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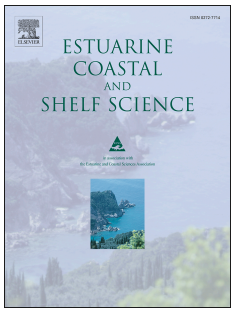

Mapping seston depletion over an intertidal eastern oyster (*Crassostrea virginica*) reef: Implications for restoration of multiple habitats

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Mapping seston depletion over an intertidal eastern oyster (*Crassostrea virginica*) reef: implications for restoration of multiple habitats

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ABSTRACT

Research on the effects of bivalve filtration emphasizing oysters has mainly involved extrapolations from laboratory based measurements on individual oysters to potential whole-ecosystem impacts, with only a few studies on reef-scale processes and less using direct measurements. This study characterized spatial effects of whole-reef (oysters, *Crassostrea virginica*, and other filter feeders on the reef) filtration in the water immediately above and adjacent to a small (~300 m^2) intertidal reef in Tarpon Bay, Sanibel, Florida. Changes in water column parameters were measured in 2010 (chlorophyll *a* only) and 2013 (chlorophyll *a* and turbidity) by slowly paddling a kayak back-and-forth across the reef while logging position and water data. Although oysters were the dominant filter feeder, mussels, slipper shells, sponges, and a filter-feeding crab also occurred on the reef. Ambient water flow speed and direction were concurrently determined in 2013 by an acoustic-doppler current profiler. Measurements were made on two days (1 - 2 June) in 2010, and two days (November 15 and December 9) in 2013. ArcGIS software was used to plot the data and construct two-dimensional maps showing changes in chlorophyll *a* and turbidity, which clearly indicated the spatial extent of decreases in both as

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