

Understanding Distribution of American eel in the Upper Susquehanna Watershed

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**SUNY
ONEONTA** **SRBC**

SUSQUEHANNA RIVER
BASIN COMMISSION
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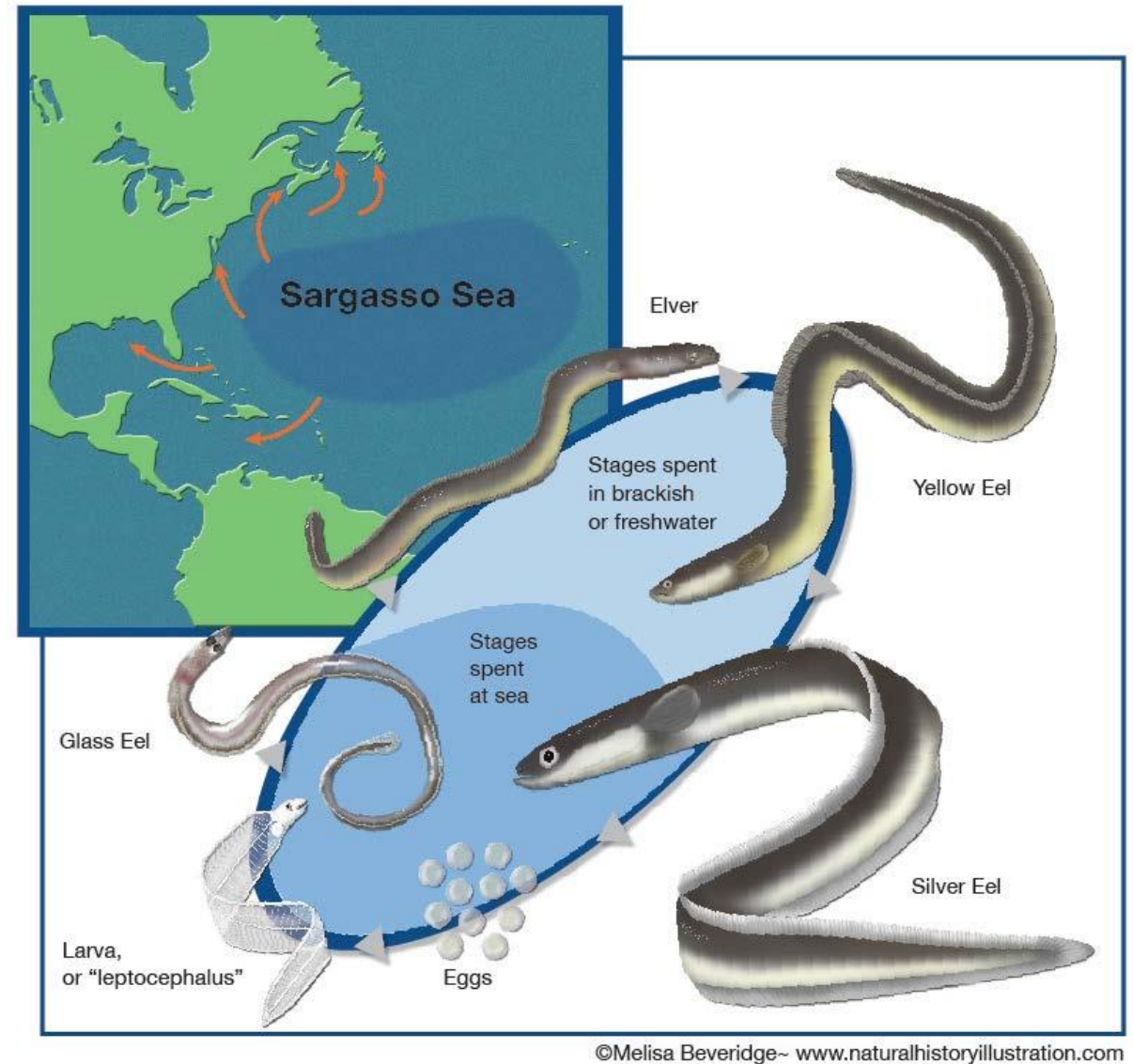
Outline

- Background and some history
- Exploratory survey work
- What's new in 2023
- Where are we heading next?



