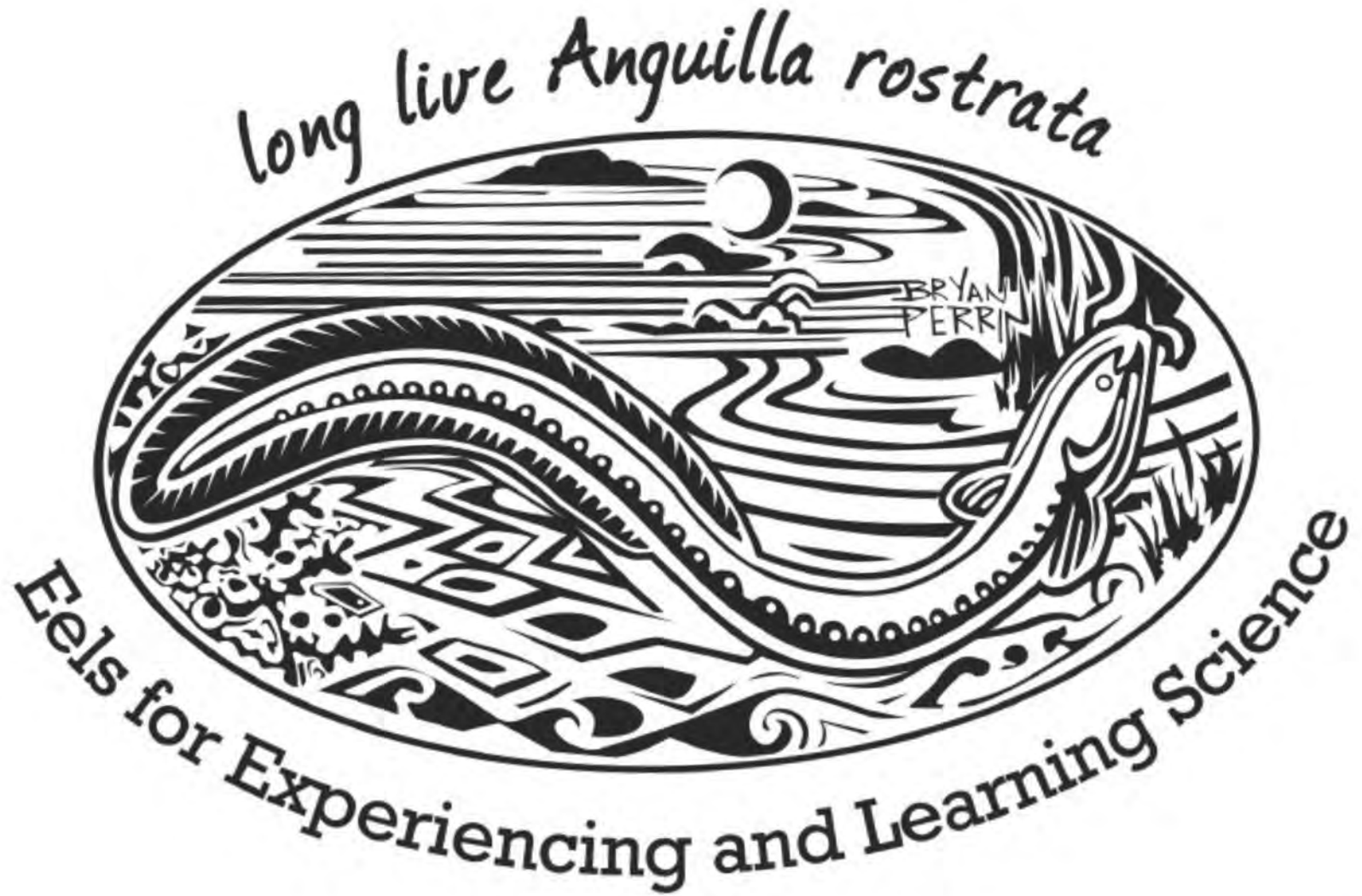


# The Eel Project: Fish conservation through citizen science




[eelproject@dec.ny.gov](mailto:eelproject@dec.ny.gov)



Department of  
Environmental  
Conservation



A close-up photograph of a person's hand holding a clear plastic container. Inside the container, an American eel is visible, swimming in a small amount of water. The eel has a long, slender body with a yellowish-green dorsal side and a lighter, almost white ventral side. The hand is positioned at the top of the frame, with fingers gripping the edge of the container. The background is slightly blurred, showing green foliage.

