

American Eels in the Colorado River

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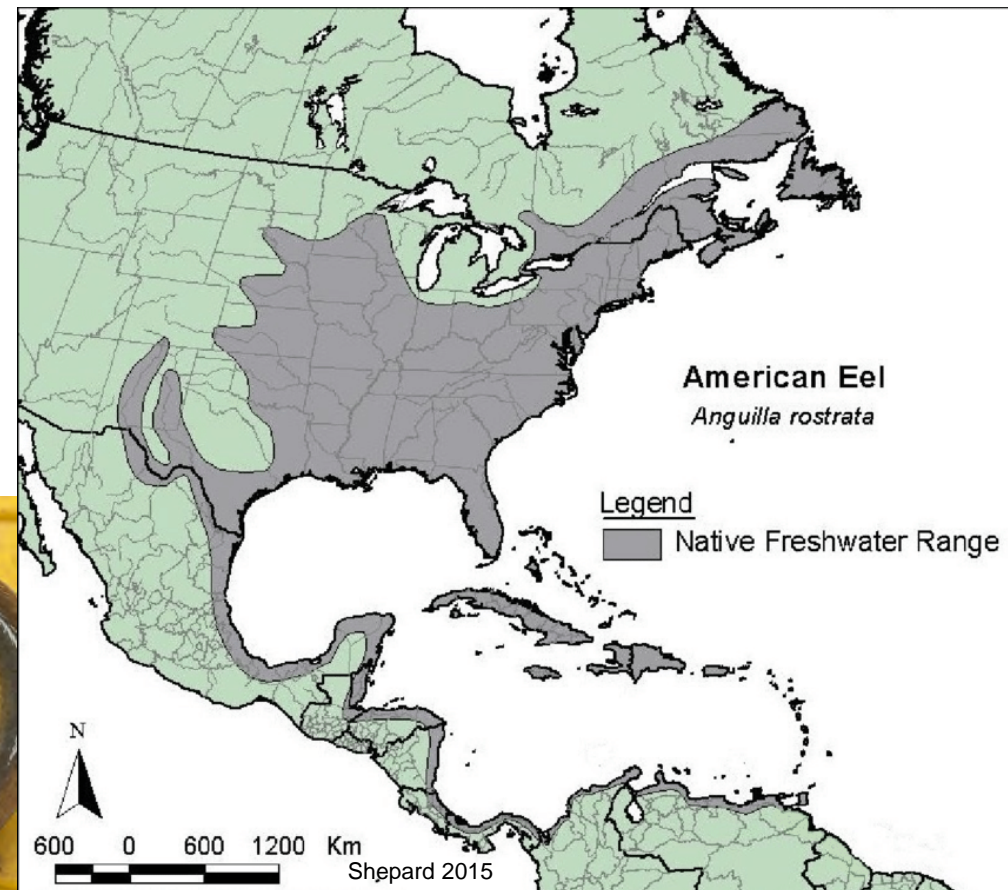


American Eel Range

Yes, we do have them in Texas

In Texas, American eels are listed as a Species of Greatest Conservation Need

- A species identified by a state or region as having a high conservation priority due to declining populations, limited distribution or significant threats to its habitat



Meet the American Eel

- Length: 2 – 5 feet
- Age: 3 - 40+ years
- Diet: fish, mollusks, crustaceans & carrion
- Can absorb oxygen through skin
- Can travel on land for short periods of time to travel to new water bodies

