li>○ Group 1: Auditorium; Facilitator: Jimmy Johnson, APNEP</li> <li>○ Group 2: Upstairs Glass Conference Room; Facilitator: Brandon Puckett, CMAST</li> <li>○ Group 3: NERR Classroom; Facilitator: Erin Fleckenstein, NCCF</li> <li>○ Group 4: Building 2 Conference Room; Facilitator: Whitney Jenkins, DCM</li> </ul> </li> <li>• <b>Objective:</b> Participants will discuss what is needed for continued collaboration and coordination to build on momentum from current restoration efforts and to implement workshop recommendations.</li> <li>• <b>Discussion Questions:</b> <ol style="list-style-type: none"> <li>1. How do we institute more comprehensive and mutually satisfying project and large-scale initiative planning?</li> <li>2. How can we secure increased and continued funding, collaboration and distribution of resources?</li> <li>3. How can we enhance open and frequent communication and sharing of knowledge among all stakeholders, including decision-makers?</li> <li>4. Are there existing partnership models (i.e. Oyster Recovery Partnership) that we should emulate?</li> </ol> </li> </ul>
<b>2:10 p.m.</b>	<b>Return to Auditorium</b>
<b>2:15 p.m.</b>	<p><b>Breakout Groups Report-out</b></p> <ul style="list-style-type: none"> <li>• Session III: Project Evaluation and Monitoring (7 minutes/group)</li> <li>• Session IV: Building and Sustaining Effective Collaborations (7 minutes/group)</li> </ul>
<b>3:15 p.m.</b>	<p><b>Oyster Restoration News Items</b></p> <ul style="list-style-type: none"> <li>• <b>Objective:</b> In this informal group discussion, participants can share updates on projects not covered during the workshop, including political/policy updates.</li> <li>• <b>Facilitator:</b> Whitney Jenkins, DCM</li> </ul>
<b>3:45 p.m.</b>	<p><b>Workshop Wrap-up and Next Steps</b></p> <p><b>Facilitators:</b> Erin Fleckenstein &amp; Ted Wilgis, NCCF</p>
<b>4:00 p.m.</b>	<b>Adjourn</b>