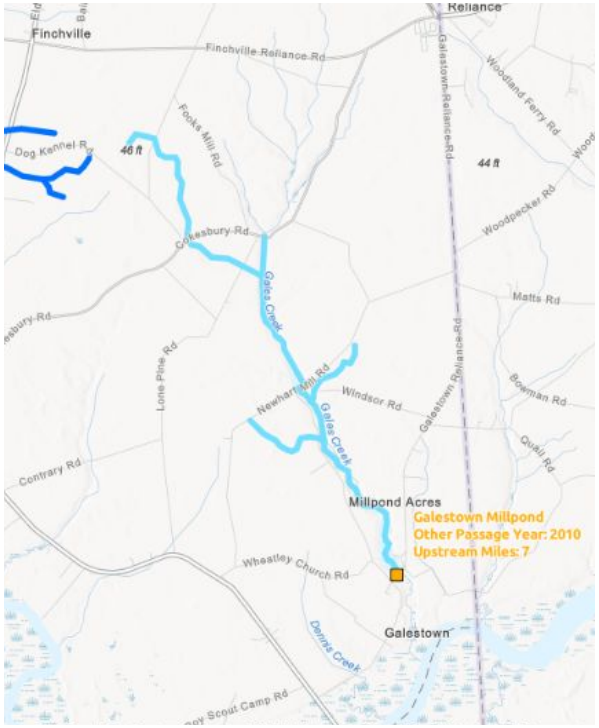
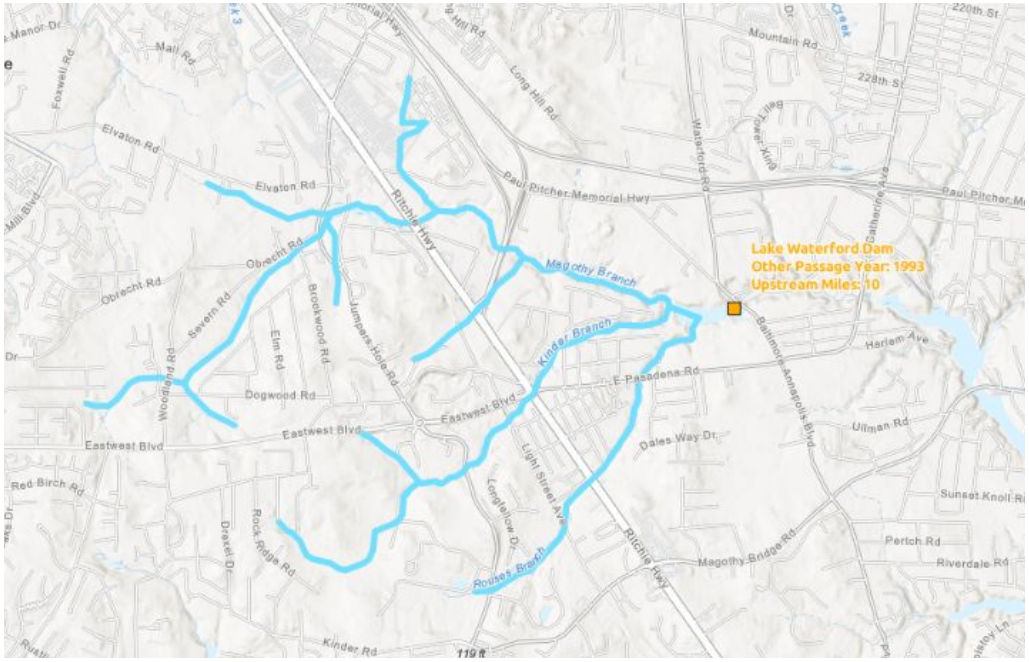
MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Dysfunctional Fish Ladders & Invasive Species in Maryland And Their Implication to Miles Opened Towards our Goal