**American eel**  
*Anguilla rostrata*

**“Freshwater eels”**-spend the majority of their lives in freshwater

**Catadromous**-migrate from rivers to spawn in the sea

A map of the eastern United States and the Atlantic Ocean. The landmass is shown in a light green color, and the ocean is in various shades of blue. A thick, dark blue line represents the migration route of eels, starting from the Hudson River in the northeast and moving south along the coast, then curving westward into the Sargasso Sea. The text 'Hudson River' is located at the top left, and 'Sargasso Sea' is located at the bottom right.

Hudson River

# The American Eel Migration Story

Sargasso Sea



Hudson River

## All American eels hatch in the Sargasso Sea, along with 33 other species of eel

The exact spawning location is unknown, but scientists can make an estimate based on where the smallest larval eels (leptocephali) have been found



At this life stage they are known as **leptocephali**

Sargasso Sea ★

Hudson River

It takes about a year to reach the Hudson River

They hitch a ride on the Gulf Stream currents in search of freshwater along the east coast



Near the end of this journey they become glass eels

Sargasso Sea

Hudson River



Some of the eels enter small tributaries of the Hudson and slowly begin to gain pigment



Tom McDowell

In the Hudson and its tributaries, they transition from **glass eels** to **elvers**

Our project samples for glass eels, but occasionally a small elver will end up in our nets



Hudson River



Elvers start feeding and growing exponentially in the estuary and its tributaries



They transition to the life stage known as **yellow eels**

They will live most of their adult life in the estuary system

Hudson River

Once sexually mature, eels return to the Sargasso Sea to spawn

For males this takes 10-12 years, for females it can take 20+

Their backs darken in color, and bellies lighten and their eyes grow larger so they are better equipped for the ocean journey