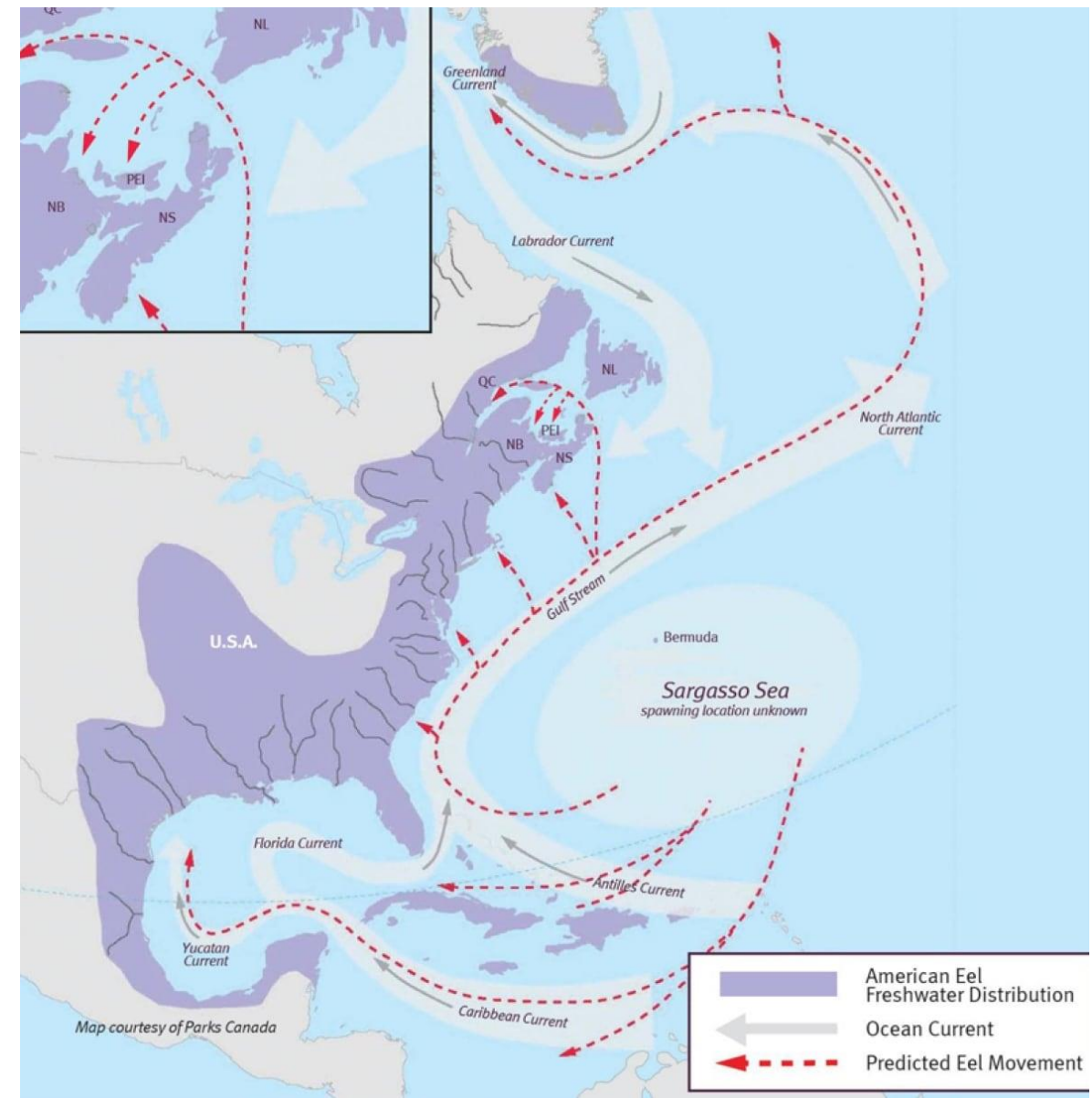
Life cycle

- Catadromous
- Panmictic
- Long-lived
- Highly migratory



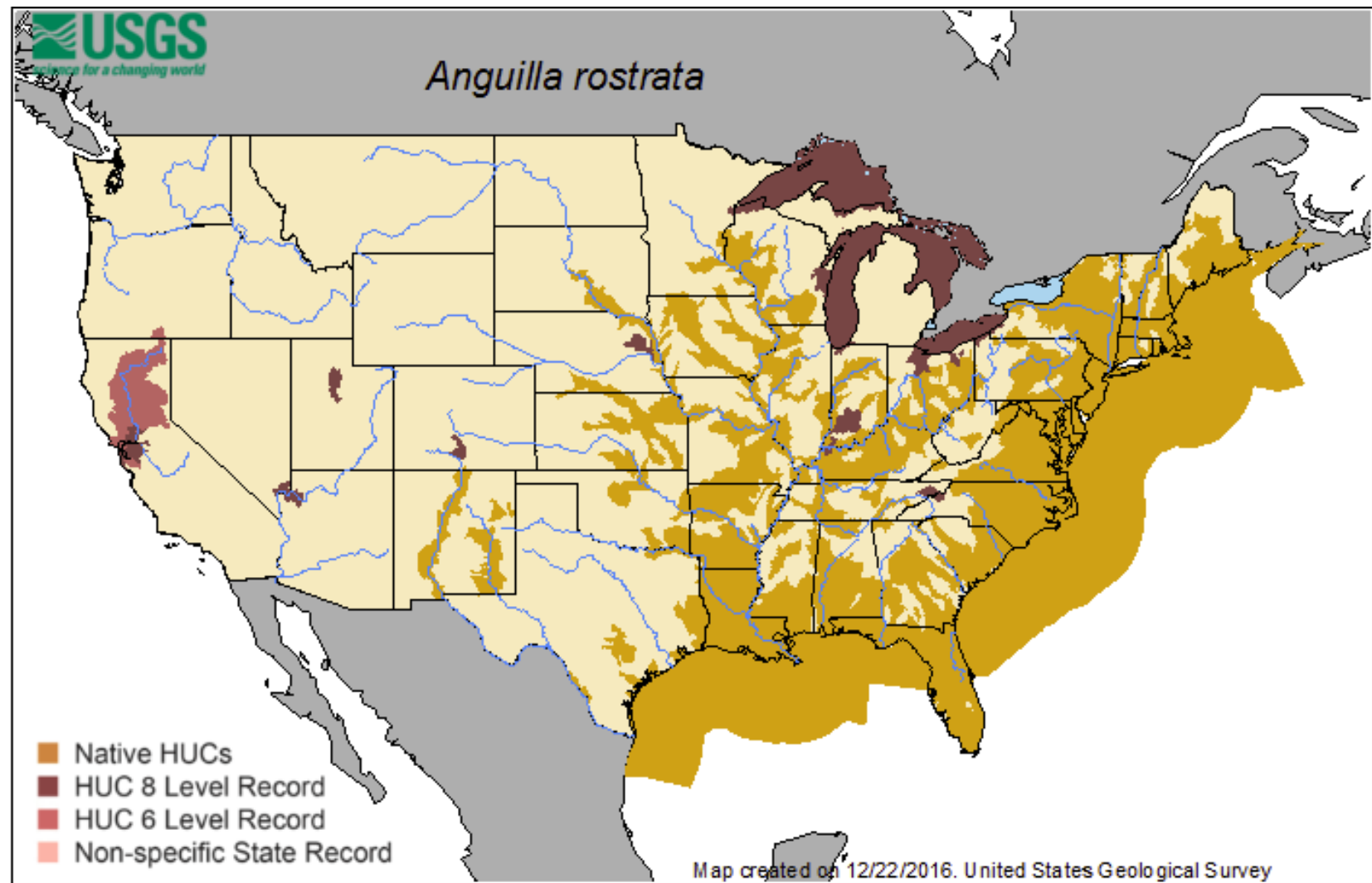
