

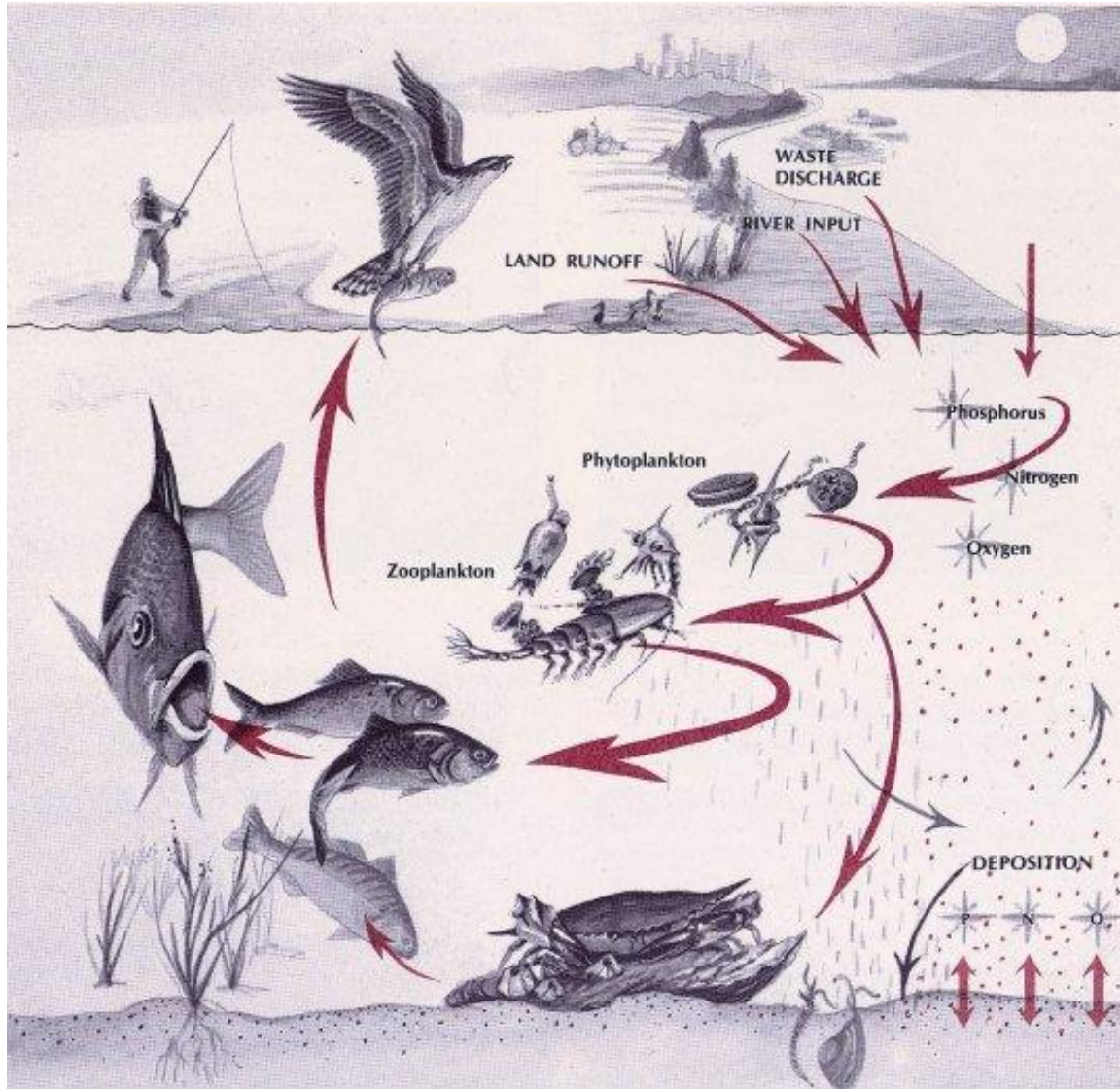
# Habitat Use, Diet and Movement of Invasive Blue Catfish in the Patuxent River



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Smithsonian Environmental Research Center