At this life stage they are known as **silver eels**

Very little is known about this return journey to the Sargasso Sea

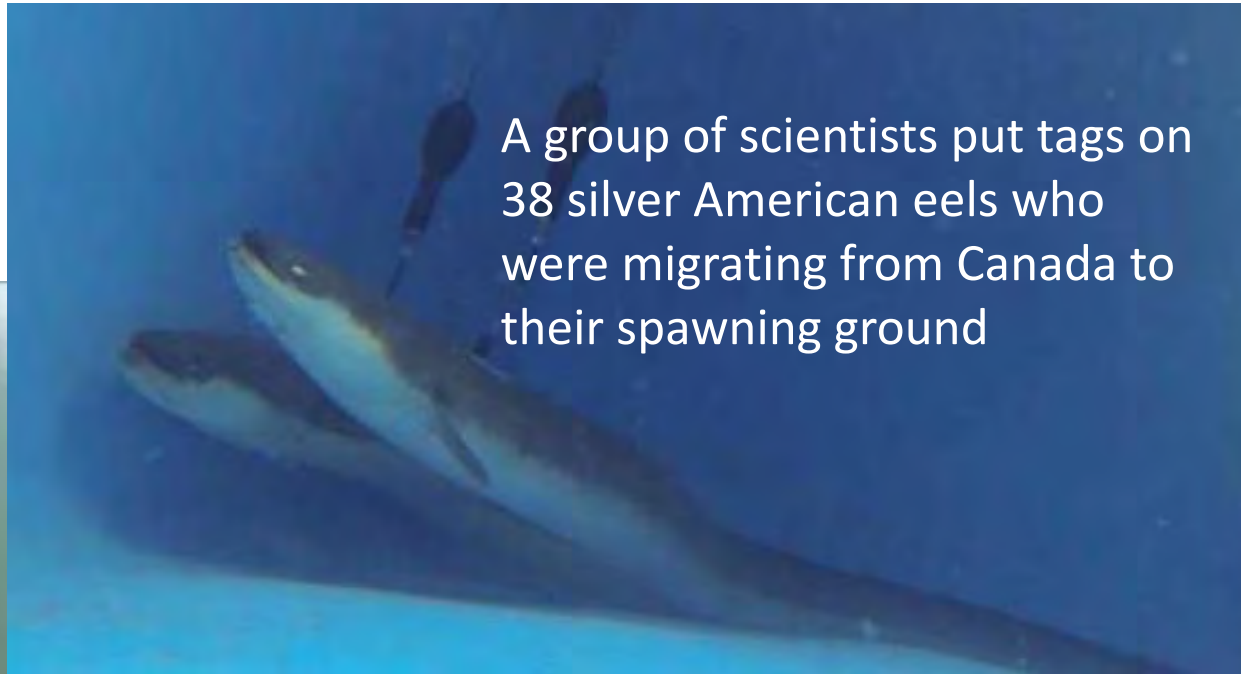
Sargasso Sea



# Tracking Adult Eels

“Direct observations of American eels migrating across the continental shelf to the Sargasso Sea”

Béguer-Pon et al. 2015



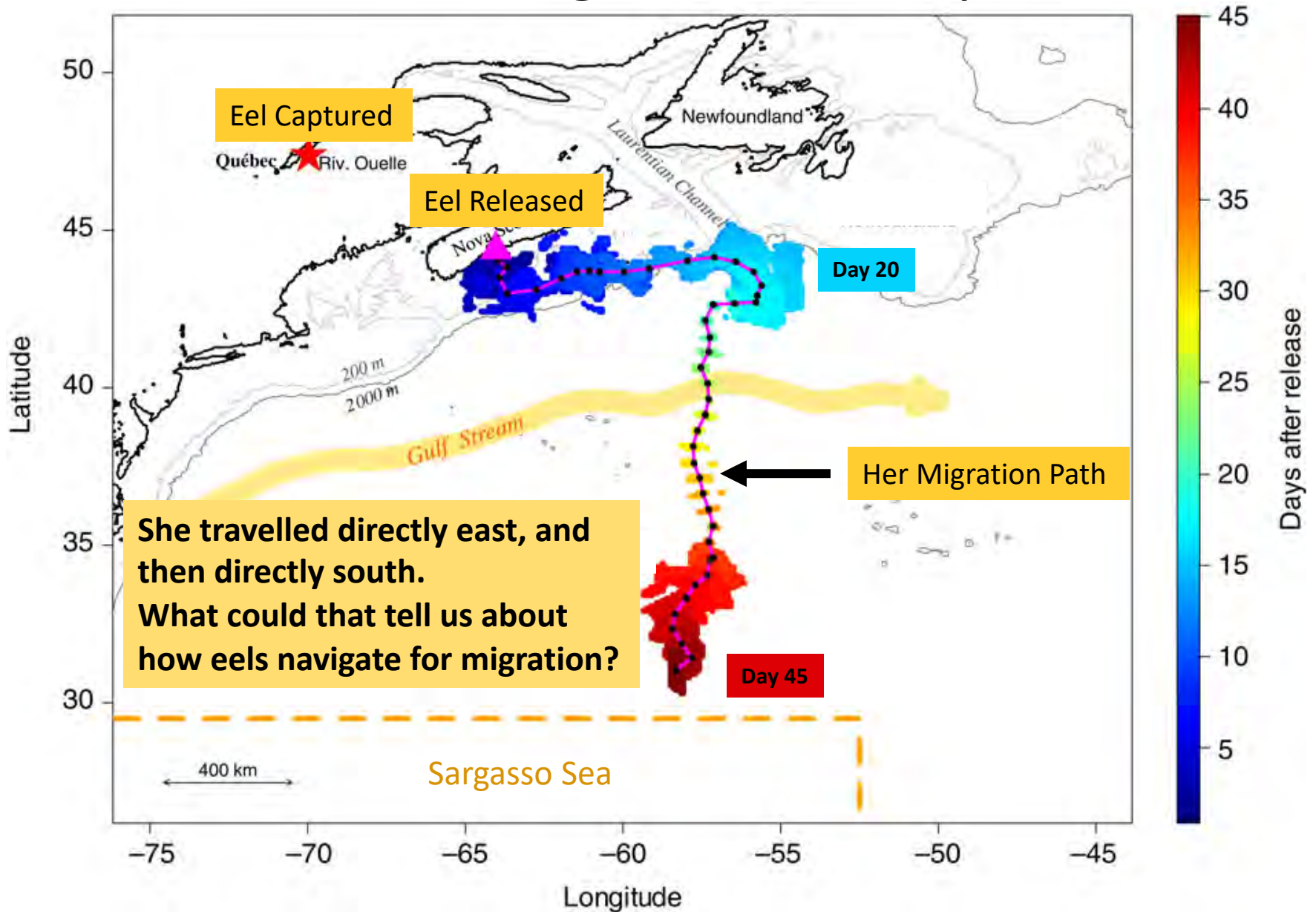
A group of scientists put tags on 38 silver American eels who were migrating from Canada to their spawning ground