Life cycle

- Catadromous
- Panmictic
- Long-lived
- **Highly migratory**



Distribution

- North America
- Gulf
- Atlantic
- Maritime Canada



Distribution (NY)

- Hudson
- Delaware
- Susquehanna
- St Lawrence

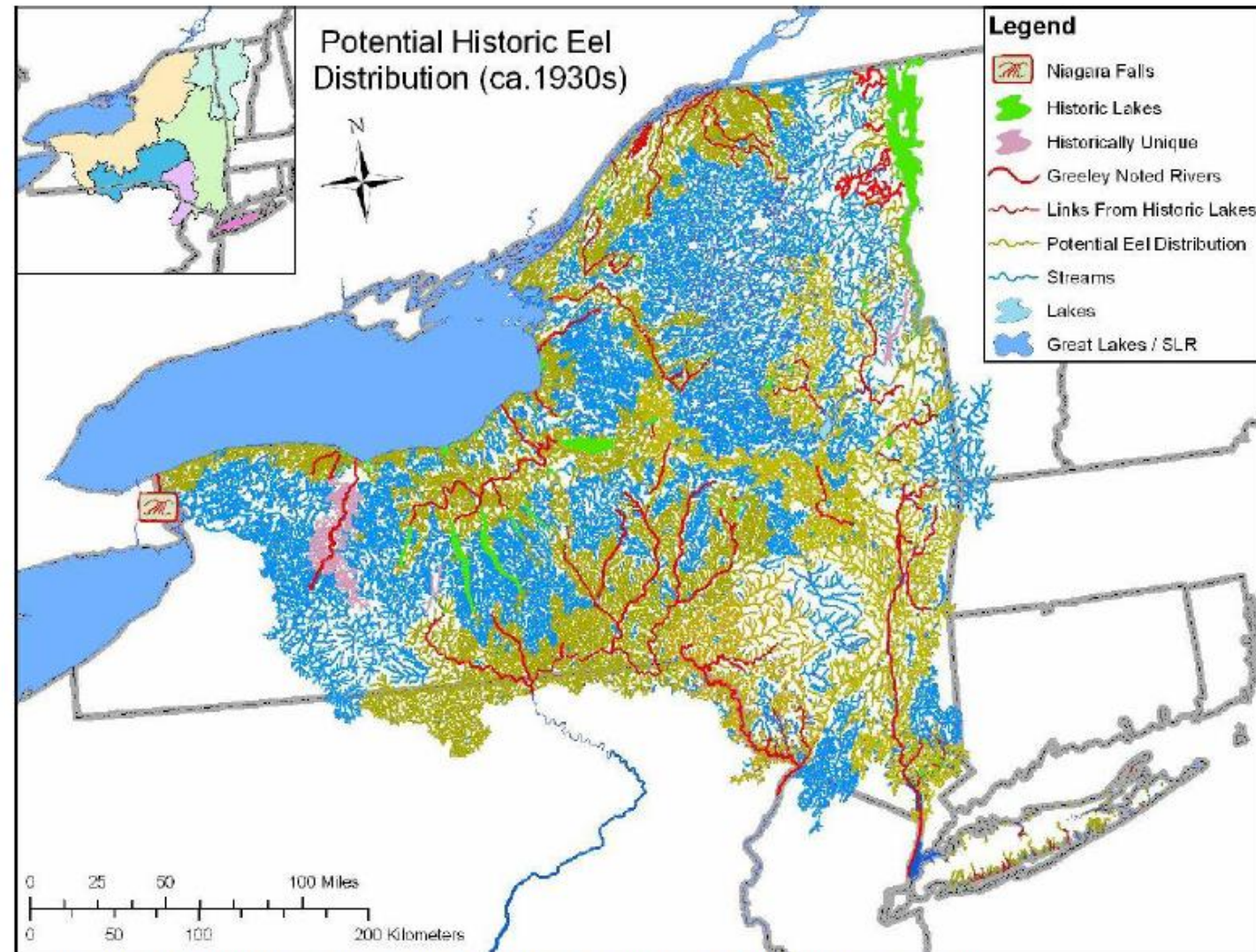
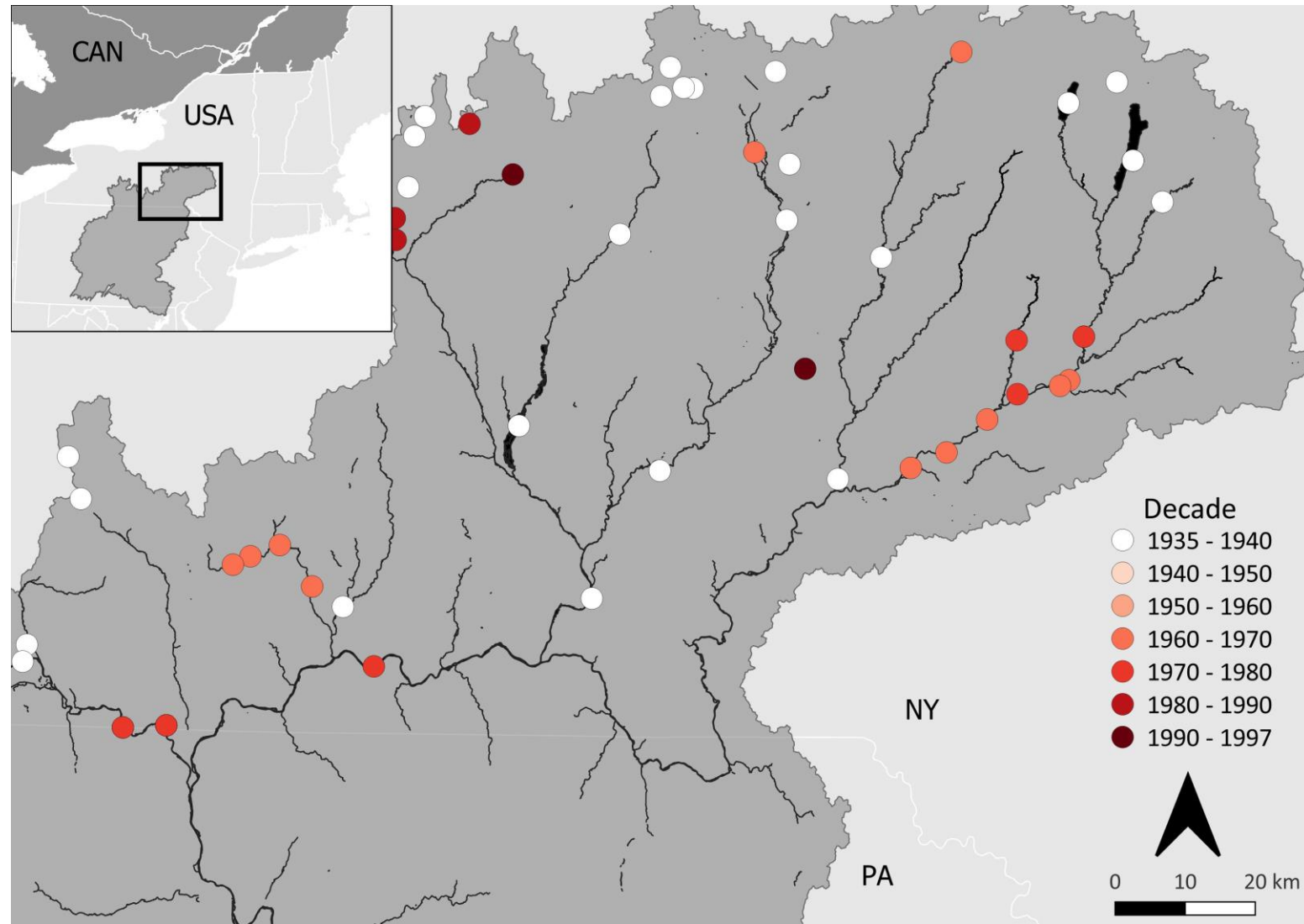