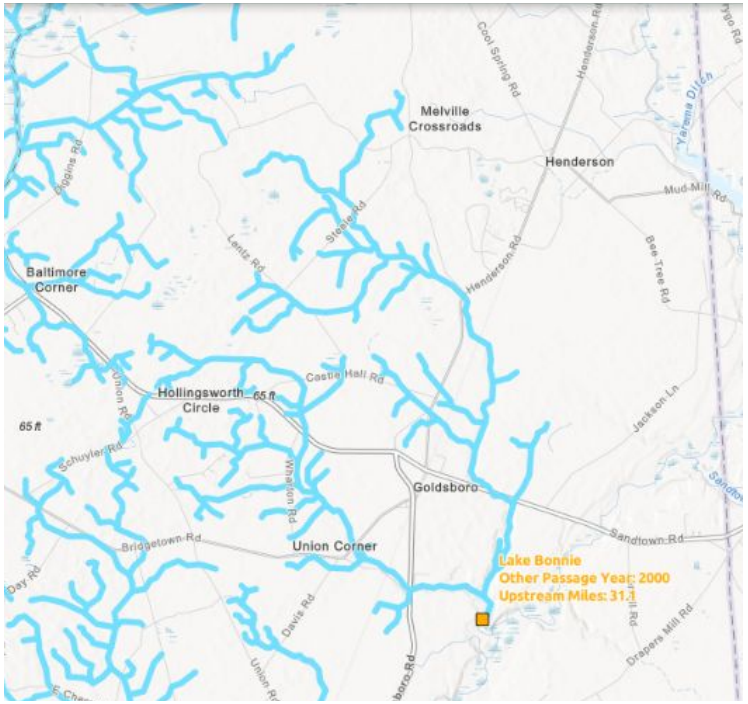
Galestown Dam - 7 Miles Opened - Nanticoke River

This is a steepass ladder with a good population of herring found downstream. Most fish arrive during high tide, at which time the entrance of the ladder is under water and there is little attraction flow.



Lake Waterford - 10 Miles Opened - Magothy River

Ladder is the only vertical slot fish ladder in Maryland and has not been effective in passing fish. There have also been concerns from the County about the water quality in the impoundment.



Lake Bonnie - 31 Miles Opened - Choptank River

Maryland Department of the Environment sued the owners due to failing septic systems draining into the lake. Prior to this issue, the fish ladder was proven successful at passing herring.

How should the Workgroup address fish ladders which have been closed due to poor habitat upstream or are not effective at passing fish?

- List as temporary closure if habitat is expected to improve?
- Try and secure funding to redesign/reconstruct fish ladders that are ineffective?
- Maryland has some ladders that are on Federal property and have to trust that they are opened, as we are no longer allowed on the property for security reasons.

There are 120+ introduced and established aquatic species (mostly fishes) listed by the United States Geological Survey in the Chesapeake Bay. 18% of these are regarded as aquatic nuisance species and threaten business in the State.

Aquatic Invasive Species in Maryland include:

- Blue Catfish
- Flathead Catfish
- Northern Snakehead
- Chinese Mitten Crab
- Water Chestnut
- Virile Crayfish
- Rusty Crayfish
- Zebra Mussel
- Didymo: Invasive Algae

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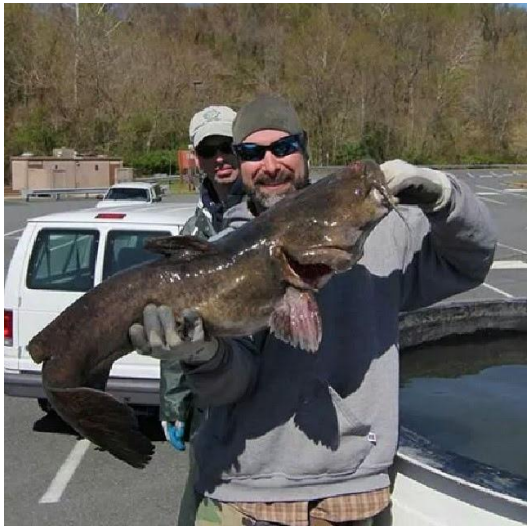
Northern Snakehead

