

# Tributary Summary: Potomac River

## Invasion status

*When were blue and flathead catfish introduced?*

- Blue catfish were stocked in some Virginia non-tidal waters in the 1970s, but how the fish got in to the Potomac proper is uncertain.

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

- The District Department of Environment (DDOE) has been conducting a standardized electrofishing survey that began in 1990. Blue catfish appeared in this survey in 1992 and the numbers started increasing in 2005. Flathead catfish first appeared in the District in 2010 but appeared in this survey in 2014.
- DDOE also conducts a Low Frequency Electrofishing survey to monitor invasive catfish populations. This survey was implemented in 2010 and has been used to monitor invasive catfish populations and analyze diet composition. The chart (right) shows the annual catch per unit effort (CPUE) for the five District Low Frequency Sites.
- A method for determining population size is under consideration by Maryland Department of Natural Resources (MD DNR). Electrofishing has been performed by both MD DNR and Virginia Department of Game and Inland Fisheries (VA DGIF). CPUE can be calculated from these data.



A tagged blue catfish about to be released in the Potomac River in 2015. Photo courtesy of SERC.

Year	Overall CPUE for Blue Catfish
2010	328.25
2011	246.00
2012	340.50
2013	384.36
2014	287.70

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

- Specific ecological impacts can be seen with the decline in other native and introduced catfish species. As blue catfish populations have increased, channel and brown bullhead catfish have declined.
- DDOE currently tags a small number of blue catfish with Vemco acoustic transmitters to monitor movement throughout the Potomac and Anacostia Rivers. Results show that blue catfish movements are sporadic, with some traveling short distances and others moving greater distances.
- Direct and indirect competition for forage fish with native fish, particularly the Largemouth Bass, Alewives, herring and shad, all highly valued species in Maryland, have also been found in blue catfish stomachs. Current diet data shows that blue catfish will feed on whatever is in the river. This indiscriminate feeding can have a detrimental effect on species that enter the Bay and its tributaries on a seasonal basis.
- Dietary preferences are catalogued from DDOE's Low Frequency Study, which also focuses on stomach content analysis. Preliminary findings also show that blue catfish are opportunistic feeders.

## Monitoring and Science

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

- DDOE Surveys: Standardized Electrofishing, Low Frequency Electrofishing, Blue Catfish Diet Study, Acoustic Telemetry Study.
- MD DNR: Electrofishing surveys supplemented with jug lines. Future work will also include alternative nets.

*List any active research projects.*

- DDOE Surveys: Standardized Electrofishing, Low Frequency Electrofishing, Blue Catfish Diet Study, Acoustic Telemetry Study.

- MD DNR is continuing to study invasive catfish diet.

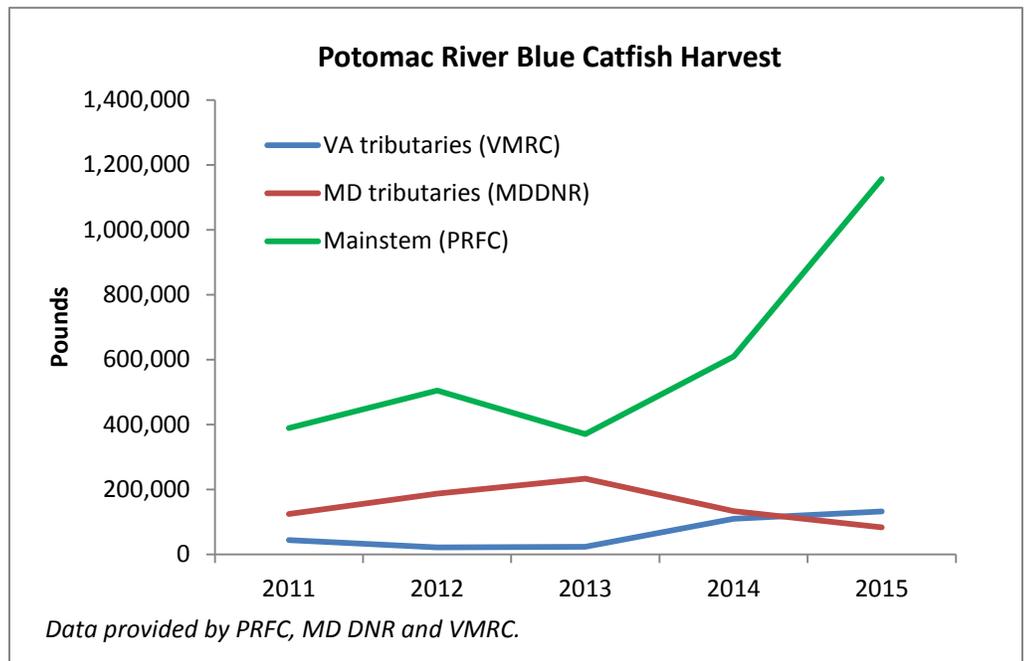
*What information exists on the contaminant burdens of fish?*