Figure 3.1. Distribution of American eel (1930's) extrapolated from known eel catches.

Distribution (NY)

- Hudson
- Delaware
- Susquehanna
- St Lawrence



Why?

- Dams
- Mouth of river to headwaters
- First several likely have most severe impacts

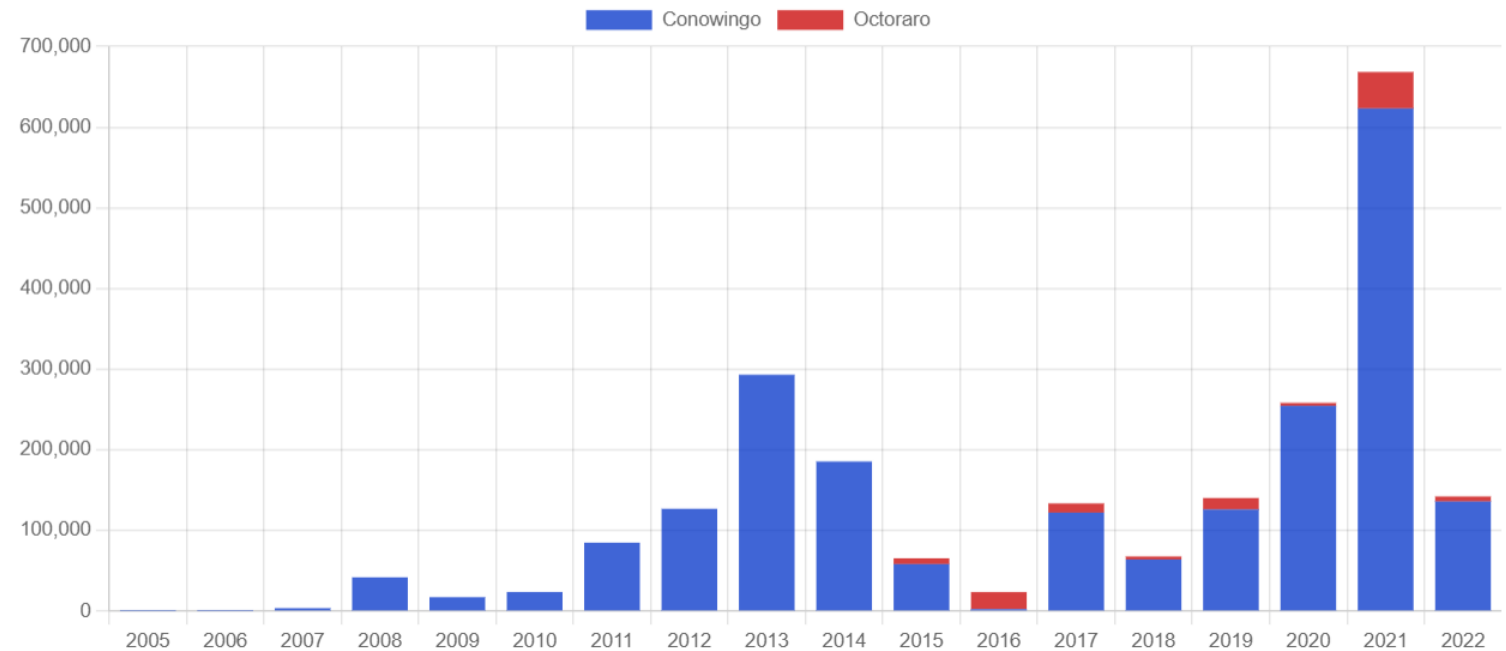


Restoration

- Trapping and trucking
- Fish passage
- Monitoring

Almost 1.5 million eels have been stocked in the Susquehanna watershed since 2005. **Have you caught an eel fishing or observed one recently? Fill out the reporting form below to help us track their range throughout the Susquehanna.** Documenting their spread across the Basin has assisted restoration efforts considerably.