The data from this study is the only information collected about the eels migration to spawn

Of the 38 eels tagged, only one made it to the edge of the Sargasso Sea

# Silver Eel Migration 2015 Béguyer-Pon Study



SUSTAINABILITY

# American Eel Is in Danger of Extinction

The IUCN put the American eel on its Red List as Maine fishermen saw a declining fishing quota for the species

## The population of American eels is rapidly declining.

## What factors could be causing this?



READ THE FULL ARTICLE

# For the Endangered American Eel, a Long, Slippery Road to Recovery

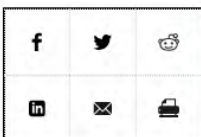
The endangered American eel, once abundant along the U.S. East Coast, is critically important in keeping rivers clean and ecologically important. Fisheries managers are looking to the Delaware, the longest undammed river east of the Mississippi, as a model for bringing back this uncharismatic but vital fish.

BY TED WILLIAMS · MAY 26, 2016

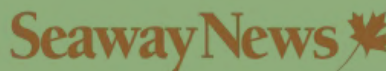


The American eel isn't just a U.S. native. It's also indigenous to southern Greenland, Iceland, eastern Canada, inland to the Great Lakes, Central America, northern South America, and Caribbean islands. Despite this expansive range, the International Union for Conservation of Nature (IUCN) lists the species as "endangered."

It would be in even worse shape without the Delaware River, which is



javascript:void(0);



< DON'T MISS ▶ Welch LPP turns 100 and supports fight against CF [READ MORE](#)

