

Tributary Summary: Rappahannock River

Invasion status

When were blue and flathead catfish introduced?

- Blue catfish were introduced into Rappahannock in the mid-1970s. In the mid-1980s the species was widely distributed to small impoundments throughout the Commonwealth.
- Flathead catfish are not known to be established in the Rappahannock.
- See [Schloesser et al. 2011](#) for further history and description.

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

- Virginia Department of Game and Inland Fisheries (VA DGIF) is conducting mark-recapture population estimates in the Pamunkey, Rappahannock and Powell Creek in summer 2015.
- VA DGIF monitors catfish assemblage in the Rappahannock using standardized 15 pulse-per-second electrofishing at fixed stations throughout the range of blue catfish habitat. This program provides knowledge of the status and trends in blue catfish relative abundance, size and age distribution, growth and mortality. It also provides surveillance and early detection of expansion of invasive catfish.
- Virginia Tech (VT) and VA DGIF modeling efforts to produce models of blue catfish abundance in Virginia tributaries of the Bay.
- Virginia Institute of Marine Science (VIMS) conducts monthly trawl surveys to estimate abundance and size structure of blue catfish.



Photo courtesy of Bob Greenlee.

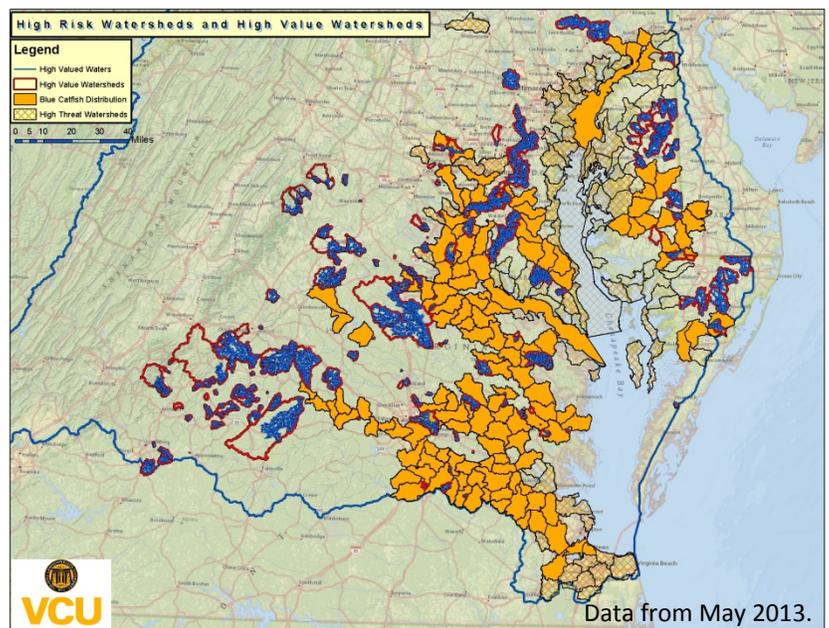
What are the specific ecological impacts (i.e. predominant prey species)? Is there any mapping or information on the spatial extent of the species?

- VA DGIF has full understanding of the extent of blue catfish occurrence.
- Current data suggests that blue catfish, which are omnivores, feed indiscriminately. This creates competition for forage with native fish. See [Schloesser et al.](#) for description of diet.

Monitoring and Science

What survey(s) are you using to monitor?

- VA DGIF and VT are working to conduct an extensive food habits assessment in four rivers over multiple years. The project is now headed into analysis period to develop models of diet, population demographics, and potential of various management strategies.
- VIMS juvenile fish trawl survey. This is a stratified random survey conducted monthly in the Rappahannock River from the mouth of the river up to the tidal freshwater zone.
- VIMS also conducts a [seine survey](#) in the Rappahannock River; this is a fixed-station design that samples each site 5 times between early July and mid-September. This survey monitors the relative abundance of juvenile



striped bass. It also examines relationships between juvenile striped bass abundance and environmental conditions.

