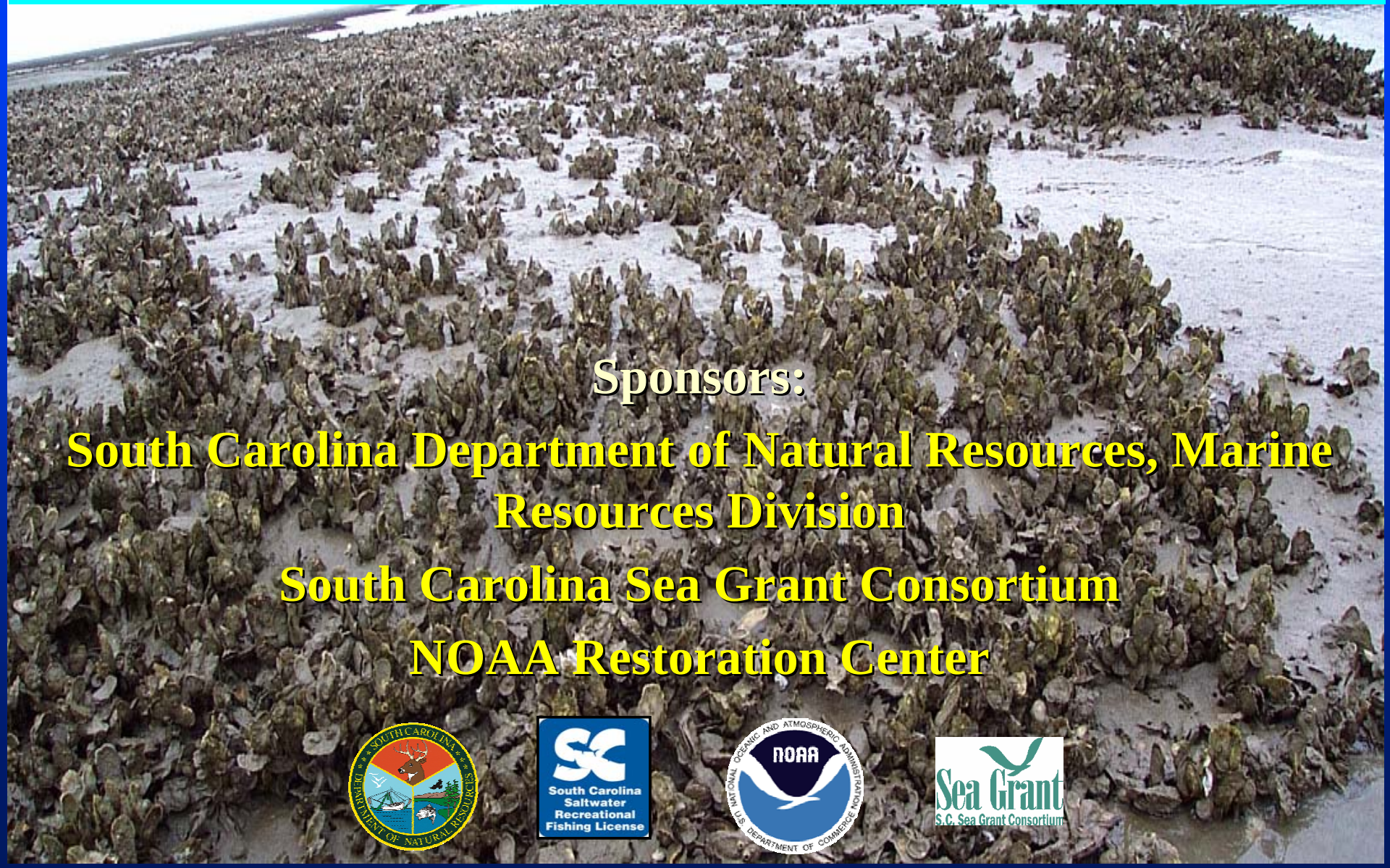
A WORKSHOP ON OYSTER RESTORATION METRICS FOR ASSESSING ECOLOGICAL FUNCTION, SUSTAINABILITY AND SUCCESS



