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# COVER PHOTOGRAPH

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**Cocohatchee River Estuary, Collier County, Florida, U.S.A.** The Cocohatchee River estuary is a tidal-dominated, brackish conduit that provides access out to the Gulf of Mexico through Wiggins Pass. Eastern oysters (*Crassostrea virginica*) are among the many estuarine species that utilize this subtropical ecosystem as a settling habitat. Shown just below the water's surface at low tide, these sporadic oyster reefs located throughout the estuary allow for a highly-efficient filtering of the brackish water. Through this specialized filtration, the improved water quality then benefits keystone vegetative species, such as manatee grass (*Syringodium filiforme*), shoal grass (*Halodule wrightii*), and turtle grass (*Thallasia testudinum*). Additionally, the oyster reefs provide refuge for commercially-important species, including the blue crab (*Callinectes sapidus*), red drum (*Sciaenops ocellatus*), and the stone crab (*Menippe mercenaria*), as well as, provide a source of food for the American Oystercatcher (*Haematopus palliates*), which is currently listed as threatened.

The banks of the estuary are flanked by dense forests of red mangrove trees (*Rhizophora mangle*). Red mangroves are distinguished by the visible network of aerial prop roots extending from the trunk and lower branches to the submerged soil below. The prop roots are important adaptations to living in anaerobic hydric soils and provide a mechanism for gas exchange. Within the soils, microroots stabilize fine silts and coarser sands, which help maintain water clarity and quality. The leaves are shiny, deep green on the surface, with a paler underside. Like other types of mangroves, *R. mangle* can live in brackish water by exuding excess salt in 'sacrificial leaves' that are constantly shed. Cocohatchee is the Seminole Native American term meaning *brown water*, the color created by the endless dropping of tannin-rich leaves from the red mangroves lining the banks. (Photograph taken in July 2009 by Christopher Makowski, Coastal Education and Research Foundation, Inc. *[CERF]*, Coconut Creek, Florida, U.S.A.)