

# Tributary Summary: Patuxent River

## Invasion status

*When were blue and flat head catfish introduced?*

- Anglers spoke of catching blue catfish in the Patuxent since about 2005, but the first confirmed blue catfish was found in 2008.

*What methods are being used to determine population size and structure?*

*What population data exists?*

- The Smithsonian Environmental Research Center (SERC) conducted electrofishing in summer and fall 2012-2013 to determine relative abundance (electrofishing catch per unit effort) and size structure in the Patuxent River.
- Maryland Department of Natural Resources (MD DNR) is conducted electrofishing samples, but it is focused on diet information and basic life history indices. No population size studies are being conducted by MD DNR at this time.



Researchers measure a blue catfish in the Patuxent River in 2014. Photo courtesy of SERC

*What are the specific ecological impacts (i.e. predominant prey species)? Is there any mapping or information on the spatial extent of the species?*

- A [NOAA-funded study conducted by SERC](#) assessed catfish diet. The diet of the smallest fish was composed primarily of small benthic invertebrates, mysids and plant matter. As the blue catfish grew, bivalves were added to the diet. Above 350 mm TL, diet became diverse with fish being the dominant prey. Blue catfish were relatively common from the Rt. 4 bridge to Magruder's Landing, which was the downstream extent of the study area. In a separate acoustic telemetry study, individual blue catfish have been observed moving frequently along the length of the tidal Patuxent from the Rt. 4 Bridge to Benedict Bridge, and one fish moved as far downstream as Broomes Island.
- Blue catfish directly and indirectly compete for forage fish used by native and naturalized fish. This problem is exaggerated in the Patuxent, as compared to the Potomac, due to the lower density and diversity of the forage base coupled with excessive siltation that has limited habitat. Additionally, the Patuxent has had a very active commercial fishery and the commercial watermen are already complaining of fewer channel and white catfish in their nets. This provides an opportunity for blue catfish, but year-round fishermen do not know where to set their nets through all types of weather, temperature and seasons.

## Monitoring and Science

*What survey(s) are you using to monitor?*

- MD DNR is conducting electrofishing surveys supplemented with jug lines. Future work will also include alternative nets.

*List any active research projects.*

- SERC's acoustic telemetry project will extend through at least summer 2016.
- MD DNR is continuing to study invasive catfish diet.

### What information exists on the contaminant burdens of fish?

- Consumption advisories for contaminants in fish are issued at the federal and state levels and exist for both commercial and recreational fishing. More specific advisories are recommended for individual species depending on size of the fish and where it was caught in the water body. The main contaminants of concern for fish are Mercury (Hg) and PCBs.
- [Maryland Department of the Environment](#) recommends a maximum of four 8-ounce meals per month for blue catfish from the 301 bridge to the D.C. line. As the fish get larger, the number of meals recommended per month decreases. Blue catfish more than 30 inches should be avoided.

### Fishery

Is there an active commercial fishery? What harvest data exist? What gear is being used to catch the fish?

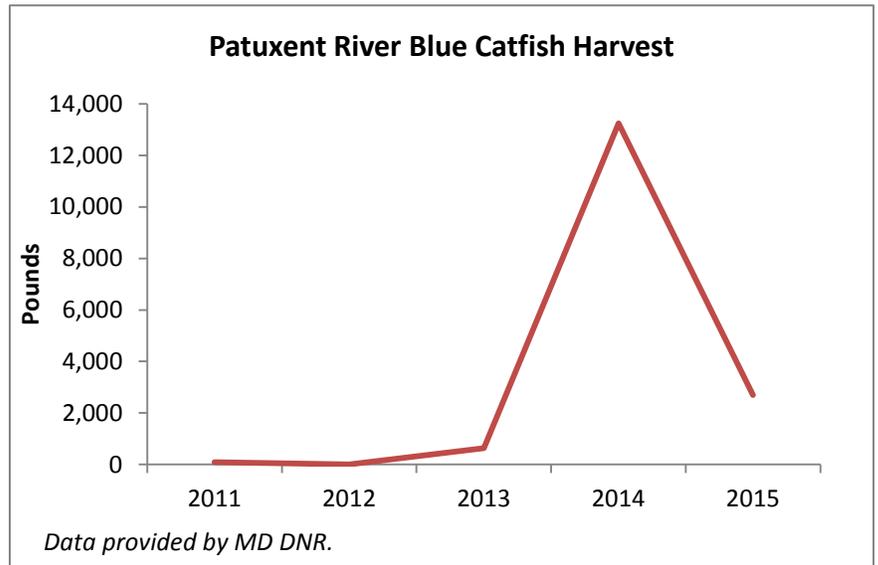
- There is a commercial fishery for blue catfish in Maryland. Nets are the gear of choice for commercial entities.

Is there recreational fishing? Specifically, what types: charter, subsistence, or both?

- There is a very active recreational fishery shared by guided trips (not as active as the Potomac), subsistence and catch and release anglers.

What fishing regulations exist in the tributary?

- [MD DNR](#) does not have a minimum size or creel limit for invasive catfish caught in Maryland waters.



Researchers weigh blue catfish in the Patuxent River in 2014. Photo courtesy of SERC.

### Communications and outreach

Who are the primary contacts and key stakeholders (scientists, managers, fishermen, conservation groups)?

- SERC (Matt Ogburn, Rob Aguilar), Maryland DNR (Mary Groves), Patuxent Riverkeeper, Jug Bay Wetlands Sanctuary, Chesapeake Bay NERR, fishermen (Bob Evans)
- Bay Catfish Advocates, Chesapeake Conservation Association, and a host of small clubs or guiding businesses.

Are there any active public messaging campaigns?

- MD DNR's campaign includes website bulletins, signage at primary angler access points, newspaper articles, ads in the annual Fishing Guide given to anglers purchasing fishing licenses, and a display panel about invasives with a live fish display presented at the State Fair, Seafood Festival and various Fishing Shows throughout the year.

### Management strategies (active or proposed)

Are there active management strategies in place for invasive catfish in this tributary?

- MD DNR is continuing their public relations campaign and is also a member of the Chesapeake Bay Program's [Sustainable Fisheries Goal Implementation Team](#) and is working with state, federal and local agencies to draft regionwide management strategies.

*What strategies could be developed or implemented to reduce impacts of invasive catfish?*

- MD DNR plans to continue to encourage removal by both commercial businesses and local anglers, especially focusing on another commercial use besides consumption. MD DNR contacted a couple of fairly local companies that do exploit large fish catches, but neither were interested in blue catfish, for various reasons.

*August 2015 (updated June 2016). Produced by the NOAA Chesapeake Bay Office with input from state agencies and academic partners listed above.*