Sponsors:

South Carolina Department of Natural Resources, Marine Resources Division

South Carolina Sea Grant Consortium

NOAA Restoration Center

Organizers

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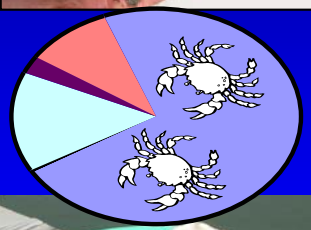
Developing success criteria and goals for evaluating oyster reef restoration: Ecological function or resource exploitation?

Loren D. Coen [a,*], Mark W. Luckenbach [b]

First dedicated group meeting since the effort at VIMS in April 1995.



OVERALL GOALS OF THE WORKSHOP

To identify an inclusive range of metrics appropriate for assessing oyster reef restoration, including the goal -- resource, habitat or both

- Select and evaluate a limited suite of the most useful or "cost-efficient" metrics at sites from NH, NJ, MD, VA, NC, SC, FL, AL, and LA using existing programs
- Including scale→ habitat complexity (interstitial space, rugosity), reef architecture, landscape issues (mm to km), B-P coupling, etc.

Interstitial space
1 mm – 10 cm

Objectives

- Review existing oyster restoration programs from NH-LA and related monitoring efforts
- Discuss and compile a list of possible restoration metrics, including novel approaches to evaluate success
- Present and discuss table feedback related to site 'selection', reference sites, project particulars, success criteria and related metrics
- Compare/contrast above methods appropriate for subtidal and/or intertidal populations
- Discuss and rank the value above approaches for sampling and monitoring/metrics and recommend a subset of these for larger group effort (Summary Doc)
- Develop new collaborative efforts to address needs and objectives (website, funding, etc.)

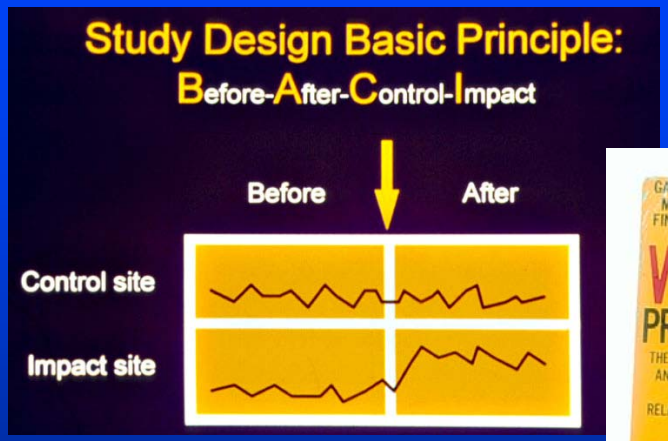
Participants

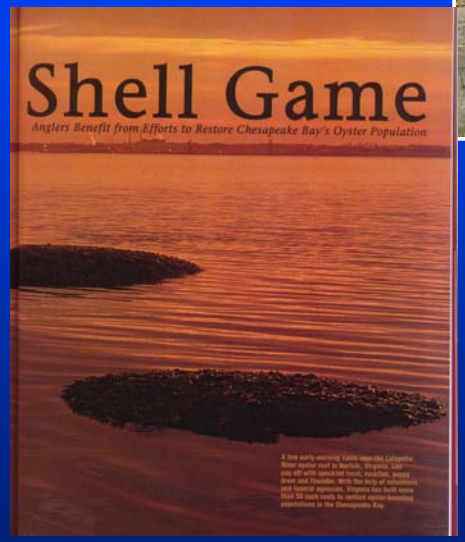
Attendees from:

- NH, NJ, MD, VA, NC, SC, FL, AL, LA, CA
- Hail from state (SCDNR) and federal (NOAA, ACOE) agencies, academia, NGOs (TNC, NC Coastal Federation)
- Areas with subtidal and/or intertidal reef systems

Current Oyster Restoration Programs

- Large- and small-scale projects
- Open and closed harvesting waters
- Some incorporate an experimental design
- Most have some monitoring component (some flexibility for midcourse corrections to adjust as needed?)