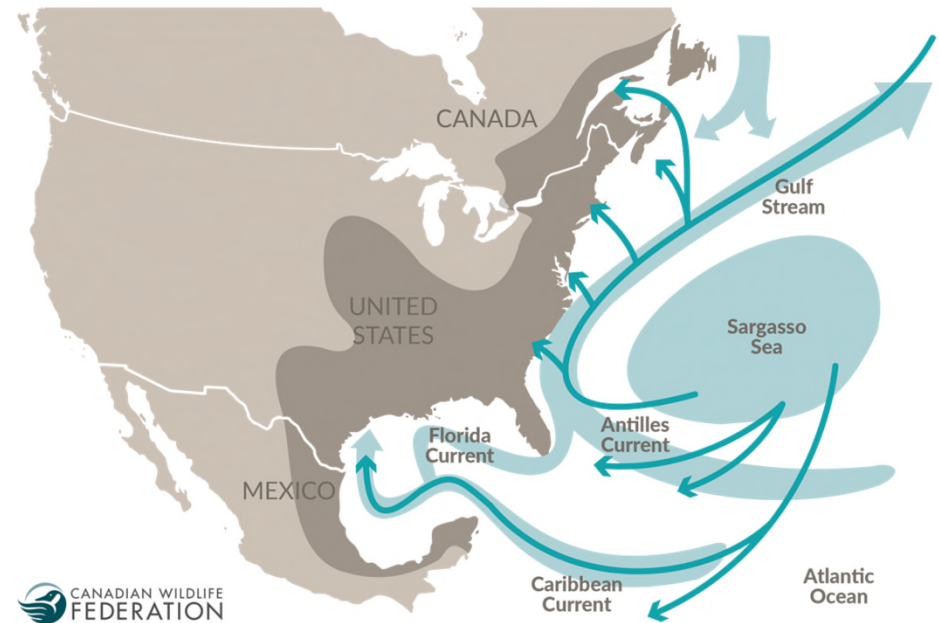


PC: Bradford County Conservation District

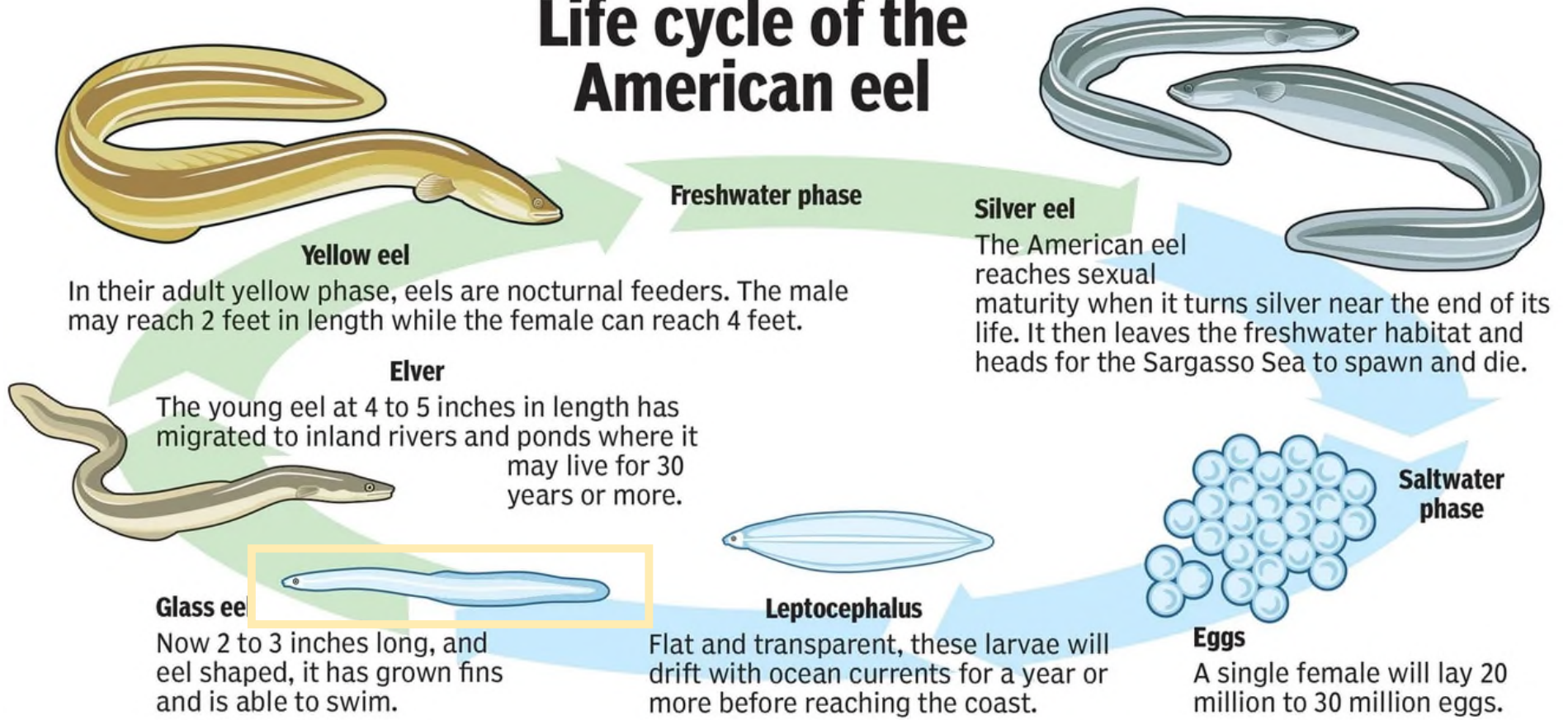
Meet the American Eels

- **Panmictic population** = one single population
- **Catadromous lifestyle** = living in fresh water and going to the sea to spawn
- **Semelparous** = breeding once and dying
- American eel spawn in the Sargasso Sea from approximately February–April

MIGRATION PATTERNS OF THE AMERICAN EEL