Susquehanna River Elver Ramps - Total Annual Captures



Report an American Eel from the Susquehanna Basin

<https://www.srbc.net/our-work/american-eels/susquehanna.html>

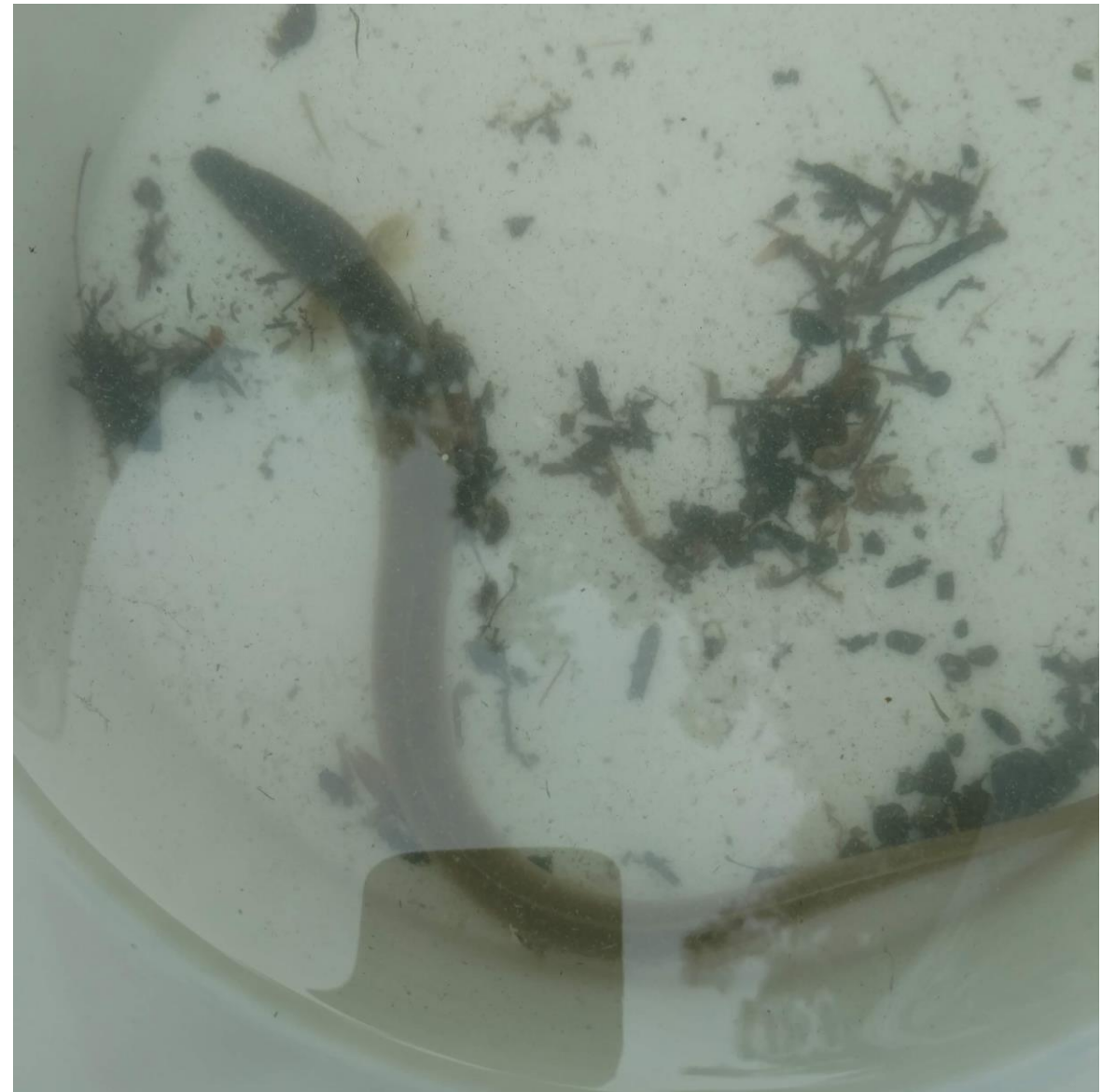
Early work in US

- 2018-2021
- Stocking
- Electrofishing surveys
- Crayfish surveys



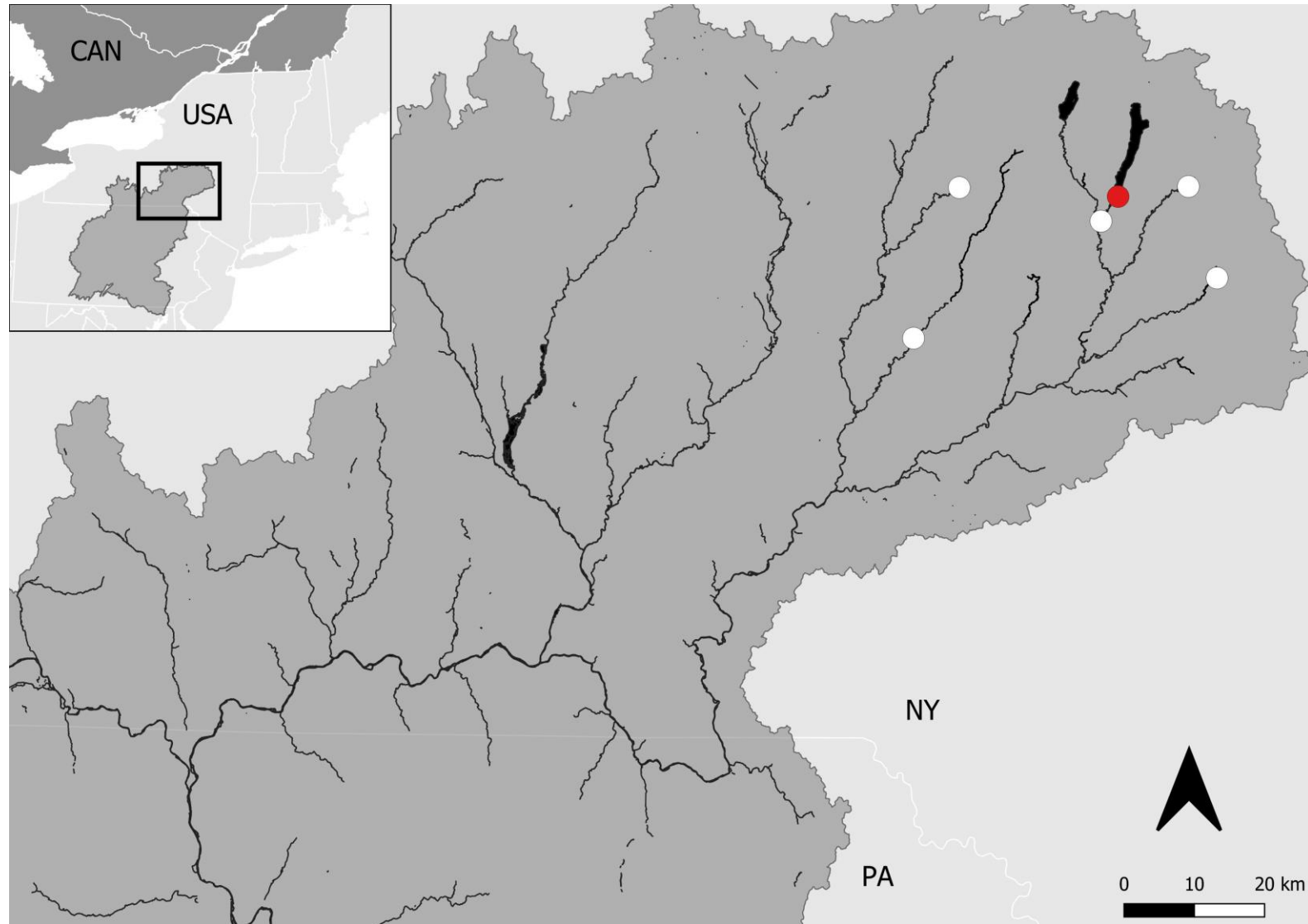
Early work in US

- One eel: first site, first day, first year :D



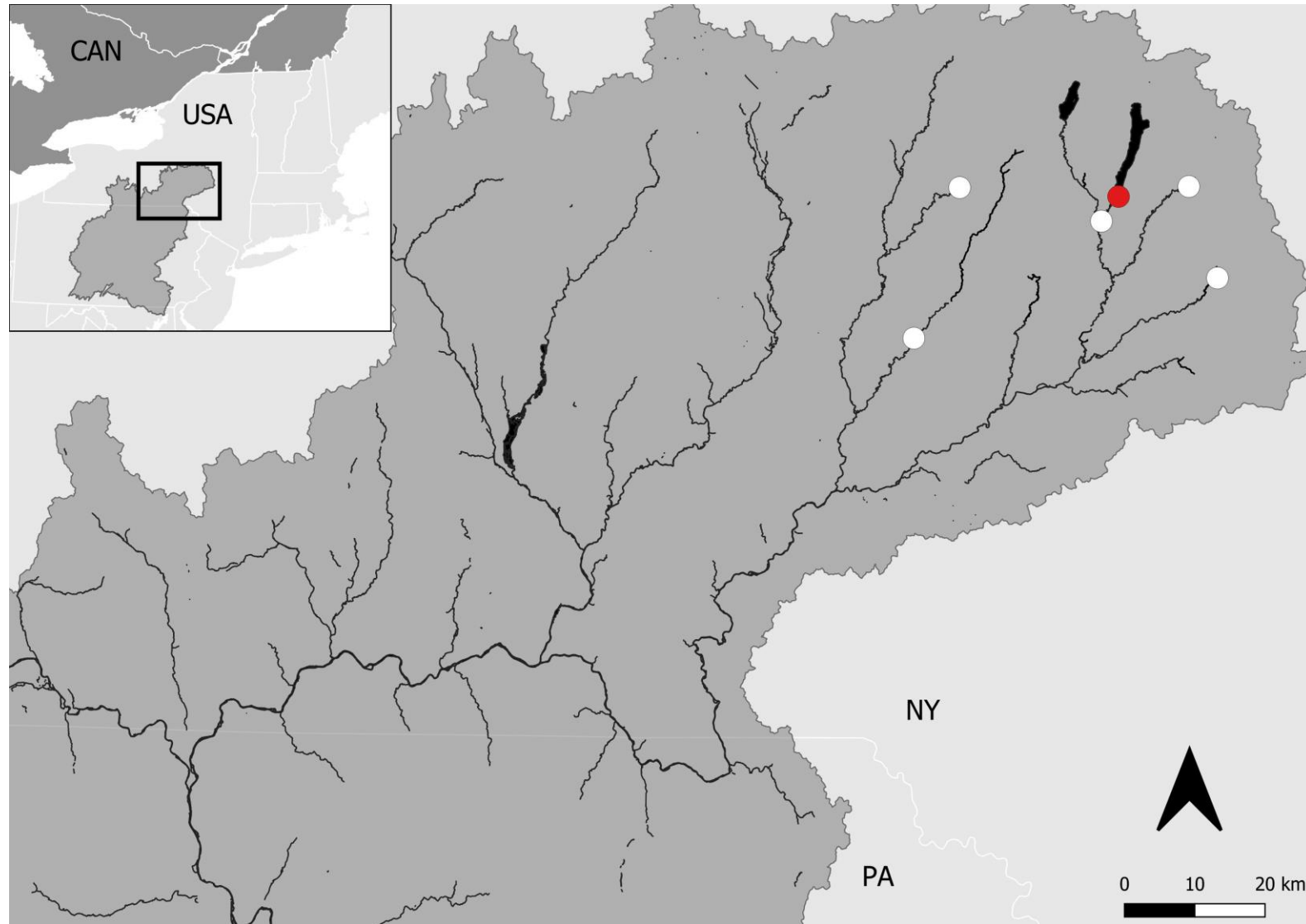
Early work in US

- One eel: first site, first day, first year :D
- No eels after that for four years :/



