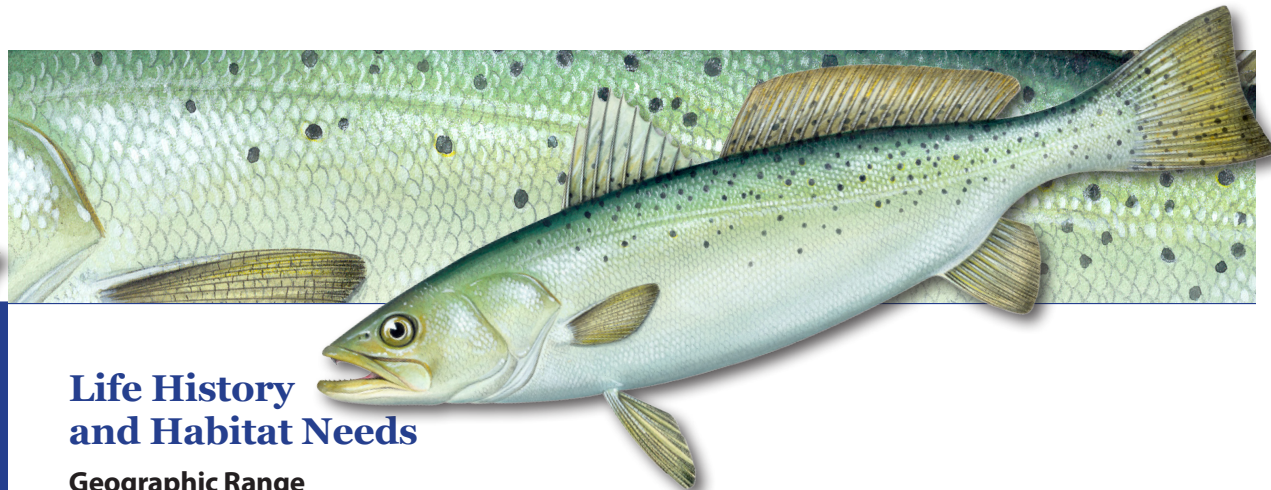


S P O T T E D S E A T R O U T

Cynoscion nebulosus



Life History and Habitat Needs

Geographic Range

Spotted seatrout occur in estuarine and coastal waters along the U. S. Atlantic coast from Cape Cod, Massachusetts to the Florida Keys, but are most abundant from the Chesapeake Bay southward.

Movement/Migration

Spotted seatrout are year-round residents of estuaries along the South Atlantic coast, although migration patterns vary regionally. They will move into deeper channels and holes, and occasionally offshore along beaches, to avoid extremely cold waters. Chesapeake Bay populations of spotted seatrout migrate offshore and south in fall and return to the Bay in spring. In North Carolina, spotted seatrout are caught year-round in estuaries, but can also be found in coastal, oceanic waters during winter. Tagging studies show that spotted seatrout populations in Georgia and Florida are relatively non-migratory.

Spawning

Spotted seatrout are year-round residents of estuaries along the South Atlantic coast, although migration patterns vary regionally. Migrations between upper- and lower estuarine habitats are largely seasonal and thought to be driven by reproductive cycles, prey availability, and feeding habits. Sensitivity to cold temperatures largely define seasonal migrations and the geographic distribution of spotted seatrout. Fish will move into deeper channels and holes, and occasionally offshore along beaches, to avoid extremely cold waters. Chesapeake Bay populations of spotted seatrout migrate offshore and south in fall and return to the Bay in spring. In North Carolina, spotted seatrout reside year-round within southern estuaries while fish from northern estuaries are more transient and comparable to those of Chesapeake Bay. Spotted seatrout are commonly caught in the coastal ocean during the winter in North Carolina. Recent genetic research and tagging studies show that spotted seatrout populations in Georgia and Florida have a small home range and fish rarely migrate far from the estuaries where they were spawned.