- VA DGIF has been conducting a low frequency electrofishing (LFEF) monitoring program in the Rappahannock since the 1990s.

List any active research projects.

- VIMS juvenile fish trawl survey
- VIMS striped bass seine survey
- VT and VA DGIF food habits and diet study
- VT and VA DGIF modeling of population dynamics, likely potential impacts on other resources, and evaluation of likely efficacy of various management strategies

What information exists on the contaminant burdens of fish?

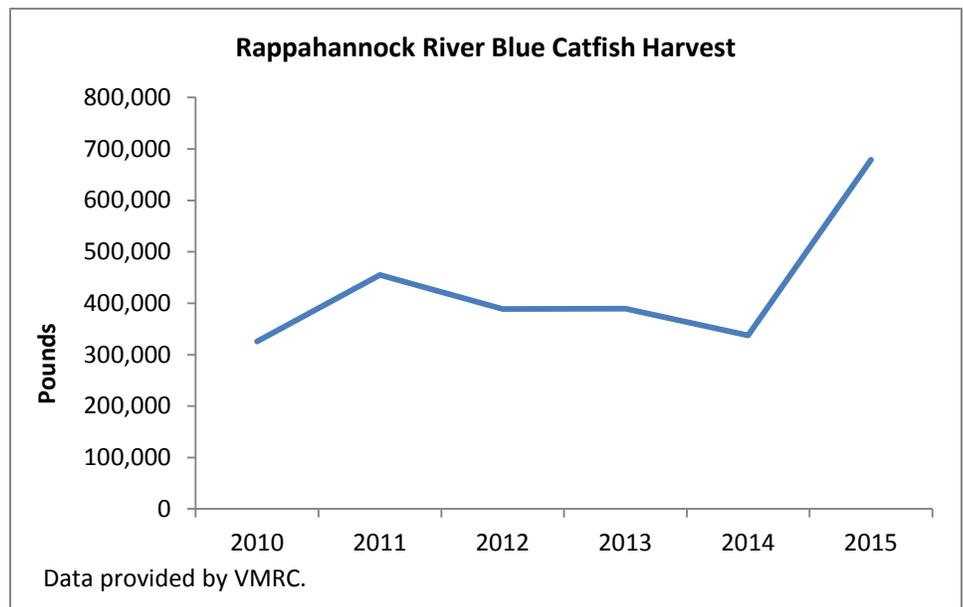
- Consumption advisories for contaminants in fish are issued at the federal and state levels and exist for both commercial and recreational fishing. More specific advisories are recommended for individual species depending on size of the fish and where it was caught in the water body. The main contaminants of concern for fish are Mercury (Hg) and PCBs.
- In the [Rappahannock](#), the Virginia Department of Health recommends a two 8-ounce meal maximum per month for blue catfish.
- 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 activity with Blue Catfish on all Virginia tributaries. The graph (right) shows harvest data of blue catfish from the Rappahannock from 2010-15. According to data from Virginia Marine Resources Commission (VMRC), the three gear types with the highest sum of pounds in 2014 in the Bay included fish pots and traps, gill net sink/anchor other, and fish pound net.



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

- The Rappahannock supports a recreational fishery those catching small blue catfish to take home and eat. Trophy, or even fish over 20", are extremely rare in this population.

What fishing regulations exist in the tributary?

- There is a [statewide limit](#) of possession to 1 fish over 32" per day for blue catfish. In tidal waters there is unlimited possession for BCF under 32" and for all flathead catfish. This regulation applies to recreational and commercial fisheries. Outside of tidal waters, there is no commercial harvest and the recreational catch limit is 20 catfish per day.

Communications and outreach

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

- VA DGIF, VIMS, Virginia Tech, VMRC, The Bay Catfish Advocates, The Virginia Anglers Club

Are there any active public messaging campaigns?

- 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?

- There is a two-pronged management strategy for blue catfish in Virginia. The 32-inch regulation supports the trophy fishery, while the zero limit on harvest of blue catfish less than 32 inches is intended to reduce overabundance.

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

- 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.