Early work in US

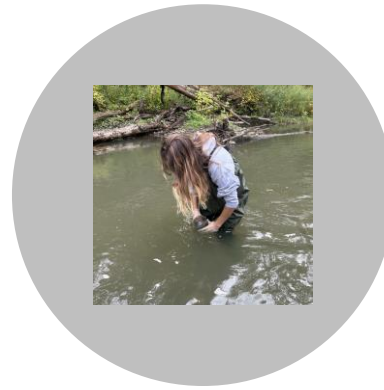
- One eel: first site, first day, first year :D
- No eels after that :/
- USCA American eel group formed 2022 :D



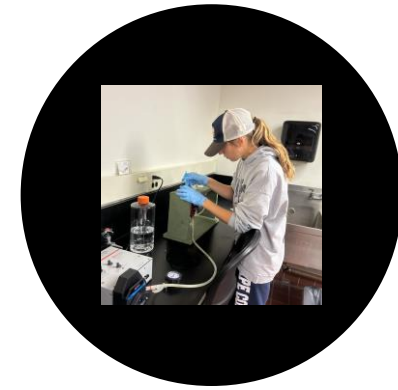
What is new in 2023?



Electrofishing



Water sampling



eDNA

New partners!

- Kari Minissale
- SRBC, NYSDEC, others
- Standardized methods
- More sites
- eDNA sampling



Electrofishing surveys

- Minimum 100-m reaches
- 3-pass depletion
- 20 sites in Otsego and Delaware Counties
- SRBC did more in PA and NY