Invasive Catfish

Flathead Catfish *(Pylodictis olivaris)*



Blue Catfish *(Ictalurus furcatus)*

MARYLAND DEPARTMENT OF NATURAL RESOURCES

Governor Moore Requests Federal Fishery Disaster Declaration for Invasive Blue Catfish

March 16, 2023

Maryland Seeking Federal Assistance for Invasive Species that Threaten Chesapeake Bay's Commercial Fishing Industry

ANNAPOLIS, MD—Governor Wes Moore is today calling on the federal government to declare the expanding population of invasive fish species— including blue catfish, flathead catfish, and snakehead— to be an ongoing commercial fishery disaster in the Maryland waters of the Chesapeake Bay. The governor sent a letter to U.S. Commerce Secretary Gina Raimondo requesting the declaration under provisions of the Magnuson-Stevens Fishery Conservation and Management Act and the Interjurisdictional Fisheries Act.

***As of 2019**

Species found in major drainages identifed from reports to department and USGS Nonindigenous Aquatic Species Database

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Northern Snakehead increasing abundance in Maryland waterways

***As of 2019**

Data below are from Maryland Department of Natural Resources boat electrofishing surveys.

SUSQUEHANNA FLATS, NORTHEAST (tidal freshwater)
First caught in 2015
low: 5 snakeheads/hr (2015)
high: 9.5 snakeheads/hr. (2017)*
90%

PATUXENT RIVER (tidal freshwater)
First caught in 2012
low: 10 snakeheads/hr (2012)
high: 35 snakeheads/hr. (2018)*
250%

WICOMICO RIVER (tidal freshwater)
First caught in 2013
low: 7 snakeheads/hr (2013)
high: 28 snakeheads/hr. (2015)*
300%

POTOMAC RIVER (tidal freshwater)
First caught in 2007
low: 8 snakeheads/hr (2007)
high: 35 snakeheads/hr. (2018)*
337.5%

*Some years there was no survey of the areas above. The "high" ratios above represent the highest number in the overall survey timeline and not necessarily the most recent data. However, the overall trend in all of these areas is an upward population growth.

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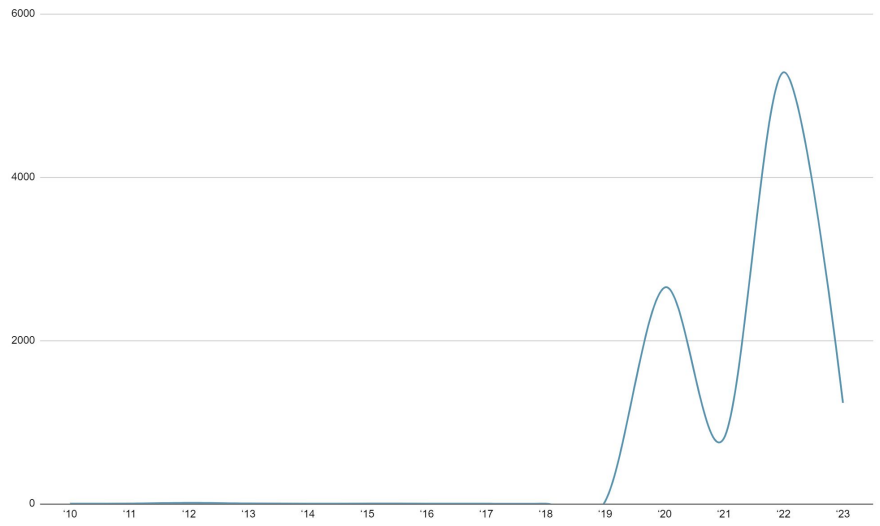
Snakehead & Flathead Captured at Conowingo Dam Fish Lifts

