Key Site 85: Southern Atlantic Coast, South Carolina and Georgia

Location: 32°11'37"N, 80°33'37"W

Size: 2730 km^2

Description: The Southern Atlantic Coast key site extends from approximately Myrtle Beach, South Carolina, to Cumberland Island, Georgia. The coast is bisected by major river drainages such as the Santee, Edisto, Savannah, and Altamaha and is characterized by numerous barrier islands separated from the mainland by vast salt marshes (Kovacik and Winberry 1987).

Precision and Correction of Abundance Estimates Presented: Abundance estimates are based on data from the Atlantic Coast Wintering Sea Duck Survey (see Silverman et al. 2012 for methods; also see Methods section in this atlas) and related surveys (Mid-Winter Survey [MWS; Eggeman and Johnson 1989] or Atlantic Marine Assessment Program for Protected Species [AMAPPS 2015]). Abundance estimates presented for this key habitat site have not been adjusted to account for incomplete detection or other biases. Abundance estimates should, therefore, be treated as minimum estimates.

Biological Value: The Southern Coast is an extremely biodiverse region, and the rich waters are critical sites for wintering sea ducks. Estuarine and coastal benthic species richness, abundance, and density are among the highest on the entire Atlantic Coast (Wenner et al. 1983, Cooksey et al. 2010). Benthic bivalve species are key foods for thousands of wintering waterfowl that congregate in this region.

The rich waters are critical sites for wintering sea ducks. Silverman et al. (2012; see Methods section in this atlas) estimated that a minimum of 22,000 scoters (*Melanitta* spp.) winter in this region. Black Scoter (*M. americana*) is by far the most abundant species. They arrive in early to mid-October and often congregate around the Cape Romain area in South Carolina. Some scoters remain in that area and others disperse southward along the coast into Florida; most occur within a mile of the coast.

Sensitivities: The South Carolina and Georgia coasts are relatively low in elevation and have flat topography and large tidal influxes. Therefore, impacts from sea level rise are predicted to be significant (Epanchin-Niell et al. 2017). Potential oil and gas exploration and offshore drilling in this region may have detrimental effects on the benthic community. NOAA ranks the South Atlantic as having the highest relative environmental sensitivity to spilled oil (Coastal Conservation League 2017). Physical burial of surrounding benthic communities from oil platform construction and release of drilling muds is the most deleterious impact (Michel 2013). Two of the largest shipping ports in North America (Charleston and Savannah) are found in the key site. Invasive species introduction is common due to the two large shipping ports and rapidly growing boating and recreational activities. Green mussels, an introduced species, have been observed along coastal Georgia since 2003, which represents an expansion of their range into these southern waters (Power et al. 2004). Additionally, rapid population growth in coastal counties in South Carolina and Georgia (Bailey 1996) has increased human and

domestic animal waste input, which affects shellfish beds. This region's sandy beaches make it a popular tourist destination, and recreational activities such as boating and fishing are common. Residential land development, commercial landscaping, and golf courses are sources of fertilizers, pesticides, herbicides, sedimentation, and turbidity (Bailey 1996). Hurricanes can have large impacts on the regional coastline and on wildlife habitat on the Southern Coast (Scott et al. 2003).

Potential Conflicts: Potential conflicts exist between the fishing industry and benthic habitat conservation initiatives. Shrimping is an important commercial activity in the region that occurs in nearshore waters. There are initiatives in South Carolina and Georgia to develop offshore wind turbines (Michel 2013, BOEM 2021a). Development of offshore wind farms could impact migrating birds. Leases for oil and gas exploration and well drilling were issued in several areas in 1978, 1982, and 1983 (Michel 2013). There are no active leases in the area, but future oil and gas exploration can still be a potential conflict with conservation initiatives.

Status: Nearshore state waters are under the jurisdiction of the South Carolina Department of Natural Resources as well as the South Carolina Department of Health and Environmental Control. The coasts of South Carolina and Georgia are part of the South Atlantic Planning Area (BOEM 2021b). Several protected and limited use areas aim to protect this region's natural resources and the area has the highest proportion of protected coastline on the Atlantic seaboard (Epanchin-Niell et al. 2017). The Cumberland Island National Seashore is the only national park unit, which is located in Georgia. It is a barrier island with 6820 hectares of marsh, mudflats, and tidal creeks. Additionally, there are four coastal national wildlife refuges falling within sea duck habitat (Cape Romain, Wassaw, Blackbeard Island, and Wolf Island). Several state (Georgia and South Carolina) wildlife management areas abut the coast. Five marine protected areas have been established since 2009 (Michel 2013) to protect coral and benthic habitat from damage related to fishing activities. Although significant habitat protection measures are in place, energy development, commercial shipping, and human population development within the region pose serious threats to vital habitats.

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Black Scoters. Photo: Tim Bowman.