# Food Webs and Non-native Fish





# Catfish of the Chesapeake Bay

## Native Catfish



White Catfish

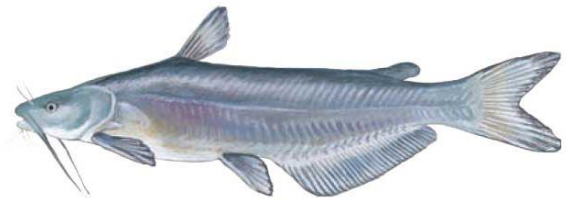


Brown Bullhead



Yellow Bullhead

## Non-native Catfish



Blue Catfish



Channel Catfish



Flathead Catfish

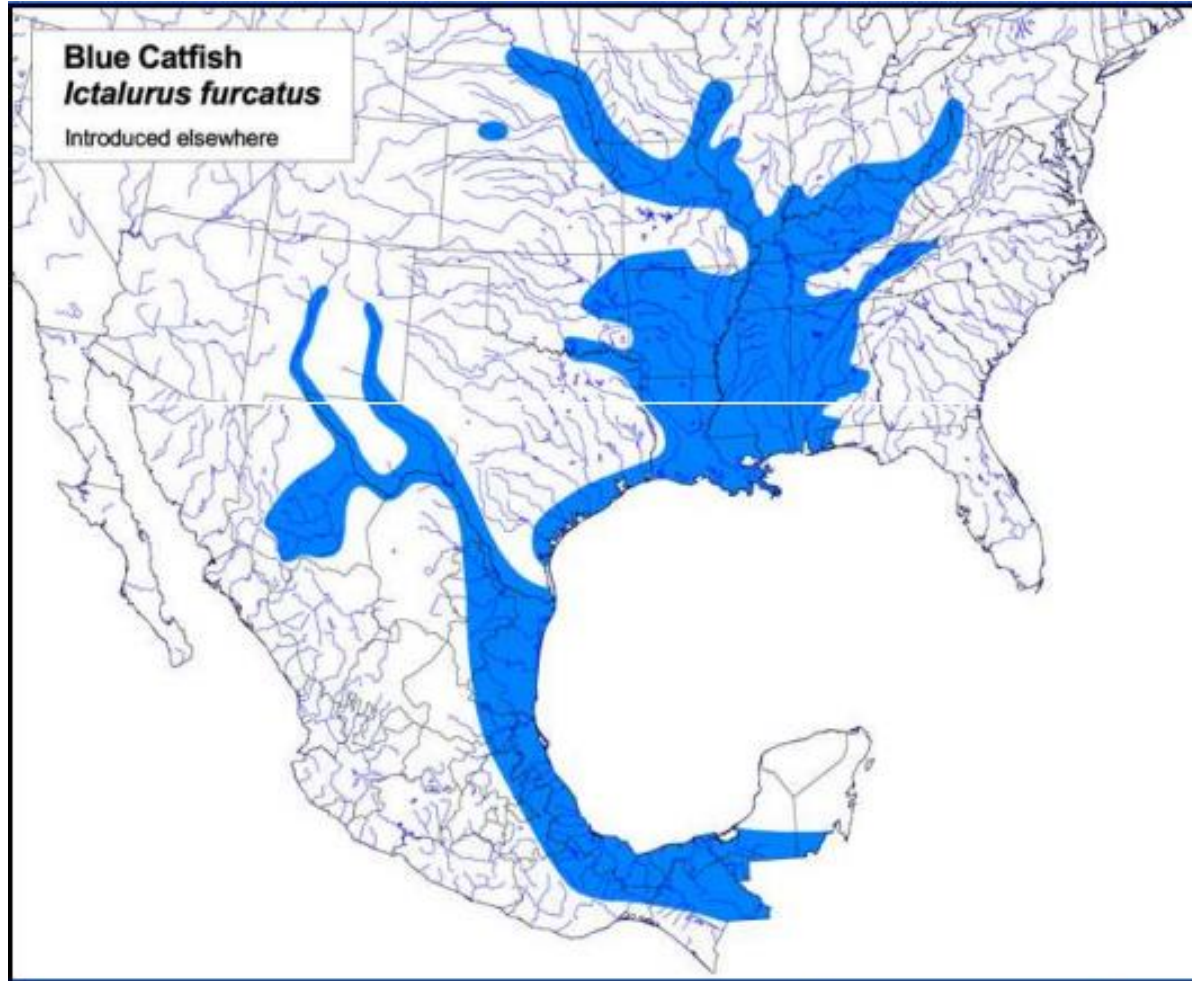






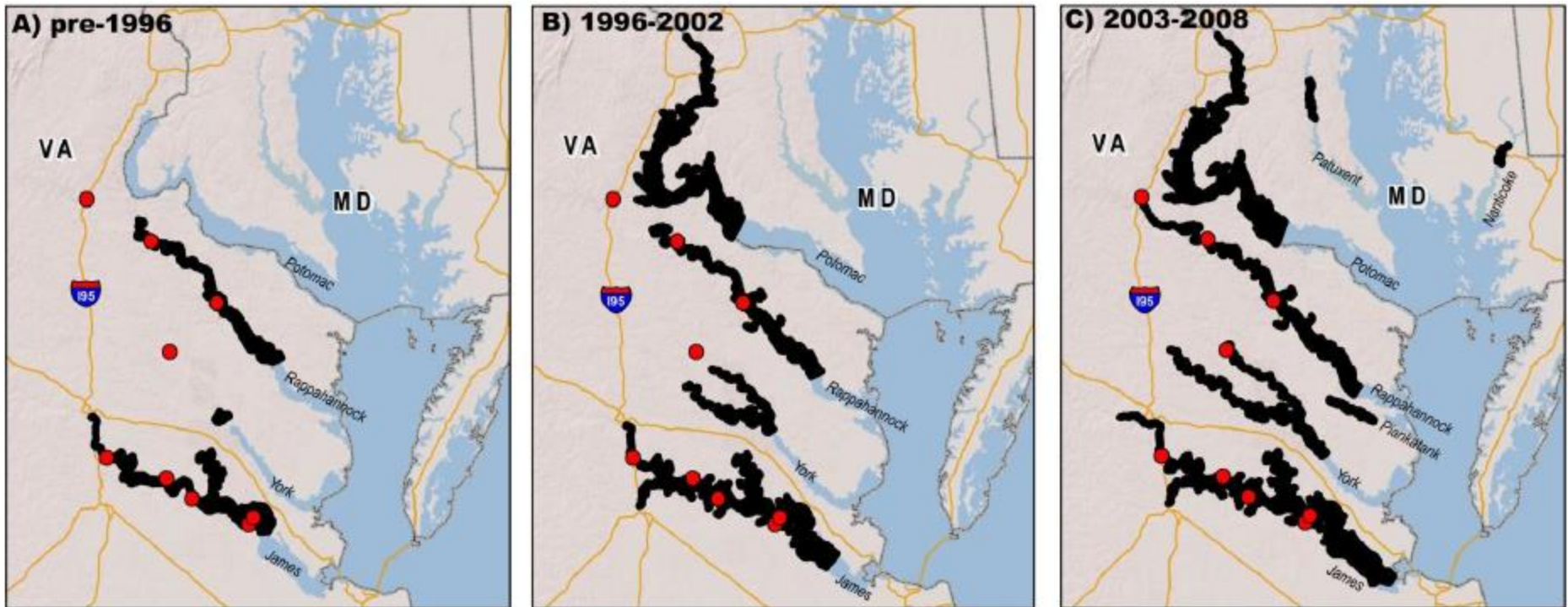
Virginia Department of Game and Inland Fisheries

