

## Life History and Habitat Needs

**Geographic Range:** Red drum are found along the Atlantic coast from the Chesapeake Bay to Key West, Florida.

**Movement/Migration:** In general, red drum migrate inshore and/or north to spawning grounds in the spring and offshore and/or south to wintering grounds in the fall. Overall, adults and sub-adults return to the same coastal areas each year.

**Spawning:** Spawning occurs primarily in nearshore areas close to inlets and passes during late summer and fall, with a peak in late September/October. Fish produce characteristic drumming sounds believed to be related to spawning activity.

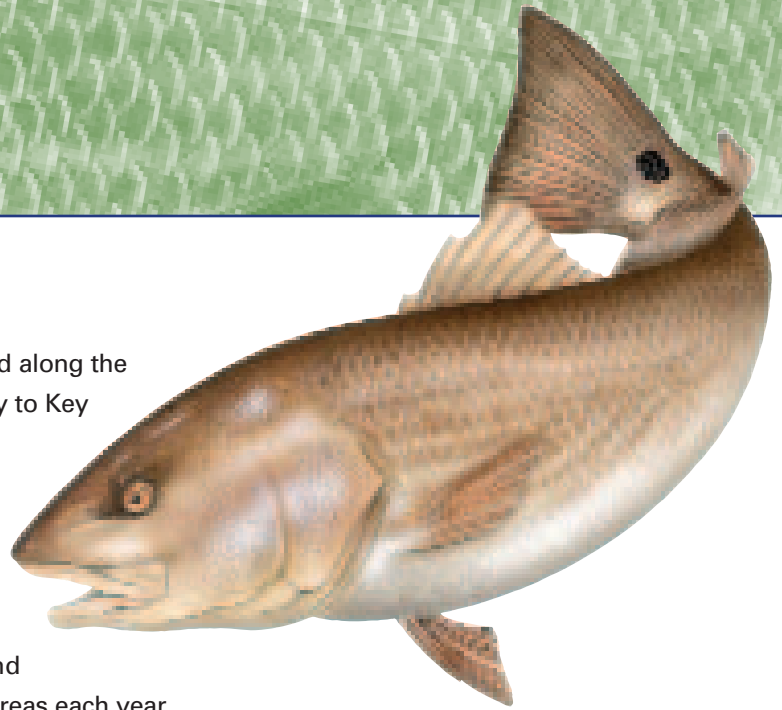
**Habitat Use:** Eggs and pelagic larvae utilize high salinity waters inside inlets and passes, and in the estuary proper. They use currents to travel to nursery areas including coastal marshes, shallow tidal creeks, bays, tidal flats of varying substrate, tidal impoundments, and seagrass beds. Juveniles utilize a variety of inshore habitats, including tidal freshwater habitats, low-salinity reaches of estuaries, estuarine emergent vegetated wetlands (flooded salt marshes, brackish marsh and tidal creeks), estuarine scrub/shrub (mangrove fringe), submerged aquatic vegetation, oyster reef and shell banks, and unconsolidated bottom (soft sediments). Sub-adults are found throughout tidal creeks and channels of southeastern estuaries, in backwater areas behind barrier islands, and in front of beaches during certain times of the year. During fall migrations, adults use hard/live bottom areas and artificial reefs off South Carolina and Georgia.

## Threats to Habitat

- Coastal development
- Navigation and related activities, e.g., dredging and hazardous material spills
- Maintenance and stabilization of coastal inlets, e.g., jetty construction
- Loss of estuarine and marine wetlands
- Invasion by exotic species such as Brazilian pepper (*Schinus terebinthifolius*)
- Nutrient enrichment
- Watercraft operation activities, e.g., pollutant discharges from boats
- Hydrologic modifications, e.g., flood and mosquito control, aquaculture
- Alteration of freshwater flows into estuarine areas

## ASMFC Habitat Areas of Particular Concern

Important habitats for red drum are tidal freshwater, estuarine emergent vegetated wetlands (flooded saltmarshes, brackish marsh, and tidal creeks), estuarine scrub/shrub (mangrove fringe), submerged rooted vascular plants (sea grasses), oyster reefs and shell banks, unconsolidated bottom (soft sediments), ocean high salinity surf zones, and artificial reefs.



## Recommendations to Improve Habitat Quality

- Identify and protect red drum spawning and nursery habitat, and establish Habitat Areas of Particular Concern with special protections, e.g., oyster reef, intertidal marsh or submerged rooted vascular vegetation, tidal creeks, intertidal flats, and adjacent estuarine deepwater.
- Develop permit conditions to avoid or mitigate adverse impacts on red drum habitat. For example, establish windows of compatibility for activities which may adversely affect red drum habitats, such as navigational dredging, bridge construction, and dredged material disposal.
- 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 red drum 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 protocols and schedules for providing input on water quality regulation, eliminate existing contaminants from red drum habitats, and limit the introduction of compounds known or suspected to accumulate in red drum tissue to ensure that water quality needs for red drum are met and maintained.

## Habitat Research Needs (Listed in order of priority)

- Identify specific red drum spawning areas from North Carolina to Florida so these areas may be protected from degradation and/or destruction
- Identify changes in freshwater inflow on red drum nursery habitats and quantify the relationship between freshwater inflows and red drum nursery/sub-adult habitats
- Determine the impacts of dredging and beach re-nourishment on red drum spawning and early life stages
- Investigate the concept of estuarine reserves to increase the escapement rate of red drum along the Atlantic coast
- Identify the effects of water quality degradation (changes in salinity, DO, turbidity, etc.) on the survival of red drum eggs, larvae, post-larvae, and juveniles
- Quantify relationships between red drum production and habitat
- Determine methods for restoring red drum habitat and/or improving existing environmental conditions that adversely affect red drum production

## Additional Information

Red drum are managed under Amendment 2 to the Interstate Fishery Management Plan for Red Drum (June 2002) and can be found on the ASMFC website at [www.asmfc.org](http://www.asmfc.org) or by contacting the ASMFC Habitat Specialist at (202) 289-6400.