05 Fisheries

Target Statement

By 2050, populations of signature Hudson River fisheries are robust and sustainable and contaminant levels are declining in all targeted species. These conditions will support both ecologic and economic vitality while restoring historic fishing traditions. By 2030, both populations and contaminants are effectively monitored and managed, and key habitats needed to support American Shad, River Herring, Striped Bass, Black Bass, American Eel, Blue Crab, and Sturgeon populations during critical life stages and seasons are identified and protected or beginning to be restored.

Summary

Through the actions outlined in the Hudson River CRP, the estuary Action Agenda, interstate plans and endangered species recovery plans, we aim to restore and sustain important fish and fisheries in the Hudson River estuary. A fishery is generally affiliated with places or regions that, naturally or artificially, produce and manage fish for consumption purposes and is not representative of all the species found in each area. Historically, the Hudson River has had a robust and naturally productive commercial fishery. The iconic species associated with this once remarkably productive mid-Atlantic fishery include Short-nose and Atlantic Sturgeon, American Shad, River Herring, Striped Bass and American Eel. While the diverse habitats of the estuary and direct connection to the Atlantic Ocean support more than 200 species of fish, it was the migratory fishes that once supported a vibrant fishing industry from Manhattan to Troy. Due to a combination of legacy contamination, overfishing, and habitat loss, most fisheries of the estuary have been modified or closed completely. Commercial fishing for Striped Bass ended in 1976; the last Atlantic Sturgeon was harvested in 1995; American Shad fishing closed in 2010. However, small commercial fisheries for Blue Crab and River Herring remain. Recreational fishing is still strong, particularly for Striped Bass, Smallmouth and Largemouth Bass, despite the establishment of human consumption advisories due to PCB and other contaminants. The implementation of these restoration actions will allow for these species to recover to the point where the species are effectively playing their ecological role at abundance levels high enough to sustain appropriate-sized recreational and commercial fisheries.

The commercial fishes frequenting the estuary are all native and are mostly diadromous (e.g., migratory), spending time during various life stages in either salt or freshwater. The diadromous fishes of the estuary are the most difficult to manage and have been the most overfished along their Atlantic coastal migration route and in the estuary, particularly Atlantic Sturgeon and American Shad. Neither of these species may now be fished in the Hudson River. Most adult migratory fishes are found in freshwater during the spring when they spawn. Their young spend varying times in the estuary until they leave to mature at sea, returning later to their natal water to spawn. Because many of the above species mature at sea, they represent a vital component of the oceanic food web but are also susceptible to harvest, both intended and accidental, by ocean fisheries. American Eels have an opposite life history, spawning in the Sargasso Sea but maturing for a considerable time in brackish and freshwater water of the estuary and its tributaries. Species such as Sturgeon may not reach reproductive maturity until they reach 20 years old. These in-estuary and out-of-estuary variables, combined with an altered mosaic of habitat availability, the implications of climate change and a complex management structure, make managing the iconic Hudson River fisheries a challenging proposition.

Although circumstances continue to be challenging, a management success story may be unfolding related to Atlantic Sturgeon. In recent years, data indicates that the abundance of juvenile Atlantic Sturgeon has shown an increasing trend. Although it is too early to declare a success, the observations are certainly encouraging.

The likelihood of recovery success for many of these species hinges on our ability to address three key challenges. First, effective management of the fishes and fisheries of the estuary, and beyond, should be enhanced through adaptive management, and informed by expanded research and monitoring, of regulatory structures and regulations in collaboration with other Atlantic coastal states and Canada. Second, critical estuary habitats should be managed at least in proportion to what currently exists as the effects of climate change are realized, but they should be managed for equal or higher quality. It should also be recognized that additional habitat gains can be made through efforts to restore side-channel habitats (see also Hudson River Shorelines and Riparian Areas and Shallow Water and Intertidal Wetlands) and re-establish tributary connectivity (see Tributary Connectivity and Barriers) by mitigating the effects of stream barriers and past dredging and filling practices. Finally, the realized and potential proliferation of invasive aquatic biota, both species and extent of coverage, should be slowed or eliminated with attention to connectivity with sources of invasive species from other water ways (e.g., New York Harbor and the Great Lakes), and this should be coupled with effective implementation of the New York State Aquatic Invasive Species Management Plan.