Home > News

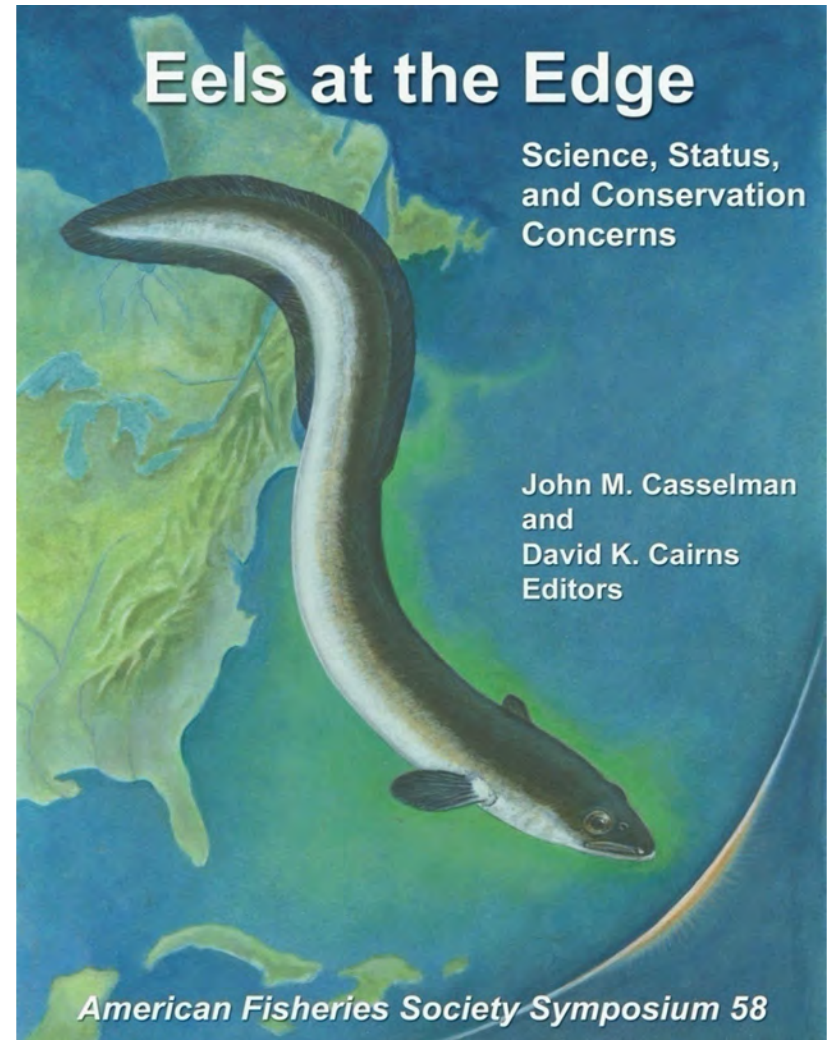
# ENDANGERED: American eel numbers in the St. Lawrence River are plummeting