# Native Range





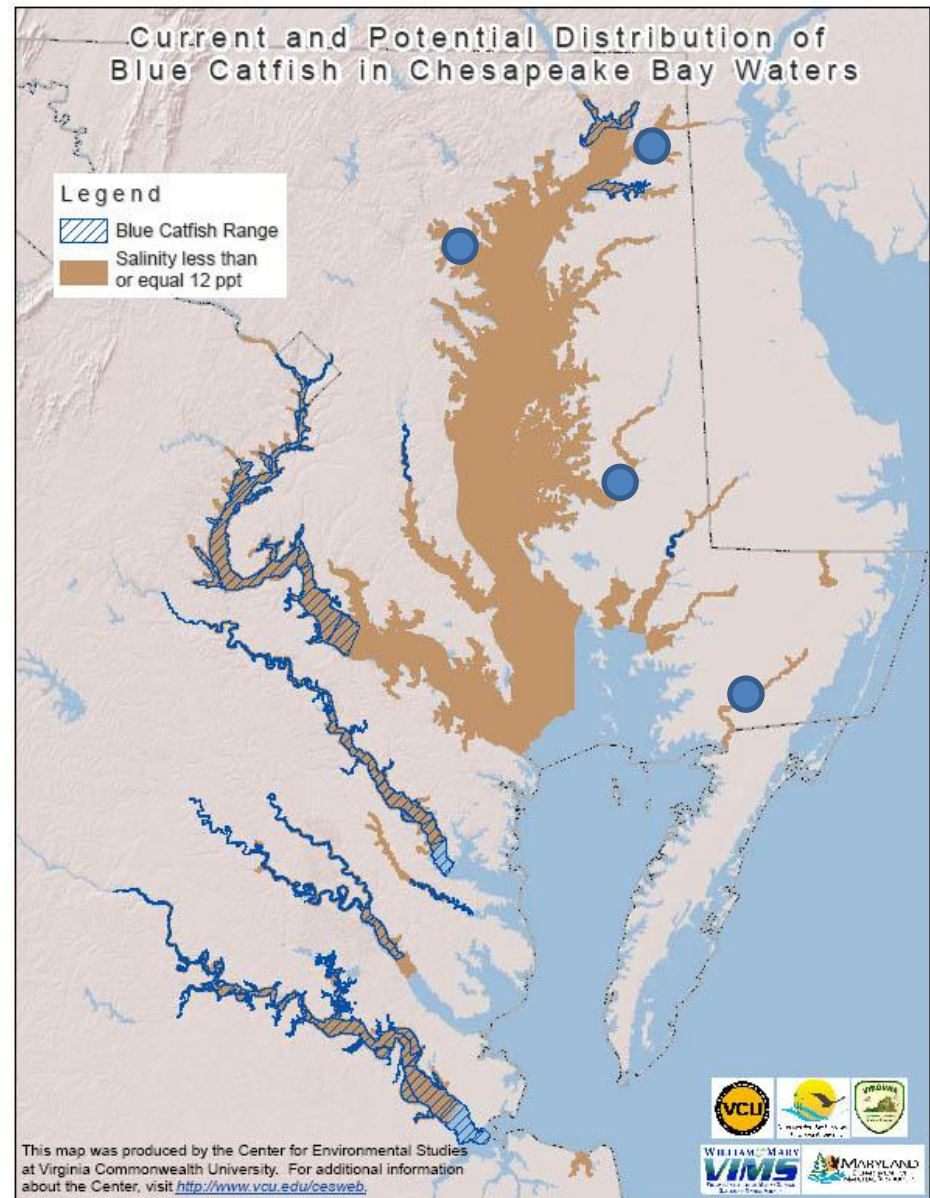
# Introduction and Range Expansion



First introduced to VA