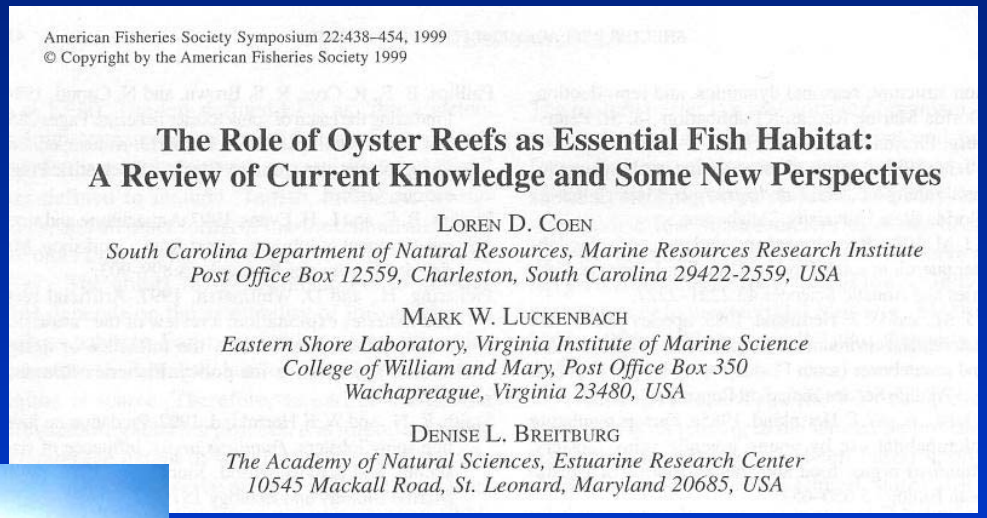


Scale of Restoration Projects
(10s meters - acres)

From M. Luckenbach

As Example, Sampling "Transient" Species

- Trawls
- Gill/ flume nets
- Long-lines
- Hook & line
- Seines
- Drop samplers
- Divers
- Underwater video
- Lift nets



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The Role of Oyster Reefs as Essential Fish Habitat: A Review of Current Knowledge and Some New Perspectives