- 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.
- [DDOE](#) advises zero consumption of catfish from the Potomac but is looking to update its Fish Consumption Advisory based on its most recent tissue analysis study for contaminants.
- [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.
- There are [no specific blue catfish consumption advisories](#) in the Virginia tributaries of the Potomac.
- A [NOAA-funded study](#) further details the contaminant burdens in blue catfish in the James, Rappahannock and Potomac rivers.

**Fishery**

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

- There is commercial fishing on the Potomac River below the Woodrow Wilson Bridge in the mainstem and in the tributaries. The tributaries of the Potomac on the Maryland and Virginia sides are managed by MD DNR and the Virginia Marine Resources Commission (VMRC), respectively. The mainstem of the Potomac River is managed by the



[Potomac River Fisheries Commission](#) (PRFC). The graph (above) shows the sum of pounds caught in the Potomac River mainstem and tributaries.

- According to PRFC data, floating trotlines and fish pots are the gear types with the highest reported harvest.
- Virginia Commonwealth University [mapped](#) Blue Catfish landings each year from 2003-12.

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

- There is an active recreational fishery with catfish tournaments. There are professional guides that access District waters and there is subsistence and catch and release angling.

*What fishing regulations exist in the tributary?*

- [MD DNR](#) and [PRFC](#) do not have a minimum size or creel limit for blue catfish caught in Maryland waters or in the mainstem Potomac River, respectively.
- In Virginia, there is a statewide limit of possession to [1 fish](#) over 32" per day for blue catfish. For recreational and commercial fisheries in tidal waters, there is unlimited possession for blue catfish under 32" and for all flathead catfish. There is no commercial harvest outside of tidal waters, strictly recreational. Outside of tidal waters, the limit for catfish is 20 per day.

- There are no regulatory restrictions to removing invasive catfish using noncommercial methods in D.C.

## Communications and outreach

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

- PRFC, DDOE, MD DNR, Bay Catfish Advocates, Chesapeake Conservation Association, and a host of small clubs or guiding businesses.

*Are there any active public messaging campaigns?*

- DDOE has an Aquatic Education Branch that routinely teaches students about the ecological dangers of invasive species.
- 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.
- The Virginia Department of Game and Inland Fisheries (VA DGIF) has an active invasive species public messaging campaign. It is in the process of posting signs at all DGIF boat ramps in Virginia that feature a QR code with a link to a DGIF webpage with information about the potential impacts of invasive species and non-native introductions.
- VA DGIF has distributed information about blue catfish overabundance in Virginia rivers since the early 1990s and promotes expanded harvest as a potential mechanism to control catfish overabundance.

## Management strategies

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

- MD DNR, VMRC, VA DGIF, DDOE and PRFC are members of the Chesapeake Bay Program's [Sustainable Fisheries Goal Implementation Team](#) and its Invasive Catfish Task Force.

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

- DDOE is investigating a broad range of options from tournaments to opening a commercial fishery for invasive species.
- 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.
- PRFC is working with its harvesters to better understand and address issues associated with processing and marketability of blue catfish products.
- The Invasive Catfish Task Force under the Chesapeake Bay Program's Fisheries Goal Implementation Team has taken charge of this issue. They have developed a list of possible management strategies, including creating a fishery, increasing public messaging, and developing control methods to reduce population and slow its spread. The task force is currently revising their final report based on comments from peer reviews. Click [here](#) to see the draft document.