tributaries in 1974

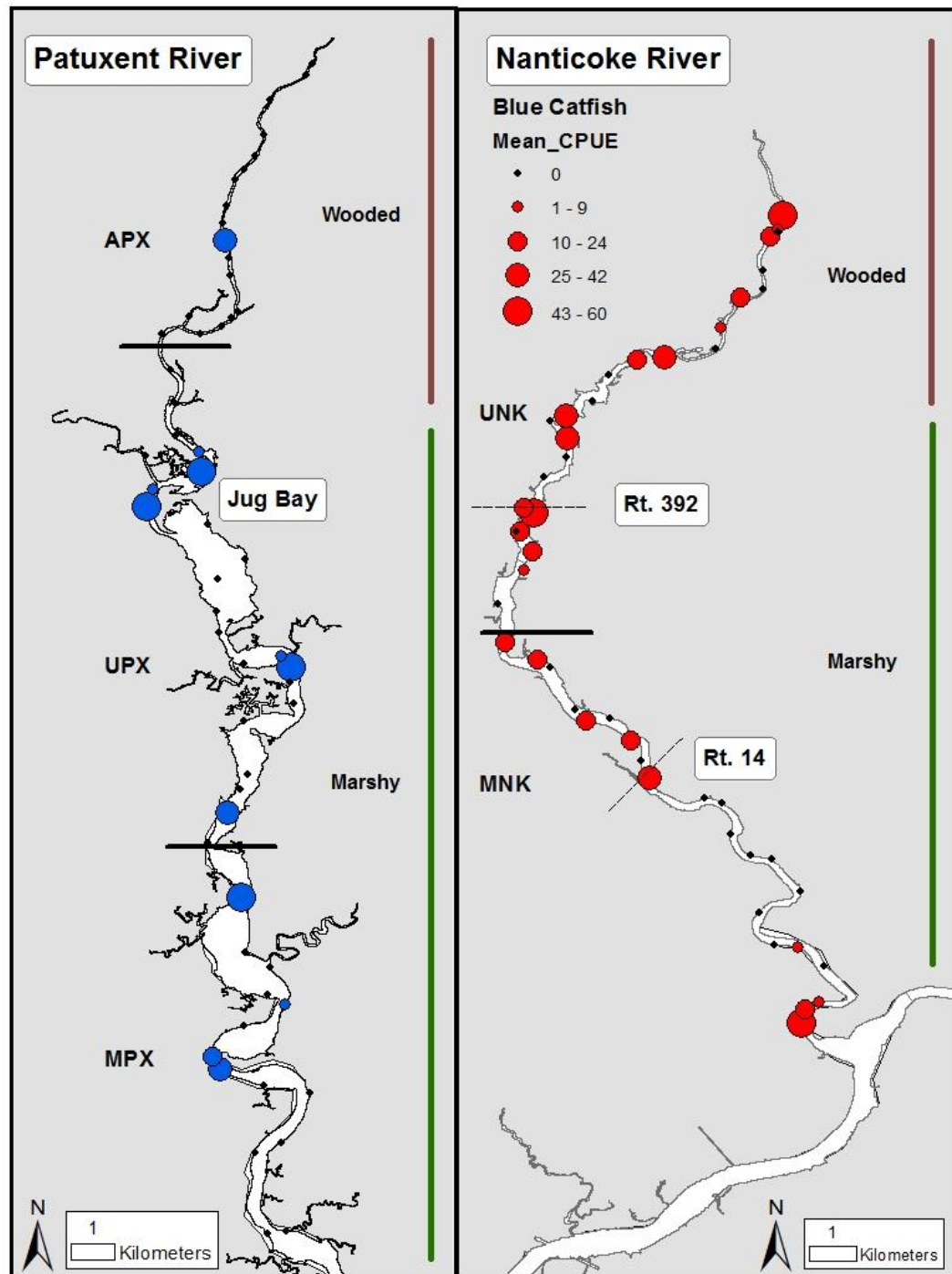
# Introduction of Blue Catfish into Chesapeake Tributaries

