



# BLACK DRUM

*Pogonias cromis*

## Life History and Habitat Needs

### Geographic Range

Black drum are widely distributed in the inshore waters of the western Atlantic Ocean. They range from the Gulf of Maine in North America down to the coast of Argentina in South America. The species is most abundant along the east coast of the United States from New England south to Florida and in the Gulf of Mexico from Florida to Texas.

### Movement/Migration

Adult black drum occupy inshore and nearshore habitats throughout much of the year with a general pattern of moving north and inshore during the spring, and south and offshore during the fall. During the spring spawning period adults will typically move into the inlets, bays, and mouths of estuaries to feed and spawn with some nearshore oceanic spawning being observed. Successfully fertilized eggs are pelagic and are dispersed throughout estuaries through tidal stream transport. Black drum eggs hatch within 24 – 48 hours at which point the larvae typically move from areas of higher salinities toward areas of lower salinities. Juvenile black drum likely use a range of estuarine habitats. Small juveniles have been documented in upper and middle parts of estuaries, where salinities are low. However, by the summer months, juveniles begin moving down in the estuary into tidal and marsh habitats, and are not found in rivers. By the fall, some juveniles are even found in ocean habitats.

### Spawning

Black drum are known to gather in large aggregations in nearshore and inshore waters to broadcast spawn. Males typically reach maturity around 2 – 4 years old while females mature later at age 4 – 6. Males and females will spawn multiple times throughout the spawning period and large females are capable of releasing tens of millions of eggs per year. In the Atlantic basin, black drum spawn from April to June in the northern range. In the Mid-Atlantic region, spawning in the mouth of the Chesapeake Bay and larger estuaries has been well documented, and the presence of a large spring/early summer fishery on spawning fish in the Delaware Bay also supports evidence of spawning occurring inshore in the spring. Studies in Florida suggest spawning occurs in deep waters inshore, from November through April, with peaks in February and March. It is noteworthy that the drumming sound made by black drum is associated with spawning behaviors.

### Habitat Use

Black drum use a variety of habitat types, and the species' spatial and temporal distributions are typically dependent on their life history stage. Juveniles can be found throughout coastal estuaries occupying habitats representing open sand and mud bottoms, salt marsh habitats, seagrass beds, and tidal creeks. Juveniles feed on a variety of prey items when foraging through the substrate. Stomach content studies have found amphipods, crustaceans, polychaetes, small fish, and mollusks. Juveniles are tolerant of a wide range of salinities and have been sampled in waters ranging from 0 – 30+.

Adult black drum are most abundant in the lower reaches of coastal estuaries and the nearshore waters of the continental shelf. They are most commonly found over sand and soft bottoms where oysters and clams are abundant. Adult black drum predominantly prey on benthic crustaceans and mollusks. They use their sensitive chin barbels to root through the sediment and feed on clams, oysters, and crabs. Like the juveniles, adult black drum are tolerant of a wide range of salinities but are much less common in areas with lower salinities.



## Threats to Habitat

- Loss of estuarine and marine wetlands
- Loss of oyster reefs
- Coastal development
- Nutrient enrichment of estuarine waters
- Alteration of freshwater flows in estuarine waters
- Dredging and disposal of dredge materials
- Sand mining for beach replenishment

## ASMFC Fish Habitats of Concern

- Tidal freshwater, estuarine emergent vegetated wetlands (flooded salt marshes, brackish marsh, and tidal creeks), and estuarine scrub/shrub (mangrove fringe)
- Submerged aquatic vegetation (seagrasses)
- Oyster reefs and shell banks, unconsolidated bottom (soft sediments), ocean high salinity surf zones, and artificial reefs
- All coastal inlets, all state-designated nursery habitats, sites where spawning aggregations of black drum have been documented and spawning sites yet to be identified
- Primary nursery areas such as coastal marshes, shallow tidal creeks, bays, tidal flats of varying substrate, tidal impoundments, and seagrass beds

## Recommendations to Improve Habitat Quality

- Prohibit/limit dredging and filling of wetlands and shallow coastal waters
- Establish time of year restrictions for development activities known to adversely affect the most vulnerable life history stages of black drum
- Coordinate development and implementation of nonpoint source pollution control plans
- Limit/restrict the use of bottom fishing gears within Fish Habitats of Concern that may have a negative impact on black drum habitat

## Habitat Research Needs

The Interstate Fishery Management Plan for Black Drum (2013) states three research needs for black drum habitat.

- Expand existing fishery independent surveys in time and space to better cover black drum habitats, if possible (especially adults).
- Conduct otolith microchemistry studies to identify regional recruitment contributions.
- Conduct new and expand existing acoustic tagging programs to help identify spawning and juvenile habitat use and regional recruitment sources.

Additional research objectives also need to focus on resolving the preferred and physiological tolerances of black drum, at all life stages, for temperature, salinity, and DO. Studies also need to examine the impact of black drum consuming mollusks in polluted, industrialized regions since mollusks bioaccumulate toxins.

## Additional Information

Black drum are managed by the ASMFC under the Interstate Fishery Management Plan for Black Drum (2013). The FMP and related documents can be obtained on the ASMFC website [www.asmfmc.org](http://www.asmfmc.org) or by contacting the ASMFC Habitat Program Coordinator at 703.842.0740. Fishery Management Council website at [www.safmc.net](http://www.safmc.net).