Habitat Use

Spotted seatrout eggs are pelagic and developing embryos float in the water column for a couple of days. After hatching, larvae are passively transported through the estuary where they forage on zooplankton until settling in seagrass beds, shallow bays, and tidal creeks. Juveniles are often associated with complex nursery habitats such as seagrass or oyster beds that have an abundance of prey and offer protection from predators. Juveniles are also commonly found in shallow salt marsh habitats and tidal creeks. Juveniles and young adults occupy similar habitats affording an abundance of small fish, shrimp, and crabs. As adults increase in size, their dependence on larger prey becomes increasingly important. Habitat use by adult spotted seatrout reflects prey abundance and piscivorous feeding habits. In the Chesapeake Bay, adults tend to stay in shallow creeks and rivers adjacent to eelgrass and widgeon grass beds. Large areas of shallow, quiet, brackish waters with temperatures that range from 15 – 27°C and extensive grassy areas are preferred habitats and provide refuge from winter cold, abundant food supply, and protection from predators and competitors. Spotted seatrout are found in waters with salinities as low as 0.2 (freshwater) up to 75 (hypersaline waters). Despite preferences for seagrass beds, the absence of seagrass beds along the coasts of South Carolina and Georgia does not preclude the presence of spotted seatrout in these areas, where they utilize other estuarine habitats such as creeks, marsh edges and oyster beds.

Threats to Habitat

- Loss of seagrass and estuarine wetlands
- Loss of oyster beds, e.g., shellfish overharvest, disease, pests
- Coastal development
- Dredging and dredge spoil placement
- Nutrient enrichment
- Alteration of freshwater flows into estuarine areas
- Point and nonpoint source pollution
- Sewage treatment and disposal
- Habitat alteration or conversion, e.g., wetlands converted to uplands
- Hydrological modifications (ditching, channelization, freshwater flows)

ASMFC Fish Habitats of Concern

Seagrass beds provide important habitat for both juvenile and adult spotted seatrout, but are in decline along much of the Atlantic coast.

Recommendations to Improve Habitat Quality

- Support habitat restoration initiatives, especially those for oyster and seagrass restoration.
- Prohibit the use of any fishing gear having a substantial adverse impact on spotted seatrout habitat within Fish Habitats of Concern (e.g., trawling in spawning areas or primary nursery areas should be prohibited).
- Establish freshwater inflow targets for estuaries documented as important spawning, nursery, or wintering habitat. Work with appropriate federal agencies to identify hydropower dams and water supply reservoirs which pose significant threats to maintenance of appropriate freshwater flows or migration routes for spotted seatrout spawning areas. Make appropriate recommendations during re-licensing evaluation.
- Scrutinize projects involving water withdrawal from nursery habitats (e.g., power plants, irrigation, water supply projects) to minimize adverse impacts from impingement, entrainment, modification of flow, and temperature and salinity regime changes due to water removal. Develop water use and flow regime guidelines that are protective of spotted seatrout spawning and nursery areas.
- Develop permit conditions to avoid or mitigate adverse impacts on spotted seatrout habitat. For example, establish windows of compatibility for activities which may adversely affect spotted seatrout habitats, such as navigational dredging, bridge construction, and dredged material disposal.
- Coordinate development and implementation of nonpoint source pollution control plans.
- Review adequacy of water quality standards to protect all life-stages of spotted seatrout.

Habitat Research Needs

- Identify habitat requirements for all life history stages of spotted seatrout.
- Quantify the impact of habitat loss and degradation on spotted seatrout populations.
- Investigate minimum and maximum tolerances for parameters such as dissolved oxygen, temperature, and salinity.
- Determine the impacts of dredging activity (i.e., for beach re-nourishment) on all life history stages of spotted seatrout.

Additional Information

Spotted seatrout are managed by the ASMFC under the Omnibus Amendment to the Interstate Fishery Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout (2011). The FMP and related documents are available on the ASMFC website at www.asmfc.org or by contacting the ASMFC Habitat Program Coordinator at 703.842.0740.