Life cycle of the American eel



SOURCE: U.S. Fish and Wildlife Service

THE PROVIDENCE JOURNAL/TOM MURPHY

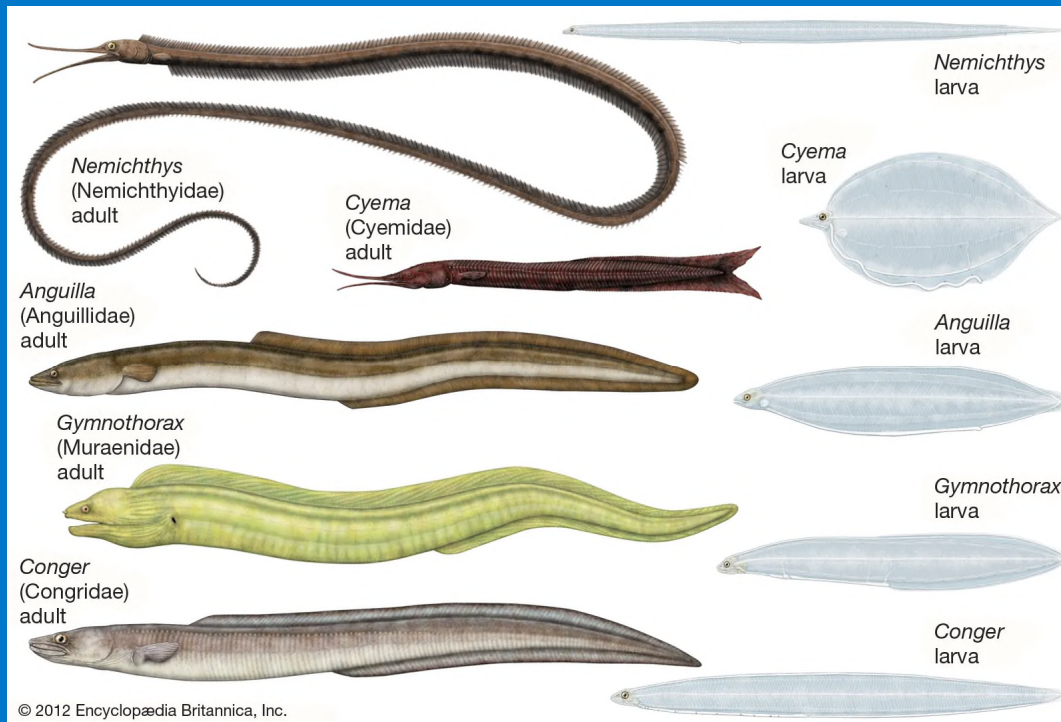
Research objective:

Determine when glass eels appear in in the Colorado River

- **Virginia: March and April**
- **Rhode Island: March – June**
- **Pennsylvania: February and March**
- **Maryland, New York, New Jersey, Delaware: Early spring**
- **Texas: ?????**



Simple...or is it?



