

OYSTER DENSITY METHODS

Virginia (P.G. Ross et al)

All reef material in a 25 cm x 25 cm frame was excavated to a depth of 10 cm. All live oysters and the articulated shells of dead oysters (henceforth referred to as “boxes”) were counted and eventually area standardized.

Related References

- Luckenbach, M. W. and P. G. Ross, 2003. An Experimental Evaluation of the Effects of Scale on Oyster Reef Restoration: Final Report Submitted VA Sea Grant Consortium (120 pp).
- Luckenbach, M. W., L. D. Coen, P. G. Ross and J. A. Stephen. In Press. Oyster Reef Habitat Restoration: Relationships between oyster abundance and community development. *Journal of Coastal Research*.
- Luckenbach, M.W. and P.G. Ross. In Prep. Evaluating and enhancing the success of oyster reef restoration: The effects of habitat complexity on oyster survival: Final Report Submitted to VA Dept. of Environmental Quality.

South Carolina (L. Coen et al.)

Collect an excavated sample from reef and count all live oysters using quadrats or cores. Report as number per unit area (preferably per m²). Samples can be placed in either cooler or freezer for subsequent measurements and counts. Using calipers, each live oyster (including small recruits ‘spat’) should be measured using shell height (defined from the umbo to the outermost edge) to the nearest millimeter. All oysters should be examined to eliminate dead individuals. Oysters can also be taken from trays or cylinders filled with substrate. Probably best done in fall after recruitment has ended for the year. Some suggested before spawning, others sample in spring. Count all oysters in ‘sample’ and express as needed as means, etc. Additional density methods include videography or calibrated dredge samples. Number of live oysters of all sizes per unit area. Many subtidal studies also use # of dead oysters-“boxes” (recent dead and older).

Related References

- Coen, L.D., M. Bolton-Warberg, Y. Bobo, D. Richardson, A.H. Ringwood, and G.I. Scott, 2004. Oyster Beds, pp. 127-147. In: R.F. Van Dolah, D.M. Sanger, and A.B. Filipowicz, eds. A Baseline Assessment of Environmental and Biological Conditions in the May River, Beaufort County, South Carolina: Final Report Submitted to the Town of Bluffton (226 pp. overall)
- Grizzle, R.E. 1990. Distribution and abundance of *Crassostrea virginica* (Gmelin, 1791) (eastern oyster) and *Mercenaria* spp. (quahogs) in a coastal lagoon. *Journal of Shellfish Research* 9: 347-358.

Van Dolah, R.F., A.F. Holland, L.D. Coen, A.H. Ringwood, M.V. Levisen, P.P. Maier, G.I. Scott, A.K. Leight, Y. Bobo, D. Richardson, 1999. Biological Resources, Report on the status of Broad Creek/Okatee River Systems. DHEC-MRRI-NOAA-Charleston.