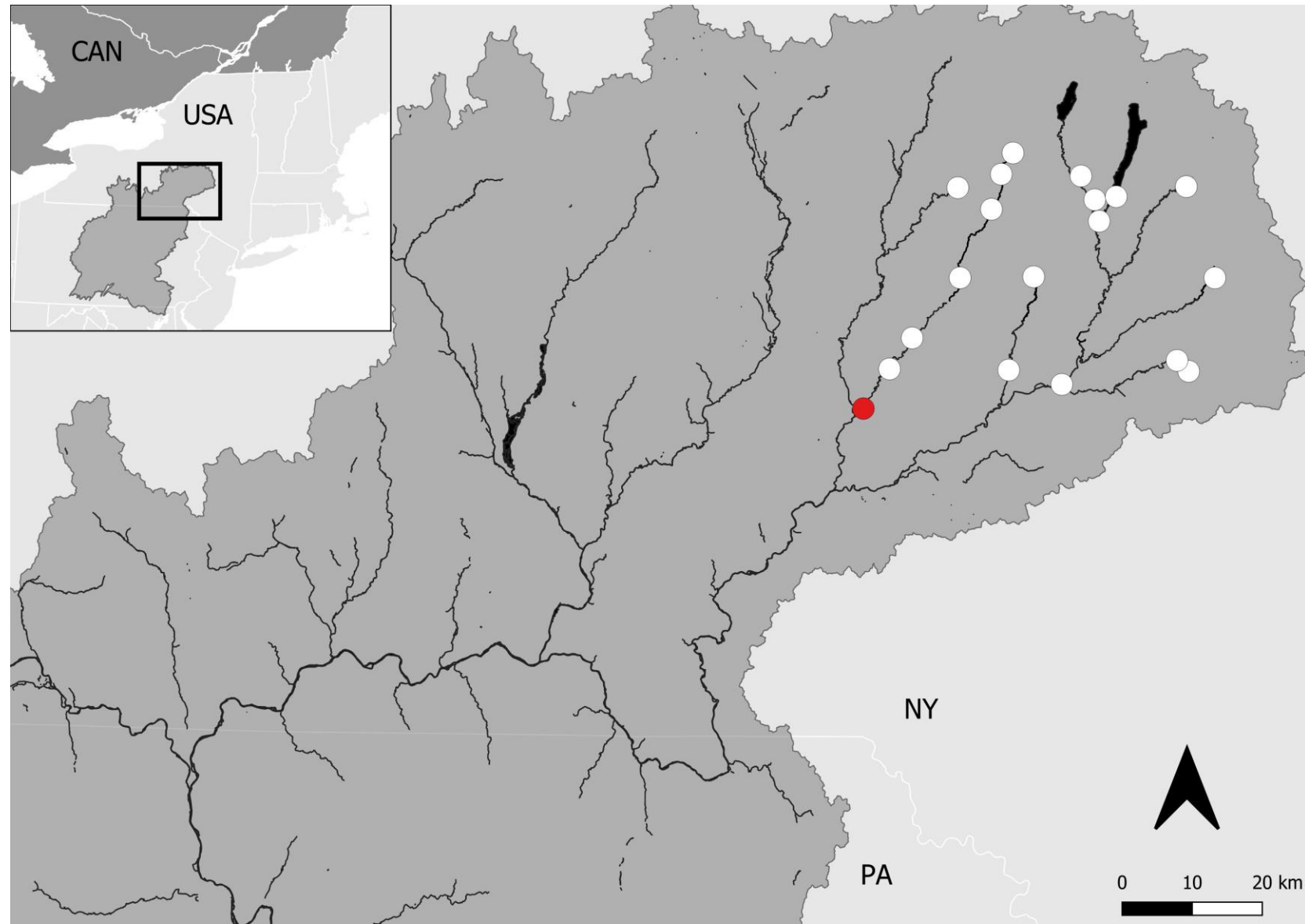
eDNA sampling

- Downstream end of 100-m reaches
- Upstream to downstream
- Standardized collection and filtering protocols
- Standardized analysis protocols through USFWS



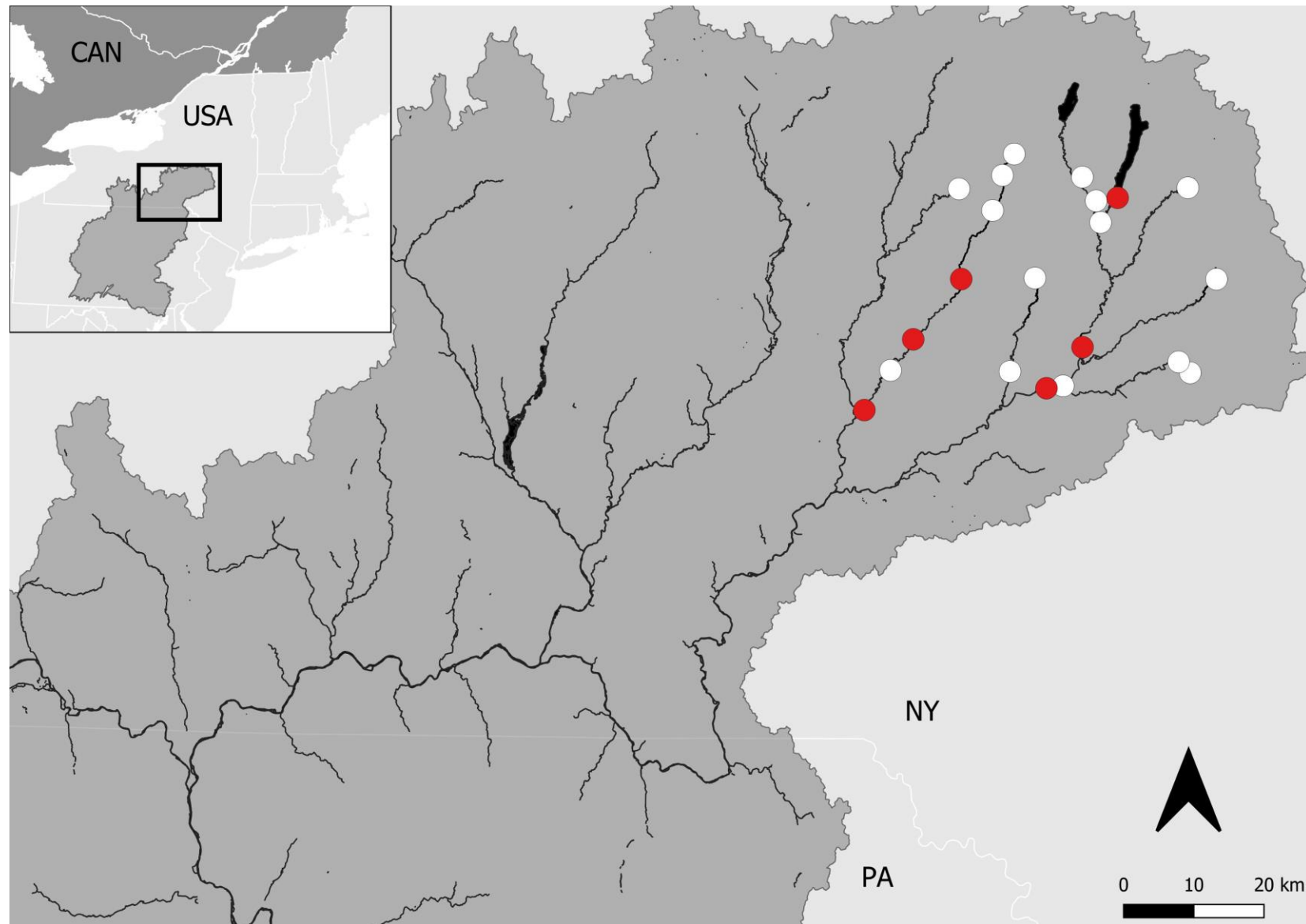
New results!

- One eel: first site, first day, first year...hmmm
- Standardized methods throughout basin
- Filtered eDNA off to lab



What is next?

- 2024 season
- Repeating the 18 sites from 2023
- Additional sites for presence-absence
- Mainstem sites!



Acknowledgments

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