- All “eel” species undergo metamorphosis
- Eel larvae thought to be a different species
- No sexual organs found in adult eels
- Aristotle coined “spontaneous generation of eels” in 384 B.C.

Where Do Eels Come From?

- In 1777 scientists located an eel's ovaries for the first time
- In 1886 scientists discovered that transparent, leaf-like larvae called leptocephali mature into eels
- In 1921, scientists discovered leptocephalus in the Sargasso Sea
- In 2022, scientist successfully tracked five European silver eels to the Sargasso Sea for the first time

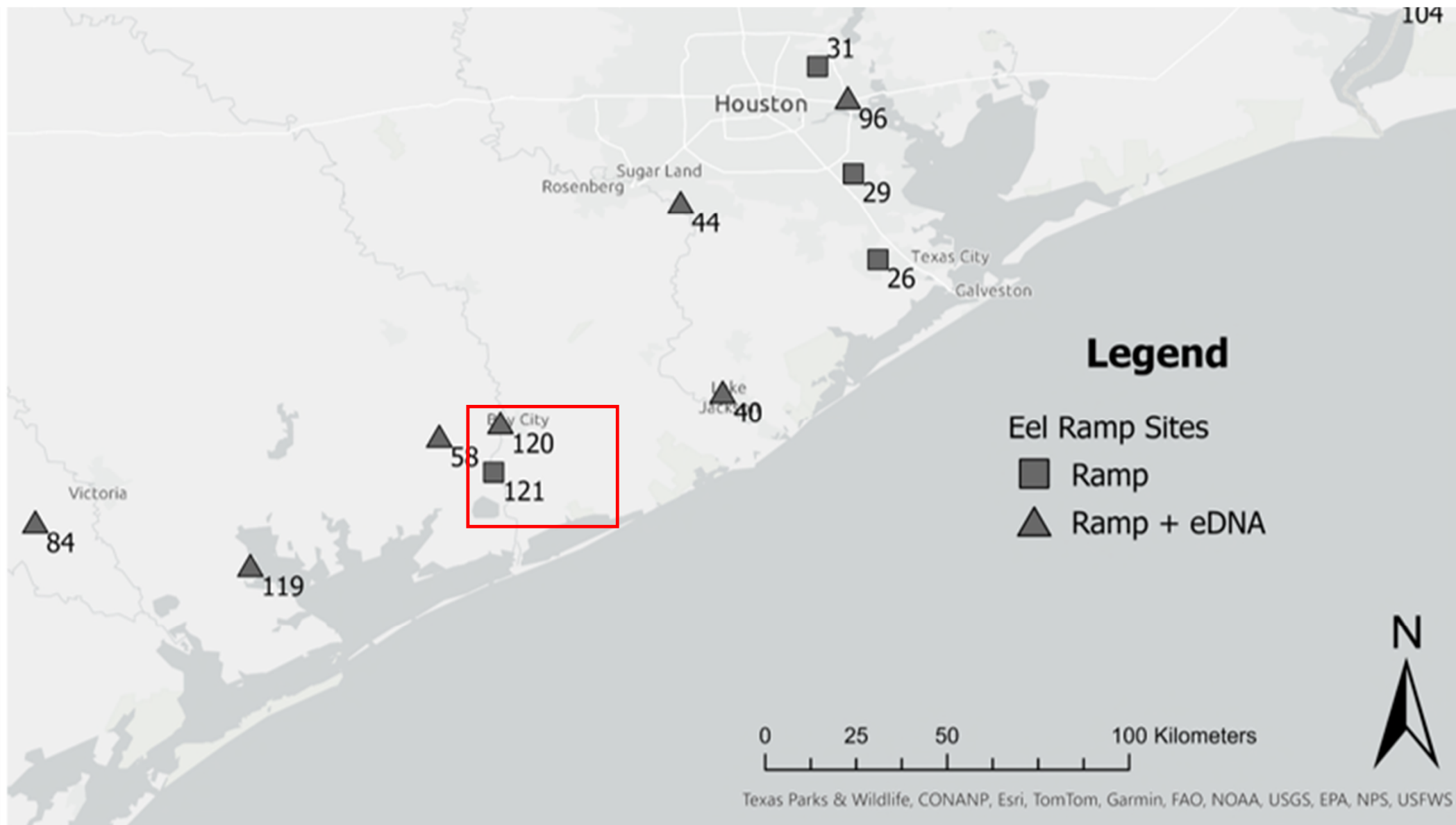
The New Yorker May 2020: Where do Eels Come From?