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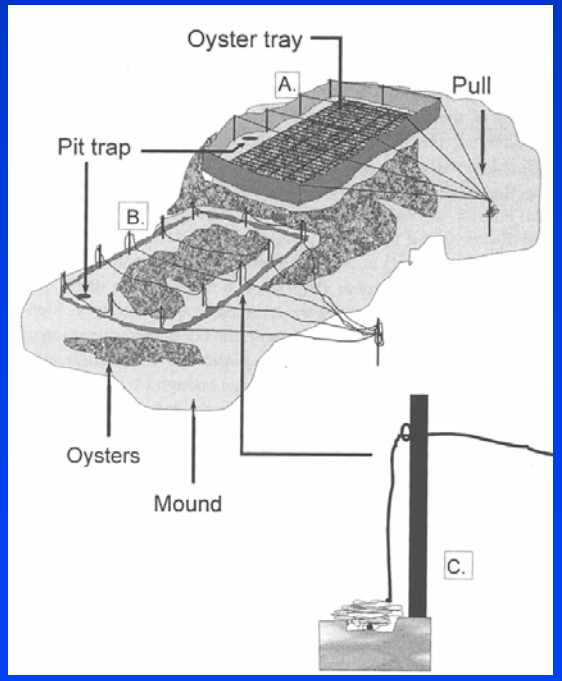
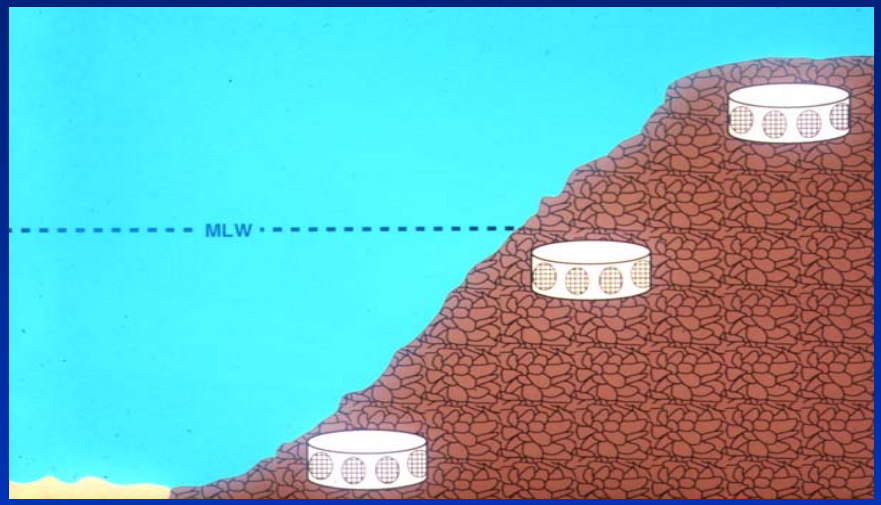
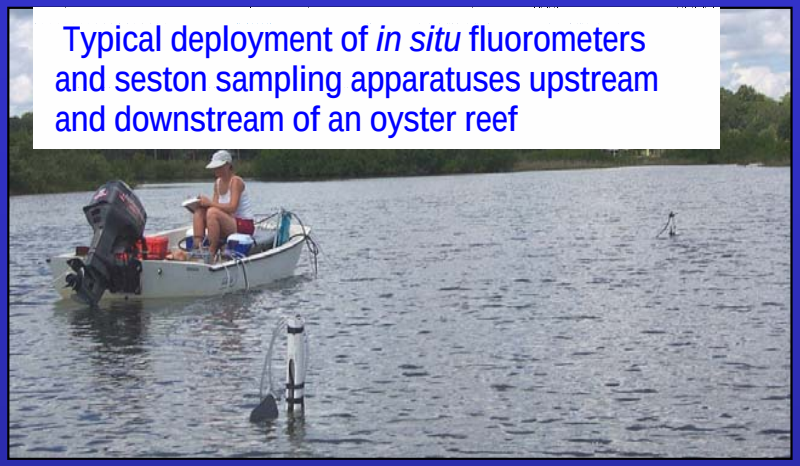


Sampling “Resident” Fauna

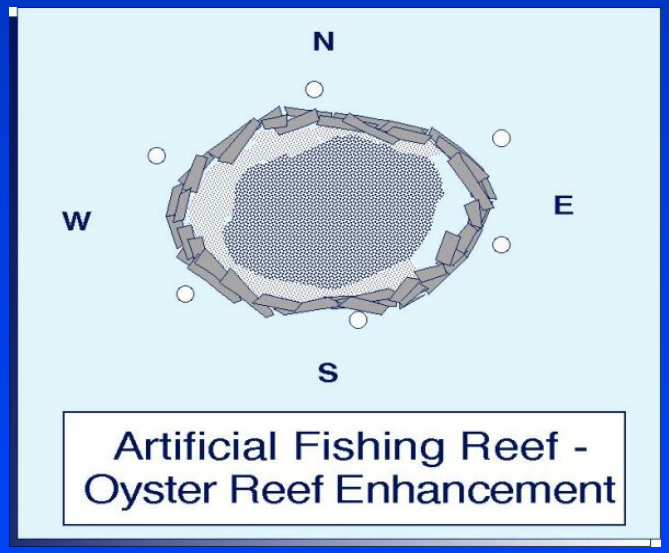


Novel Sampling & Other Methods



Typical deployment of *in situ* fluorometers and seston sampling apparatuses upstream and downstream of an oyster reef

Restoration Goal Primarily as "Fishing Reefs"



Inshore intertidal ‘reefs’ near Tampa, FL

Can We Use an Adaptive Management Approach?