- Appeared in MD in late 90s
- Spreading range due to illegal transfer and natural movement, likely during major freshwater flow events
- Most Maryland waters of Chesapeake Bay are within their salinity tolerance ( $\leq 17$ )





# Where do blue catfish occur in Maryland tributaries?



# What are Blue Catfish Feeding On?



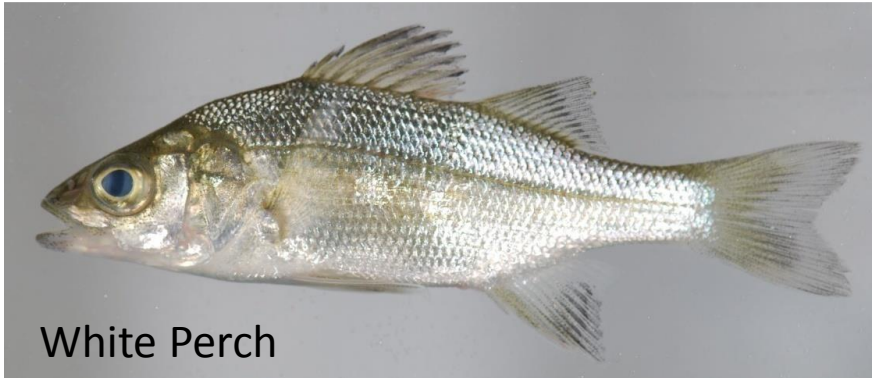
Benthic Invertebrates



Bivalves (*Corbicula fluminea*)