Eel Project

- Started in April of 2022
- Joint project with TPWD and UHCL
- Before this project: 3 documented elvers in Texas
- First glass eel caught in Texas
January 10, 2023





Site 1: Bay City Dam



Site 2: OQ Chemical Plant Outfall



Methods for 2024

Fyke Net

Eel Mop

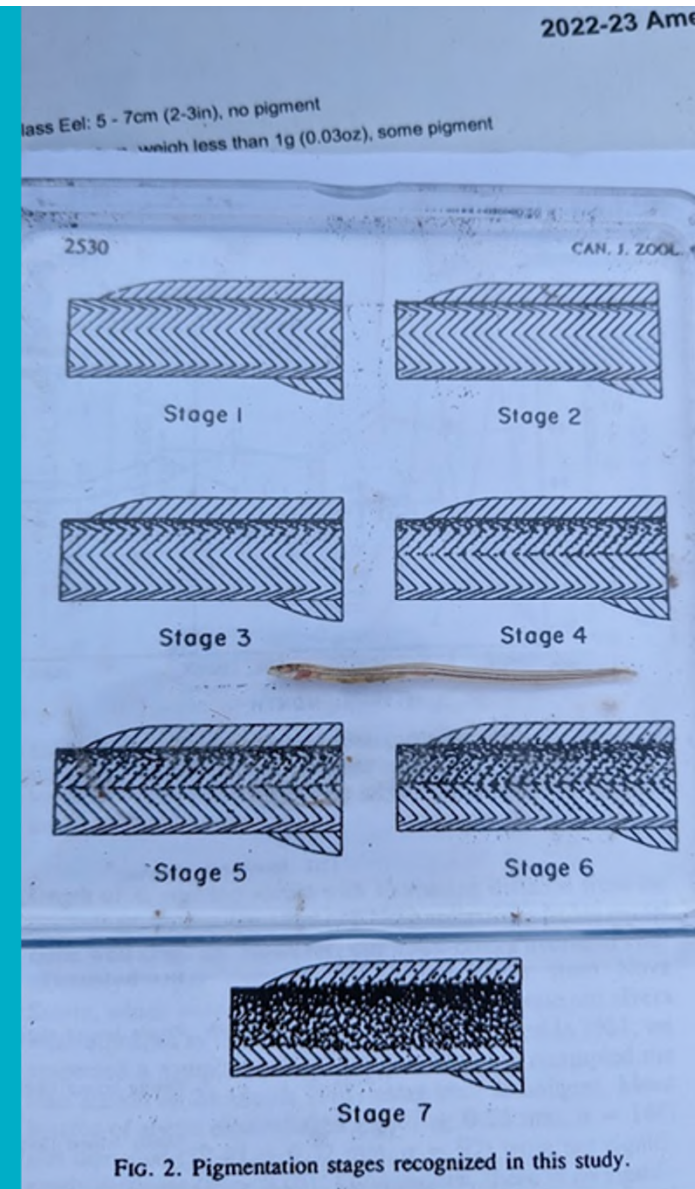
Baited mesh traps

Larval light traps



Methods for 2024 Continued