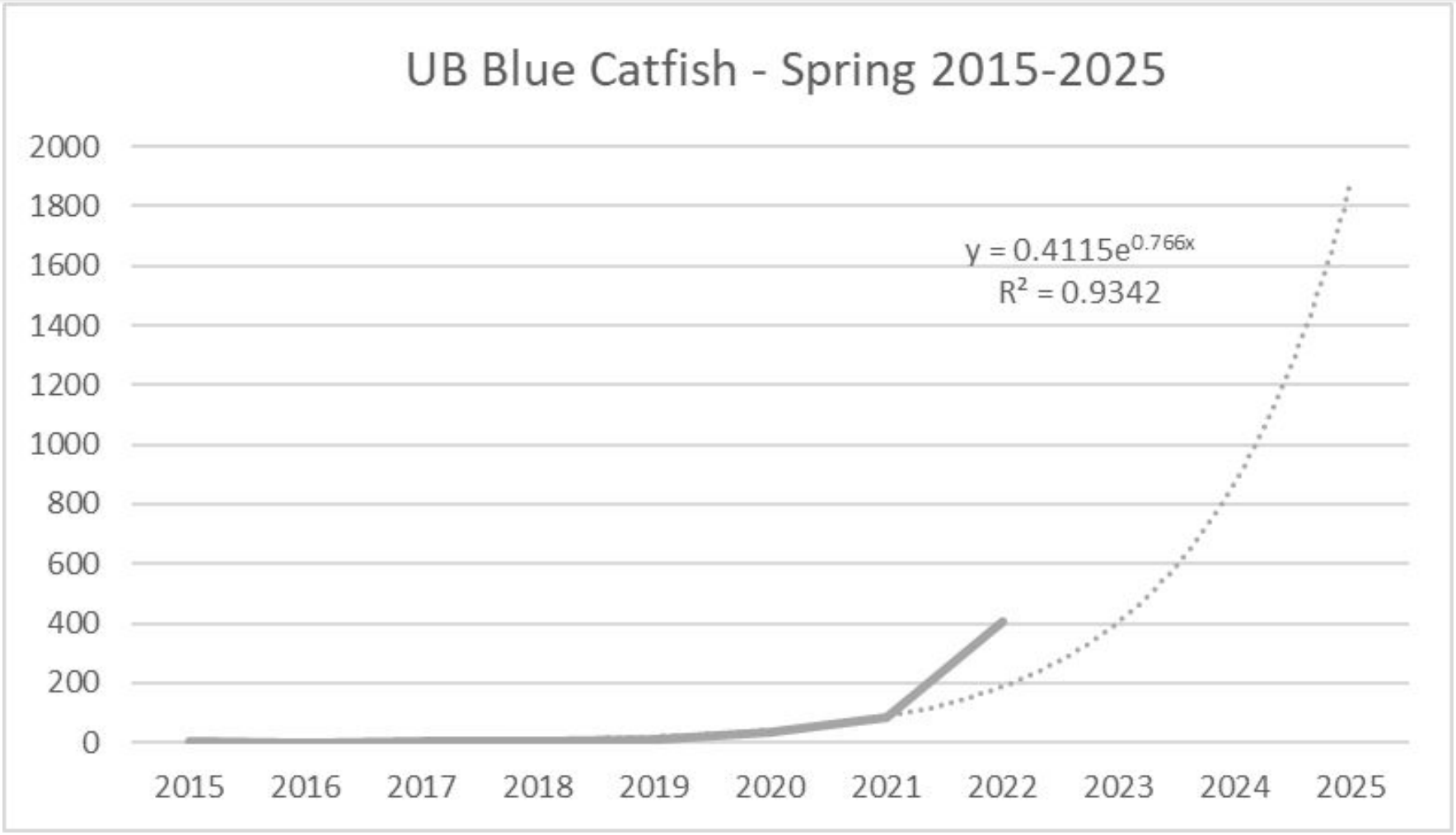
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Snakehead	0	0	0	1	0	81	35	952	866	825	1,735*
Flathead	60	124	92	376	559	190	0	1098	767	504	513*