# Possible Factors Causing Recent Eel Declines

## *Historic order of impact:*

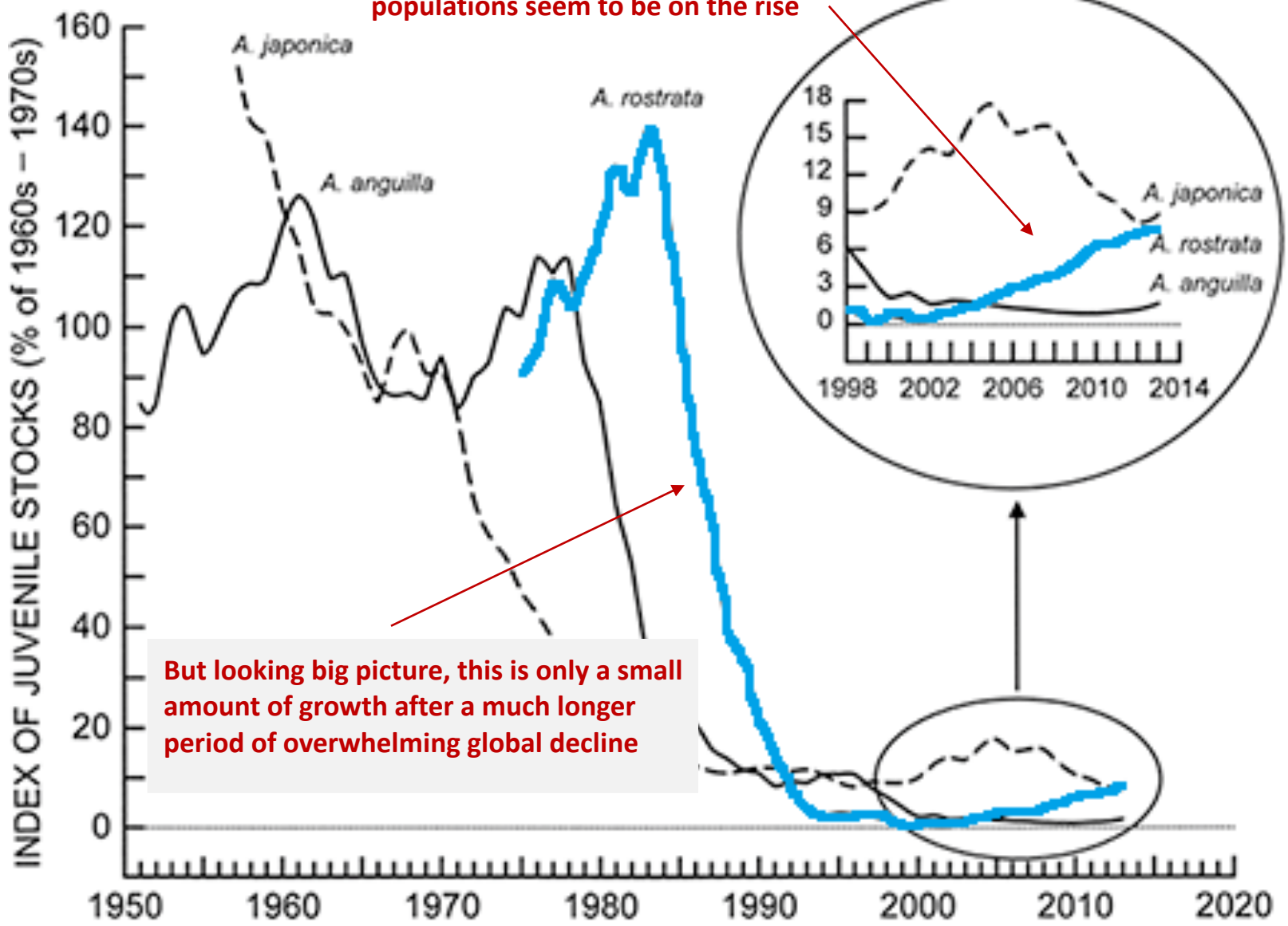
1. **Habitat loss**
2. **Dams and barriers**
3. **Water pollution**
4. **Overfishing**
5. **Hydroelectric turbines**
6. **Climate change**
7. **Food web changes**
8. **Parasites**



(adapted from John Casselman, Queens College)

# How is the American eel population doing?

In the past 20 years American eel (*Anguilla rostrata*) populations seem to be on the rise



But looking big picture, this is only a small amount of growth after a much longer period of overwhelming global decline



## The Hudson River Glass Eel Project

long live *Anguilla rostrata*  
Eels for Experiencing and Learning Science



Over one million eels caught & released above barriers since 2008 by hundred of volunteers annually



# What *is* The Glass Eel Project?



Fyke nets are set in tributaries of the Hudson. Each day in the spring volunteers and students check the nets, count the eels, record the data, and release the eels above the next barrier to migration.