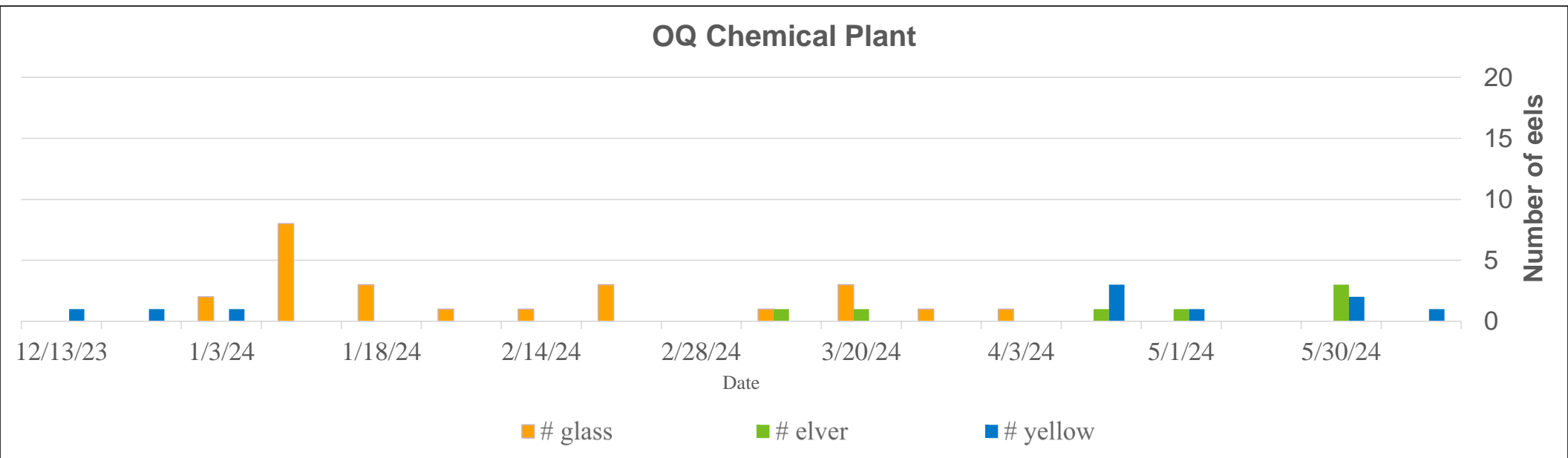
- Traps set before sunset and picked up after sunrise
- Eel mops left passively fishing
- Sampling occurred weekly until April, then was bi-monthly
- Eels were measured for total length, girth, weight, life stage and pigment stage



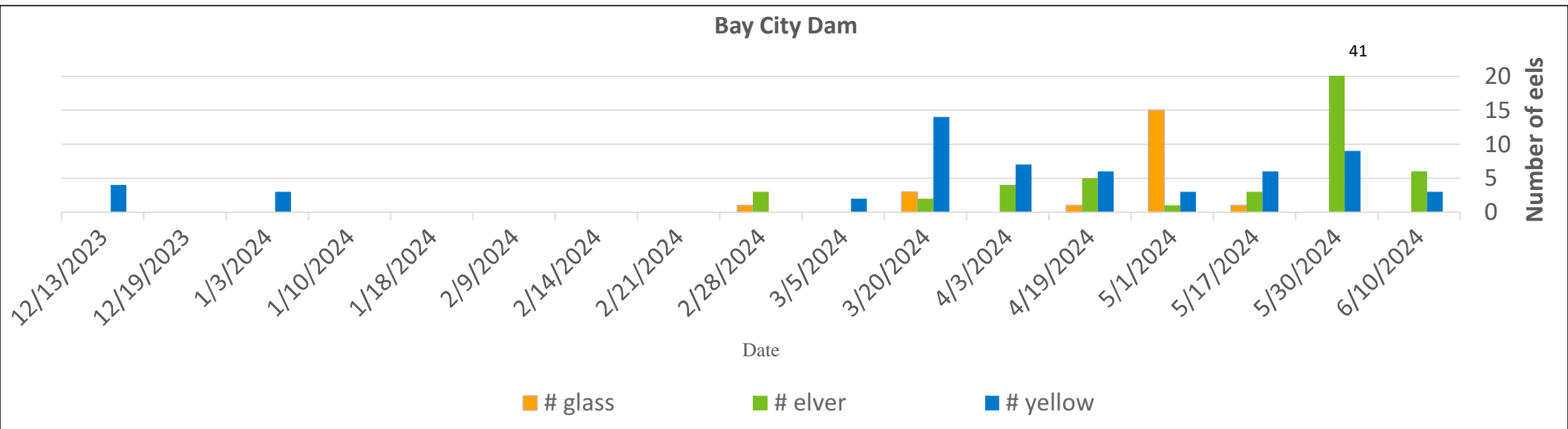
First Glass Eels Caught at OQ Site: Jan. 3, 2024



