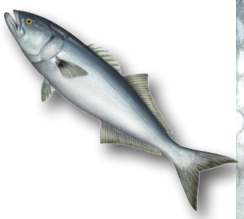

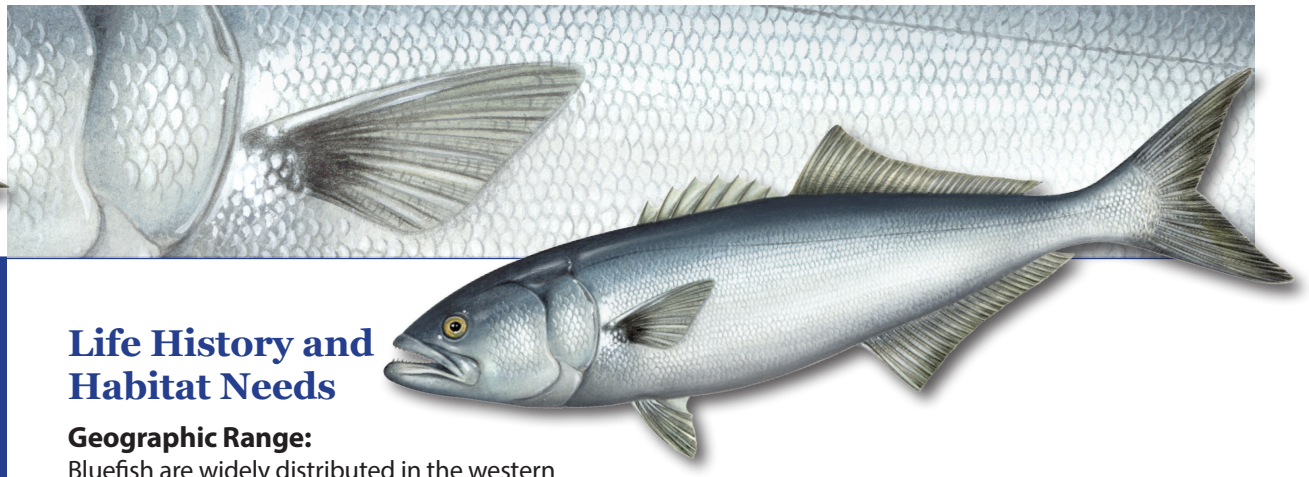

BLUEFISH

Pomatomus saltatrix

Life History and Habitat Needs

Geographic Range:
Bluefish are widely distributed in the western North Atlantic. In U.S. waters, they are abundant from Maine to Florida.

Movement/Migration:
Bluefish migrate seasonally moving north in spring and summer as water temperatures rise, and moving south in autumn and winter to waters in the South Atlantic Bight. Bluefish occur north of the Carolinas only in warmer months. Temperature and photoperiod are the limiting factors affecting migration and distribution of adult bluefish.

Spawning:
Bluefish spawn offshore from Massachusetts through Florida. Discrete groups spawn at different times and are referred to by the season in which they spawn: the spring-spawned cohort and the summer-spawned cohort. Recent research has also identified a fall-spawned cohort, demonstrating an expansive and prolonged spawning season.

Habitat Use:
Eggs are pelagic and highly buoyant, and are released in open ocean waters with temperatures ranging from 18 – 22°C and salinities greater than 31. Larvae develop into juveniles in continental shelf waters and eventually move to estuarine and nearshore shelf habitats. Larvae are generally found close to the surface of oceanic waters with temperatures from 18 – 24°C and salinity levels in the range of 30 – 32. Larvae migrate to the surface at night and down as far as four meters in daylight hours.

As larvae develop into juveniles, they move into coastal oceans, bays, and estuaries of the Mid- and South Atlantic Bights, but are less common in the South Atlantic Bight. Juveniles generally prefer sandy bottom habitats, but will also inhabit bottoms with some mud, silt, and clay. Juvenile bluefish may also inhabit areas vegetated with Ulva (sea lettuce), Zostera (eelgrass) beds, and Spartina (marsh cord grass) or Fucus (brown seaweed).

Adult and juvenile bluefish are found primarily in waters less than 20 m deep along the Atlantic coast. Adults use both inshore and offshore areas of the coast and favor warmer water temperatures, although they are found in a variety of hydrographic environments. Adults are not found in the Mid-Atlantic Bight when temperatures drop below 14 – 16°C. Bluefish migrate in large schools following prey fish, including other ASMFC-managed species such as menhaden and river herring.

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
- Destructive or unregulated practices in agriculture and silviculture
- Ocean disposal
- Introduced species
- Changes to availability of prey (forage fishes)
- Petroleum products from maritime shipping accidents
- Offshore drilling accidents
- Excessive quantities of domestic waste from sewage outfalls

ASMFC Fish Habitats of Concern

Inshore areas and estuaries are important habitat for bluefish larvae and juveniles. Transport via the Gulf Stream across parts of the South Atlantic Bight may be a critical bottleneck for pelagic juveniles.

Recommendations to Improve Habitat Quality

- Prohibit filling of wetlands and shallow coastal waters.
- Reduce erosion and pollution in coastal watersheds through conservation easements or other means.
- Implement regulations 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 or update confined animal facilities to limit wastewater discharges.
- Reduce or eliminate pesticide use, and improve the application and calibration of spray equipment to minimize water quality degradation.

Habitat Research Needs

- Compile information on the distribution and relative abundance of adult, juvenile, and larval bluefish in inshore areas, especially estuaries and embayments.
- Compare use of nearshore coastal zones with that of estuaries as nursery areas for the summer-spawned cohort.
- Study the synergistic effects of pH, contaminants, and other environmental variables on bluefish reproductive capability, genetic changes, and suitability for human consumption.
- Investigate the relationship of epidemic dermatological disease to environmental contaminants.
- Evaluate the dietary preferences of juvenile bluefish.
- Modify thermal niche model to incorporate water temperature data more appropriate for bluefish in a timelier manner (e.g., sea surface temperature data and temperature data that cover the full range of bluefish habitat, including the South Atlantic Bight and estuaries).

Additional Information

Bluefish are managed jointly by the ASMFC and the MAFMC under Amendment 1 (1998) to the Interstate Fishery Management Plan for Bluefish and Addendum I (2012). Amendment 1 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.

Atlantic States Marine Fisheries Commission www.asmfc.org