**Eel Project Sites  
Spring 2019**



**Hannacroix Creek**

**Albany**

**Poestenkill**

**Eel Project Sites  
Spring 2019**

**Saw Kill**

**Black Creek**

**Enderkill**

**Fall Kill**

**Quassaick Creek**

**Hunters Brook**

**Indian Brook**

**Minisceongo Creek**

**Furnace Brook**

**Blind Brook**

**Saw Mill/CURB**

**Richmond Creek**

**NYC**



# 2019 was the 12th year of the eel project!





**Want to join us?**



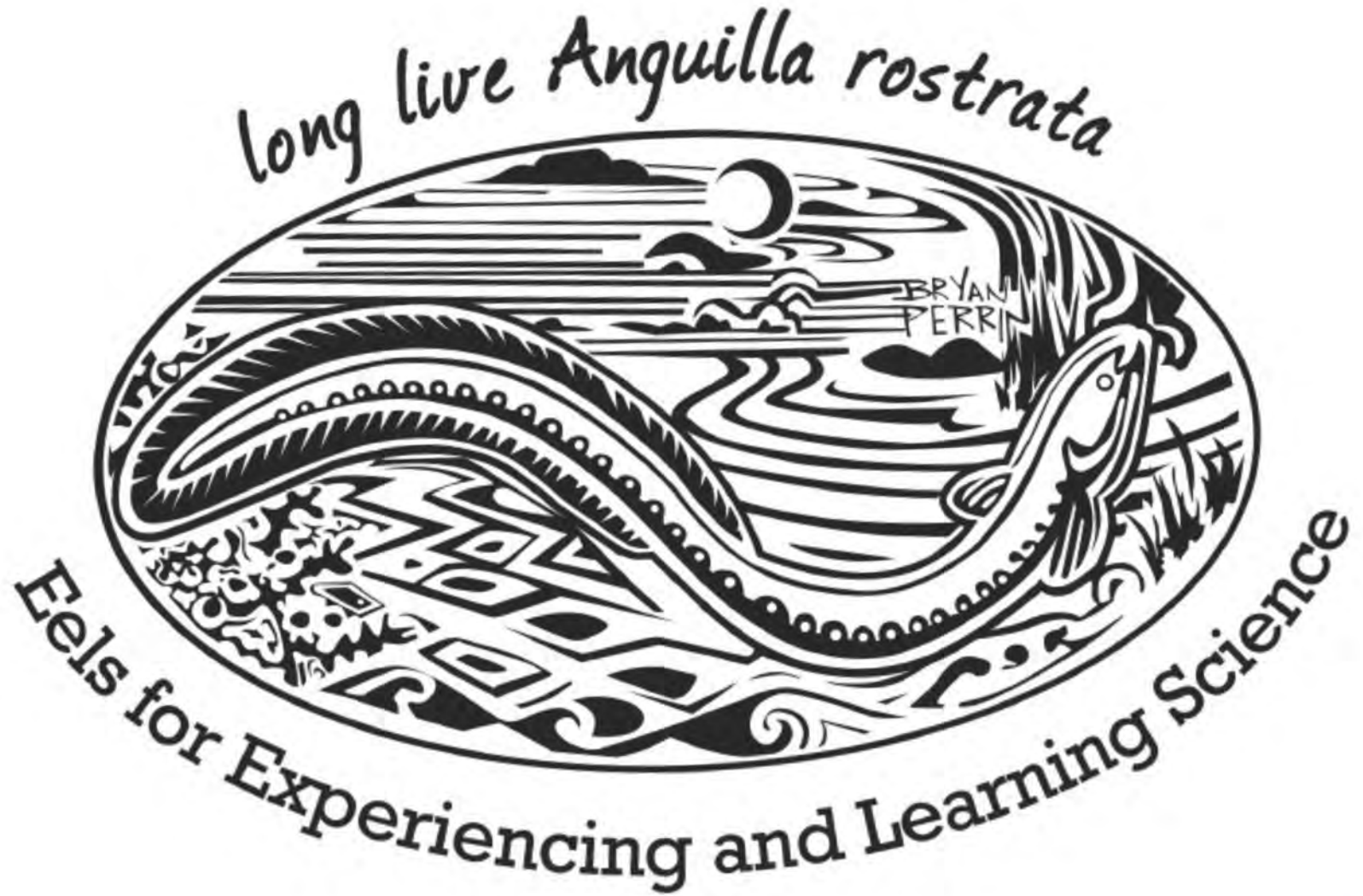
# Find the site closest to you and send us an email!

Stream	City/Town	County
Poestenkill	Troy	Rensselaer
Hannacroix Creek	New Baltimore	Greene
Saw Kill	Annandale-on-Hudson	Dutchess
Enderkill	Staatsburg	Dutchess
Black Creek	Esopus	Ulster
Fall Kill	Poughkeepsie	Dutchess
Hunters Brook	Wappingers Falls	Dutchess
Quassaick Creek	Newburgh	Orange
Indian Brook	Cold Spring	Putnam
Furnace Brook	Cortlandt	Westchester
Minisceongo Creek	West Haverstraw	Rockland
Blind Brook	Rye	Westchester
Richmond Creek	Staten Island	Richmond

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