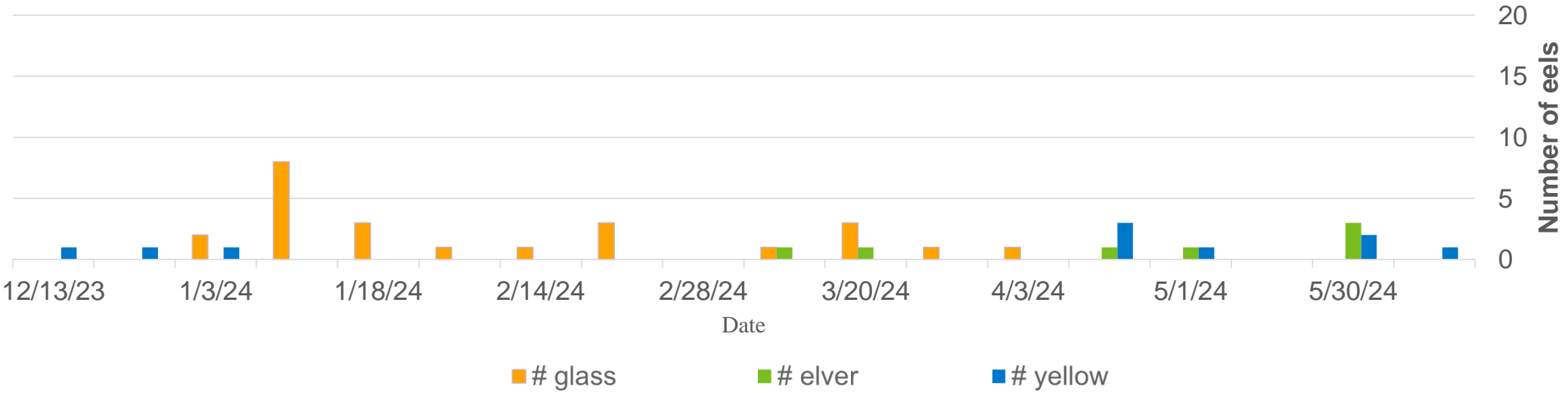
Catch



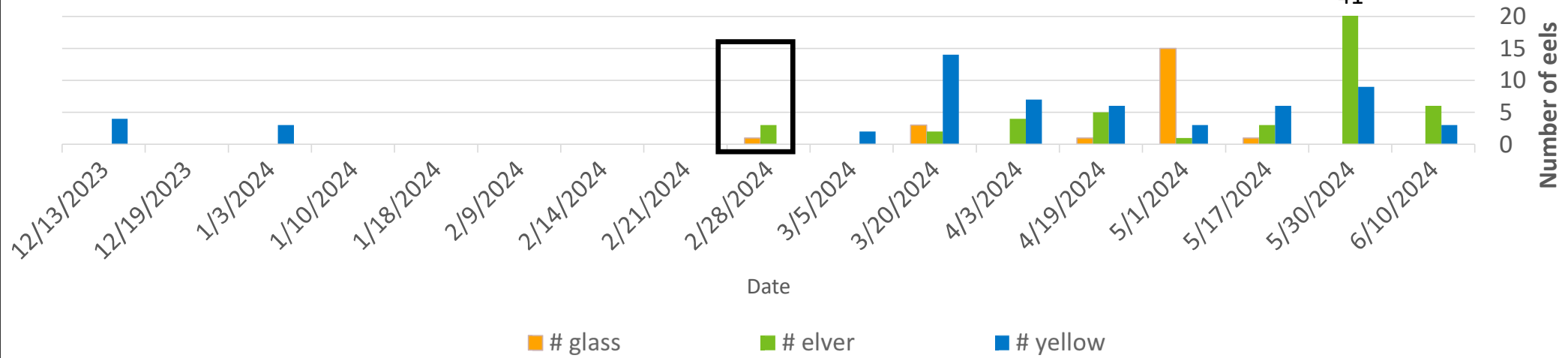
Catch



OQ Chemical Plant



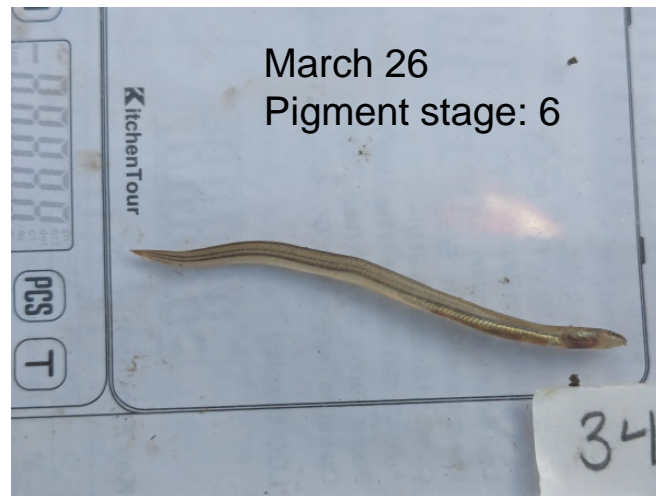
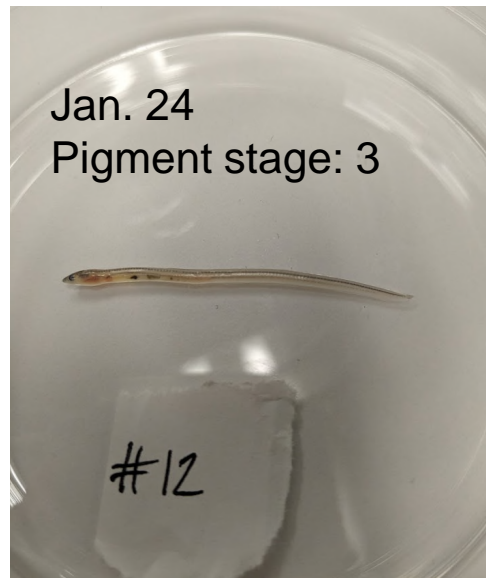
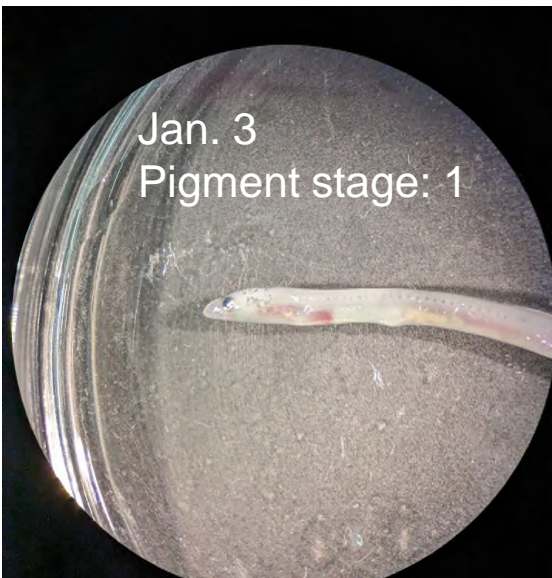
Bay City Dam



Summary

- 0 in larval light traps
- 15 in the fyke net – never caught an elver
- 31 in mesh traps – never caught a glass eel
- 139 eels caught in the eel mop





Research objective:

Determine when glass eels appear in the Colorado River

- Recruitment Window
Year 0 in Texas : ??
- Recruitment Window
Year 1 in Texas : Jan 10-
31st
- Recruitment Window
Year 2 in Texas :
December – May
- Recruitment Window
Year 3 in Texas : TBD



Project Future

- Eel season 2025 begins Dec. 3, 2024
- Eel mops only
- Continue project until recruitment window for American eels in Texas is narrowed down



Acknowledgements



Questions?

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LCRA

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References

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