***As of May 19**

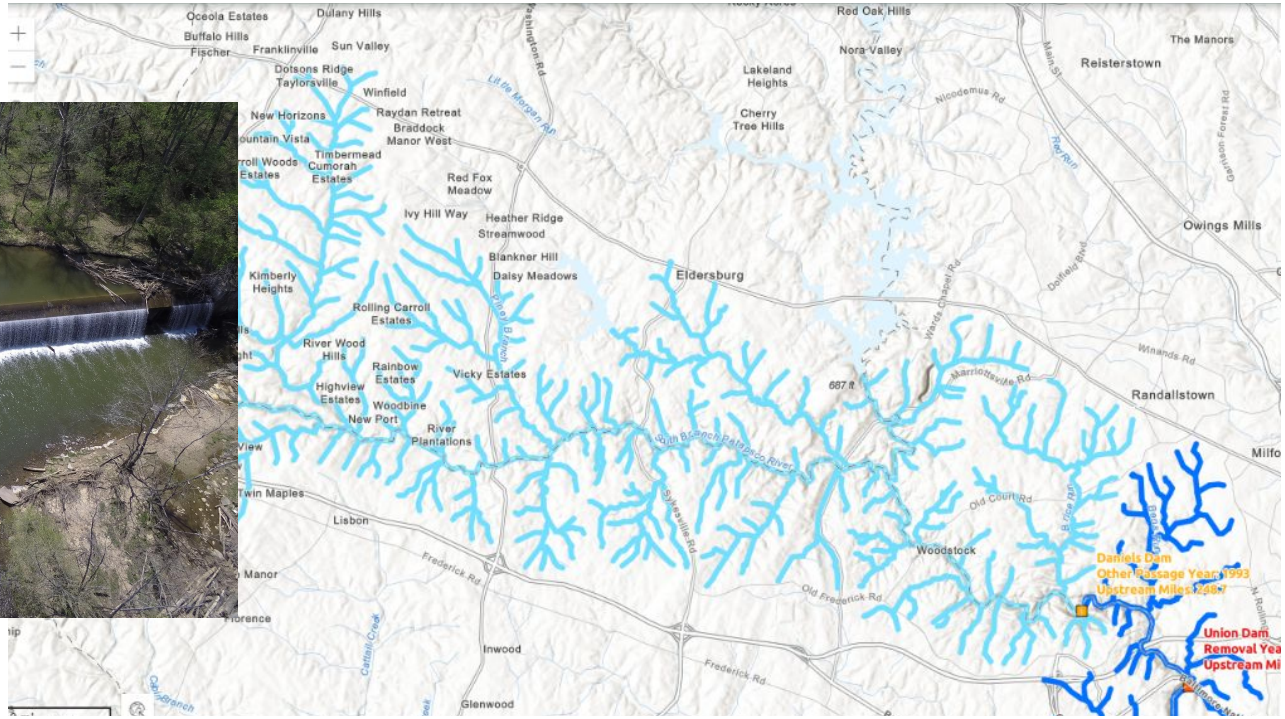
Blue Catfish Captured in DNR Winter Trawls

Year	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23
# Trawls	56	78	143	116	72	108	112	137	129	62	134	138	100	131
Blue Cat	0	2	10	3	0	2	1	0	1	28	2647	803	5283	1235





Blue Catfish in Striped Bass Spawning Stock Survey - Upper Bay



Daniels Dam - 248 Miles Opened - Patapsco River

Maryland Department of Natural Resources has decided to keep this ladder closed until herring are observed directly below the ladder. This decision was made due to the presence of snakehead observed below the dam.

How should the Workgroup address fish ladders which have been closed to mitigate the spread of invasive species?

- List as temporary closure?
- If invasive species are already present upstream, keep ladder open?
- What are other States doing?
- Should/will invasive species deter fish passage efforts?
- Handle this on a case-by-case basis with input from regional experts?