Mysids



White Perch



Pumpkinseed



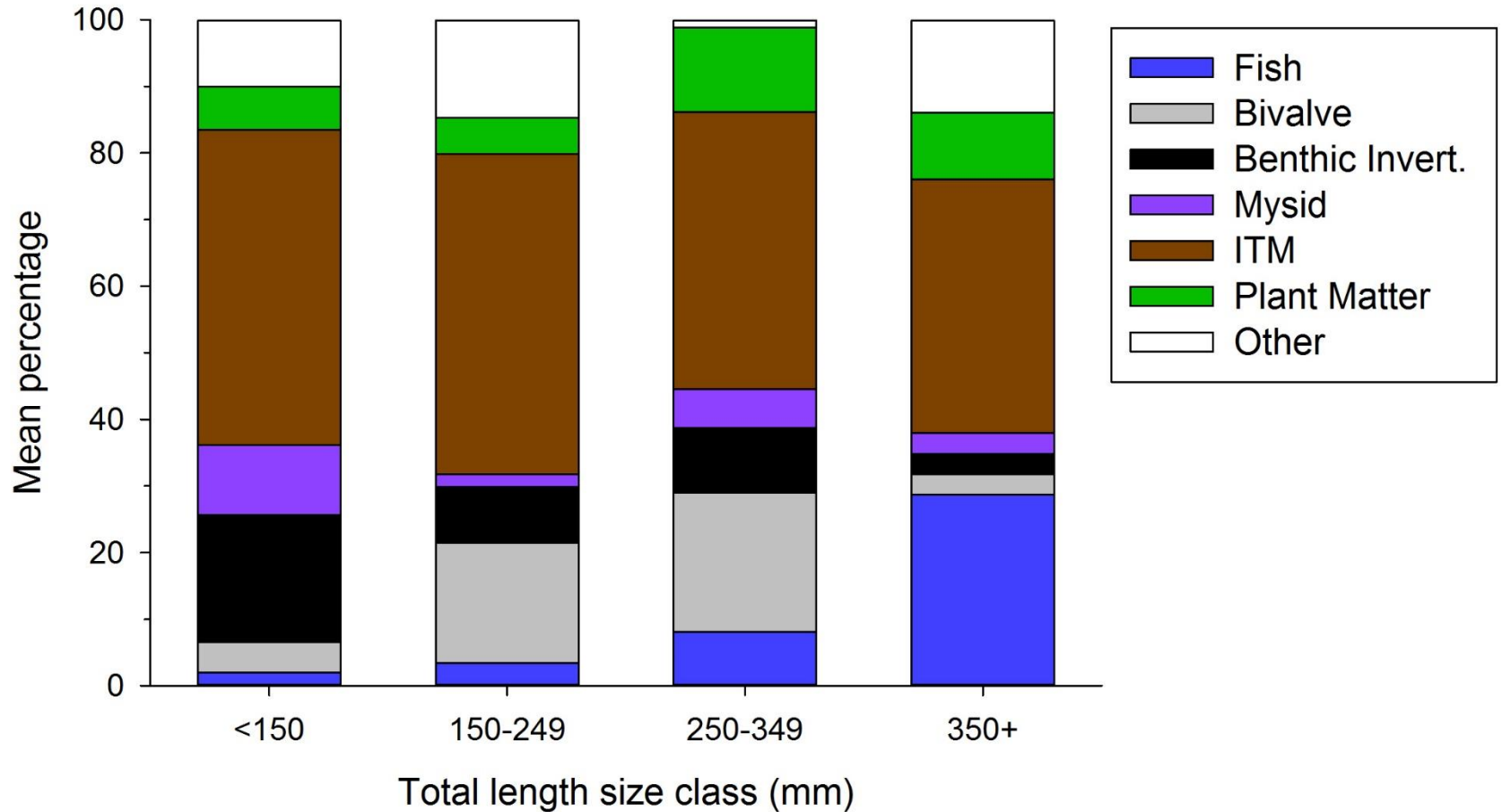
Spottail shiner



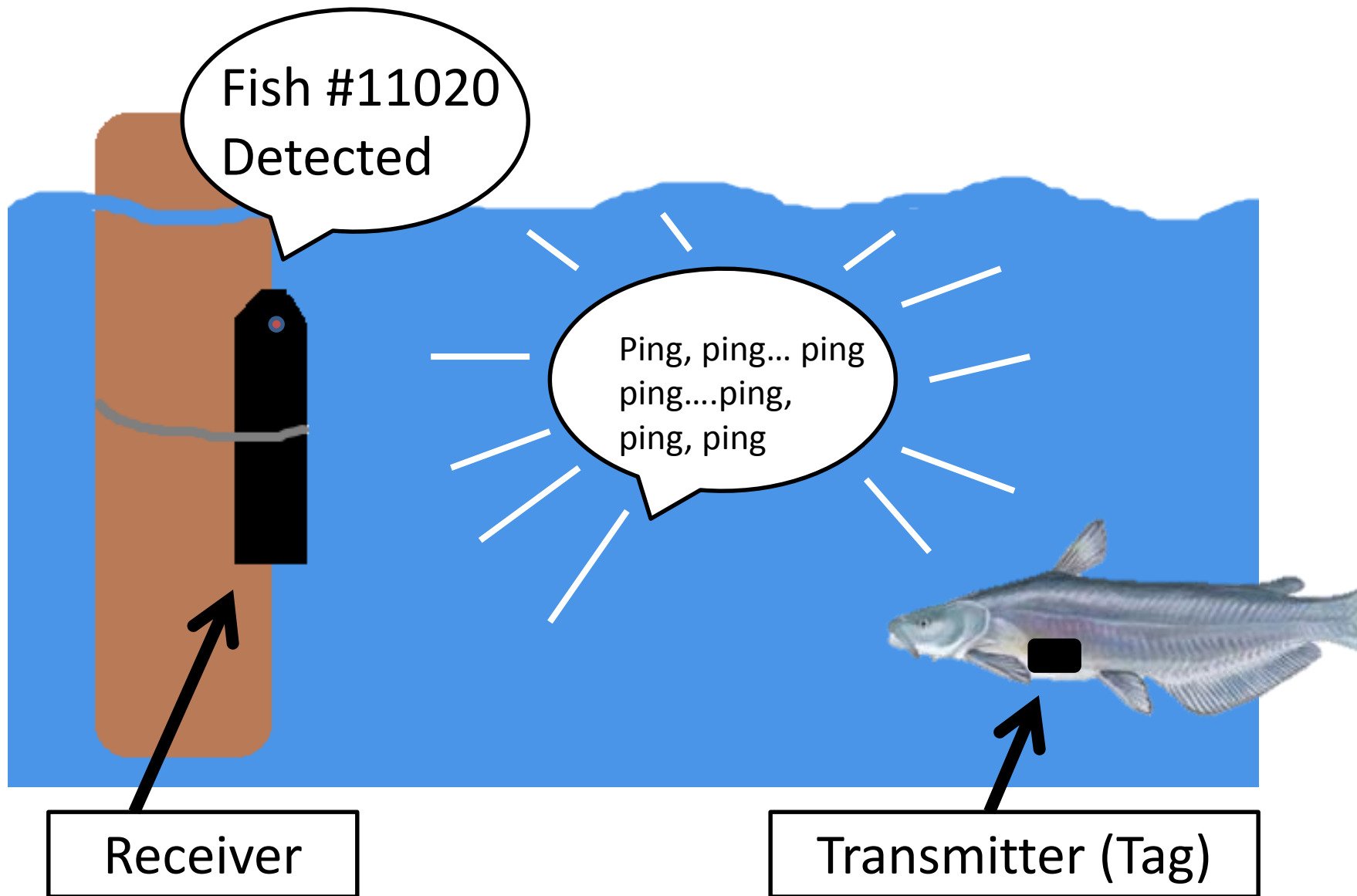
Bay anchovy



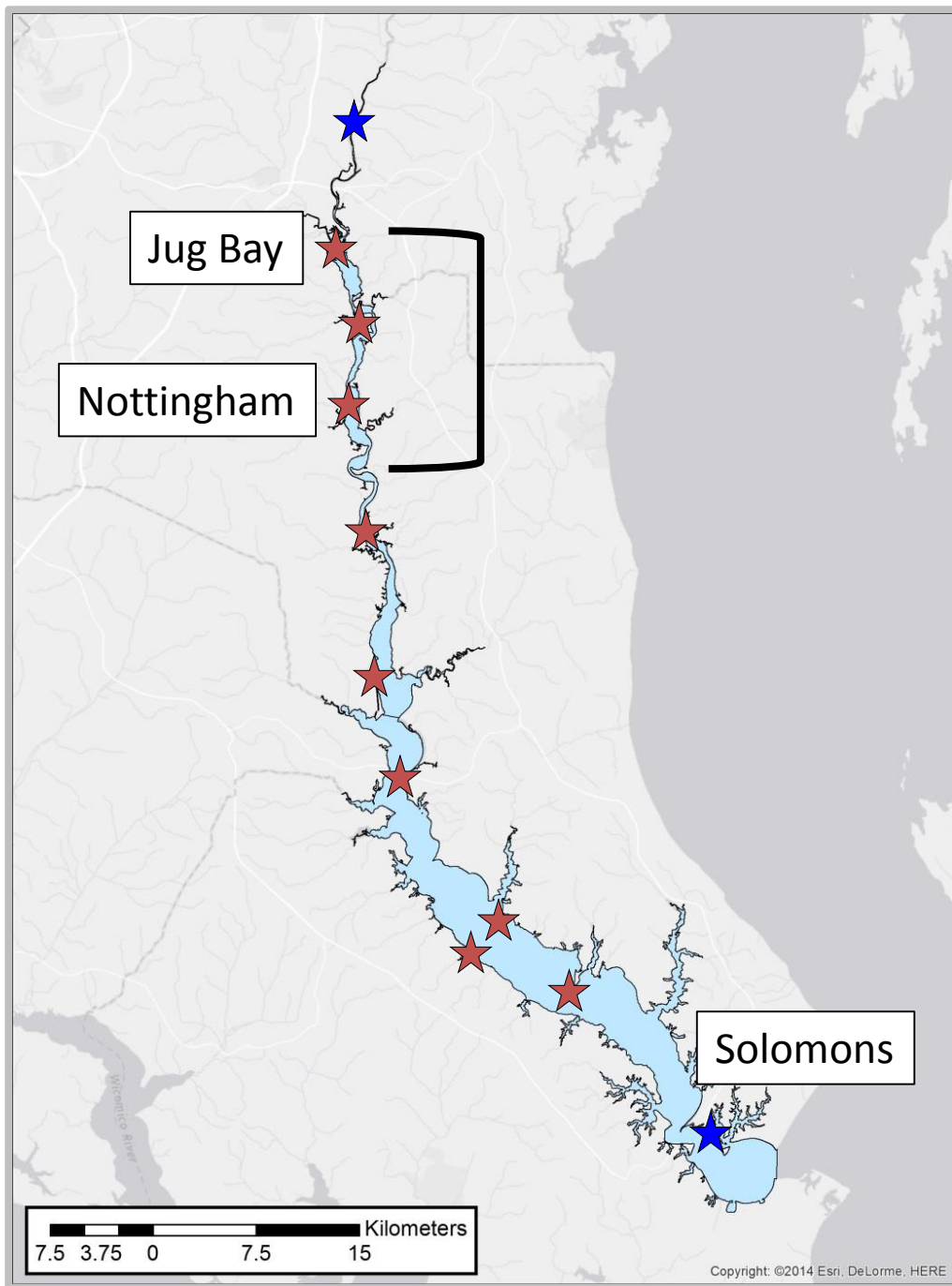
# Blue Catfish Diet Analysis



# How are Individual Catfish Moving Through Habitats in the Patuxent River?







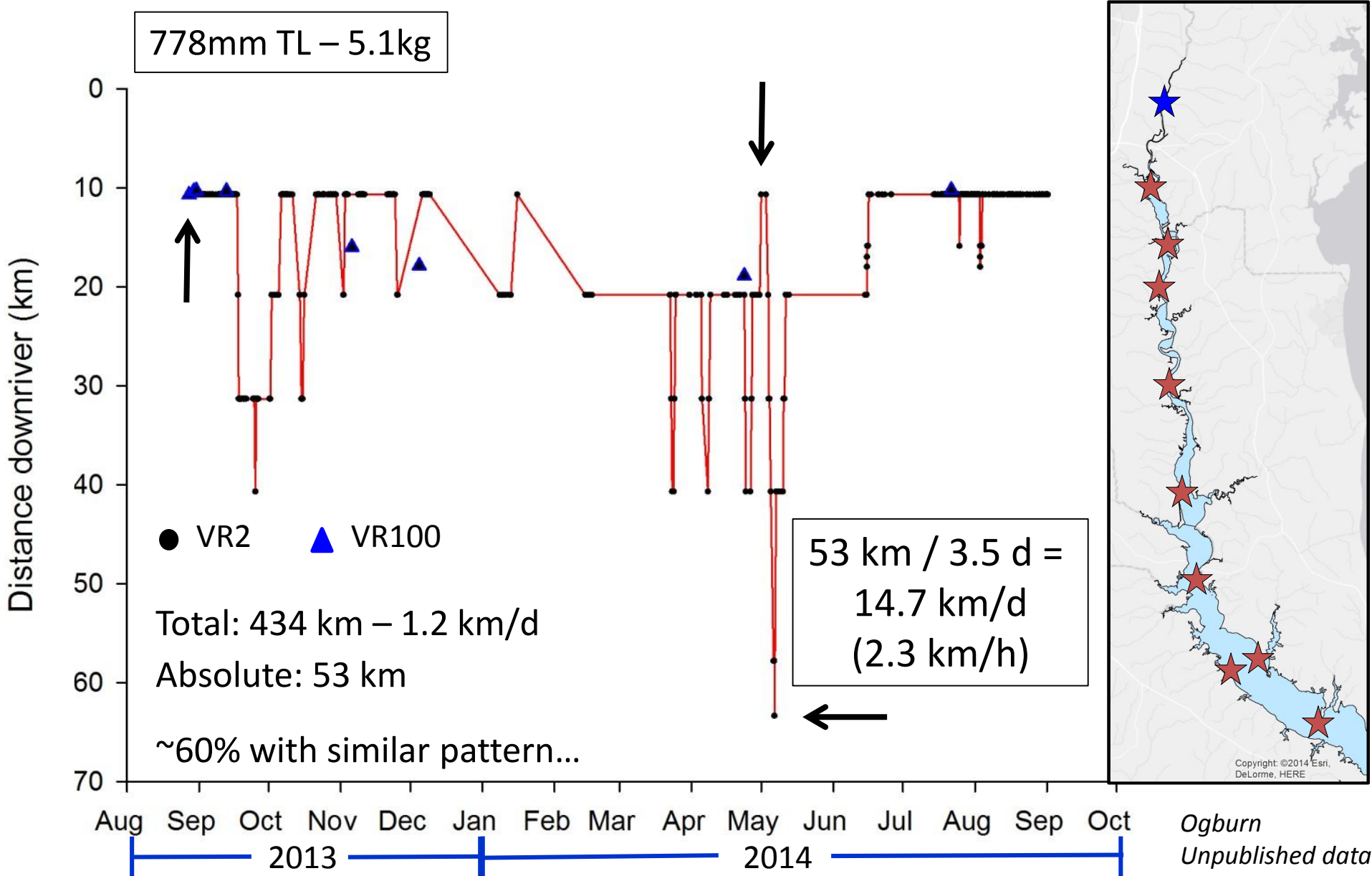
15 fish tagged in 2013  
(Late Aug- Early Dec)

8 tagged in 2014  
(July)

$\bar{x} = 514.2$  mm TL

Max = 793 mm TL

# Habitat Use and Movement of Fish #11020





# Research Findings

- Blue Catfish are most often found in deep holes at bends in the river
- Diet is broad and shifts to include important fishery species at larger sizes
- Individual Blue Catfish spend much of their time in freshwater tidal areas but frequently move along the length of the river

# Take Home Messages

- Blue Catfish and other non-native fish are changing the Patuxent River food web.
- Recent introductions of Blue Catfish and Snakeheads are of concern because they can be abundant and larger individuals feed on important fishery resources.
- If population control measures are attempted, they need to account for observed patterns of habitat use and movement.



# Acknowledgements

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