



BLACK SEA BASS

Centropristis striata

Life History and Habitat Needs

Geographic Range

A temperate reef fish, black sea bass commonly inhabit rock bottoms near pilings, wrecks, and jetties. They are found as two distinct stocks with overlapping ranges in the Atlantic, spanning from southern Nova Scotia to southern Florida and into the Gulf of Mexico. The northern stock migrates seasonally and spawns off of New England in the late summer. Black sea bass rely on their large mouth and swift ocean currents to catch prey, which include fish, crabs, mussels, and razor clams. Black sea bass summer in northern inshore waters at depths of less than 120 feet and winter in southern offshore waters at depths of 240 to 540 feet.

Movement/Migration

Individuals belonging to the northern stock migrate between inshore, coastal areas and bays (in southern New England and the Mid-Atlantic Bight) and offshore wintering areas (from central New Jersey to North Carolina). Migrations are stimulated by changes in water temperature. In fall, when coastal bottom water temperatures decrease and approach 7°C, black sea bass migrate offshore to wintering areas. In spring, when bottom waters surpass 7°C, black sea bass move inshore.

Spawning

Black sea bass spawn at depths ranging from 20 to 50 m on the inner continental shelf, generally between the Chesapeake Bay and Montauk Point, Long Island. Spawning activities occur from May to July, but may extend into October and November. The extent of aggregation for spawning is poorly understood.

Habitat Use

Black sea bass are distributed in warm, temperate waters and use benthic habitats associated with structure for feeding and shelter. Eggs and larvae are found in mid-shelf coastal waters from late spring to late summer. Larvae migrate to coastal waters and move to bottom habitats. Juveniles move into estuarine or sheltered coastal nursery areas. Estuarine nursery habitats are shallow, hard-bottom habitat with structure, including shellfish (oyster and mussels), sponge, amphipod tubes, and seagrass beds (*Ruppia* sp.), as well as wharves, pilings, wrecks, artificial reefs, crab and conch pots, and cobble and shoal grounds. During their summer residency in coastal waters, adults are usually associated with inshore structured habitats including eelgrass, oyster and mussel beds, rocky reefs, cobble and rock fields, stone coral patches, and exposed stiff clay. Man-made structures include artificial reefs, shipwrecks, piers, pilings, jetties, groins, fish and lobster traps, and rough bottom along the sides of navigation channels. The offshore habitats occupied by adults during winter are poorly known.

Threats to Habitat

- Bottom otter trawls; clam, sea scallop, and other dredges
- Coastal development
- Nonpoint source pollution
- Dredging and dredge spoil placement
- Port development, utilization, and shipping
- Marinas and recreational boating

- Energy exploration, extraction, processing, and transport
- Sewage treatment and disposal
- Industrial wastewater and solid wastes
- Marine mining
- Aquaculture
- Introduced species

ASMFC Habitat Areas of Particular Concern

HAPCs have yet to be identified for black sea bass, due in part to a lack of information on habitat use by the species. While it is clear that black sea bass are heavily dependent on structure, the impact of specific materials, organisms, structural arrangements, etc. on larval recruitment and late juvenile/adult population structure is unknown.

Recommendations to Improve Habitat Quality

- Encourage wetlands protection and restoration.
- Regulate surface water withdrawals to provide adequate water flow and volume into coastal waters.
- Reduce erosion and pollution in coastal watersheds through conservation easements and other means.
- Implement activities and develop incentives to minimize or prevent nonpoint source pollutants from entering surface waters (e.g., establish tax breaks to encourage the use of vegetated buffer strips, increase fines associated with documented violations).
- Design new and modify existing confined animal facilities to limit wastewater discharges through different strategies.
- Reduce or eliminate pesticide use, and improve the application and calibration of spray equipment, to minimize water quality degradation.

Habitat Research Needs

- Identify spawning habitat and winter habitat used by adults and juveniles.
- Evaluate the value of artificial reefs as habitat.
- Study the relationship among habitat structure complexity, black sea bass abundance, and fish community composition.
- Determine the optimum size for submerged aquatic vegetation beds and oyster reefs to promote successful reproduction and recruitment.
- Investigate the transport mechanism of newly settled juveniles from the coastal zone to estuarine nurseries.

Additional Information

The northern stock of black sea bass (north of Cape Hatteras) is managed jointly by the Commission and Mid-Atlantic Fishery Management Council. The Interstate FMP is current to Amendment 13 (2002) to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan and Addendum XXV (2014). These documents, and other related documents, can be obtained on the ASMFC website at www.asmfc.org or by contacting the ASMFC Habitat Program Coordinator at 703.842.0740. Information on the southern stock can be obtained by visiting the South Atlantic Fishery Management Council website at www.safmc.net.

