

Smallmouth Bass and Other High-Risk Nonnatives

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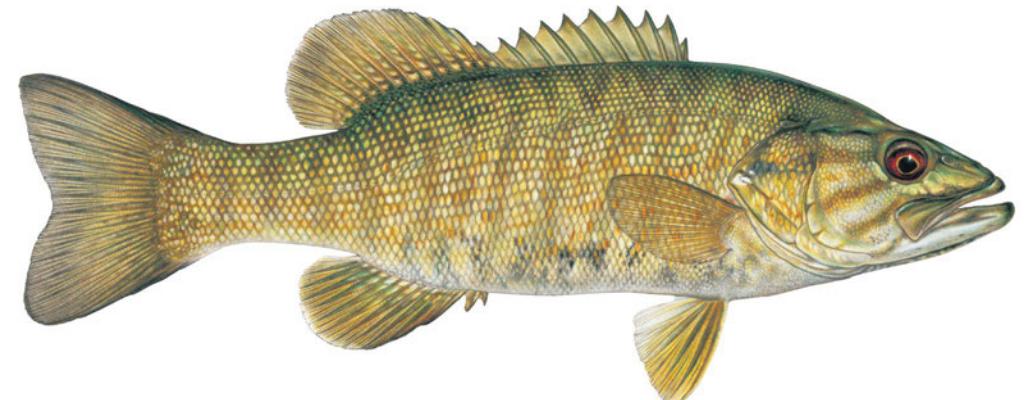
US Department of the Interior

US Fish and Wildlife Service

Matt O'Neill

US Department of the Interior

Bureau of Reclamation



TWG

Dec 11, 2025

Flagstaff, AZ

This information is preliminary and is subject to revision. It is being provided to meet the need for timely best science. The information is provided on the condition that the U.S. Geological Survey nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the information.

Acknowledgements

With lots of help

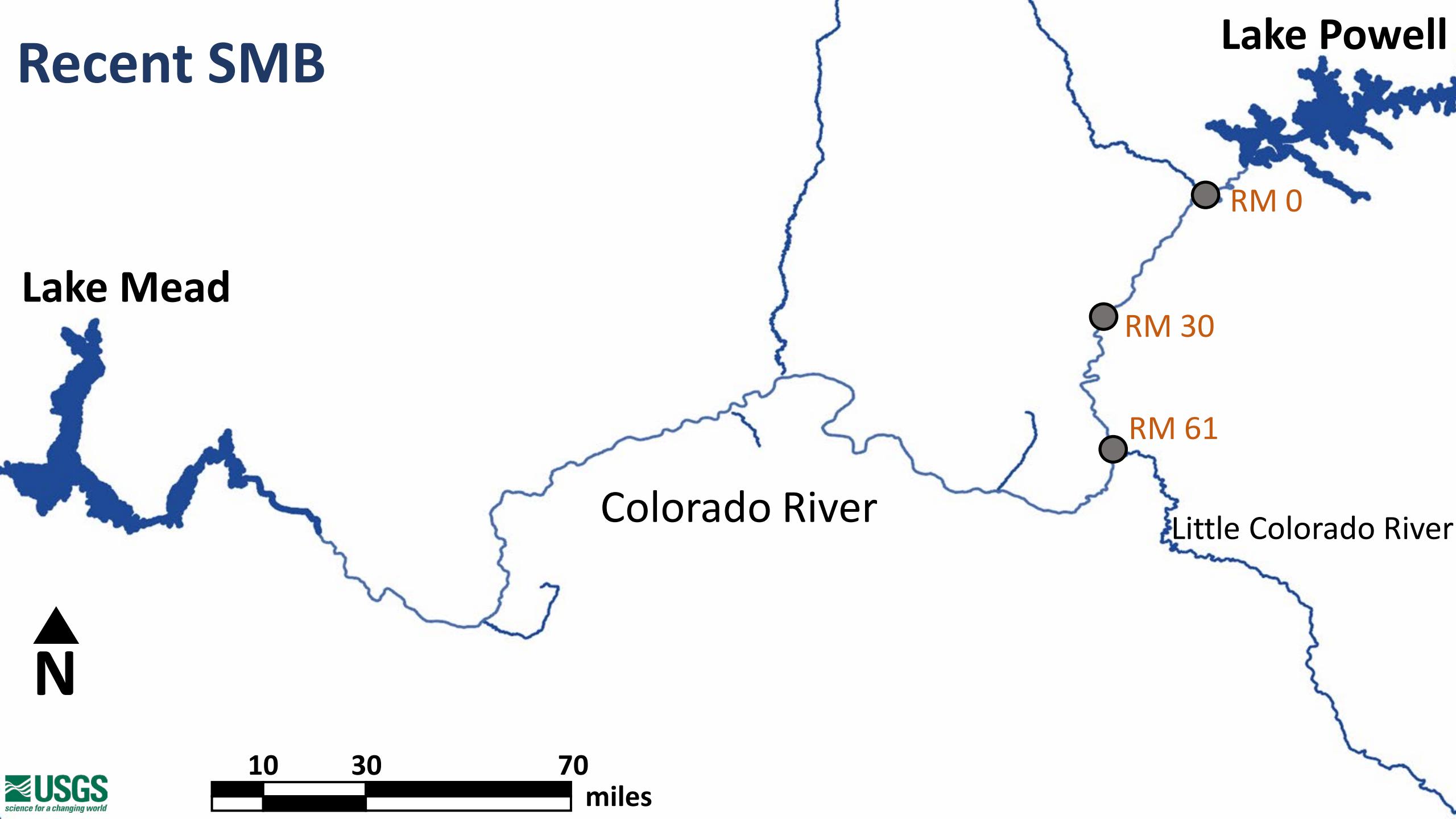
Including:

Kim Dibble, Maria Dzul, Brian Healy, Lindsay Hansen, Ben Miller, Tom Gushue, Conor Clancy, Laura Tenant, Brian Hines, Bryce Mihalevich, Mike Pillow, Pilar Rinker, Tiffany Love-Chezem, Dale Fonken



— BUREAU OF —
RECLAMATION

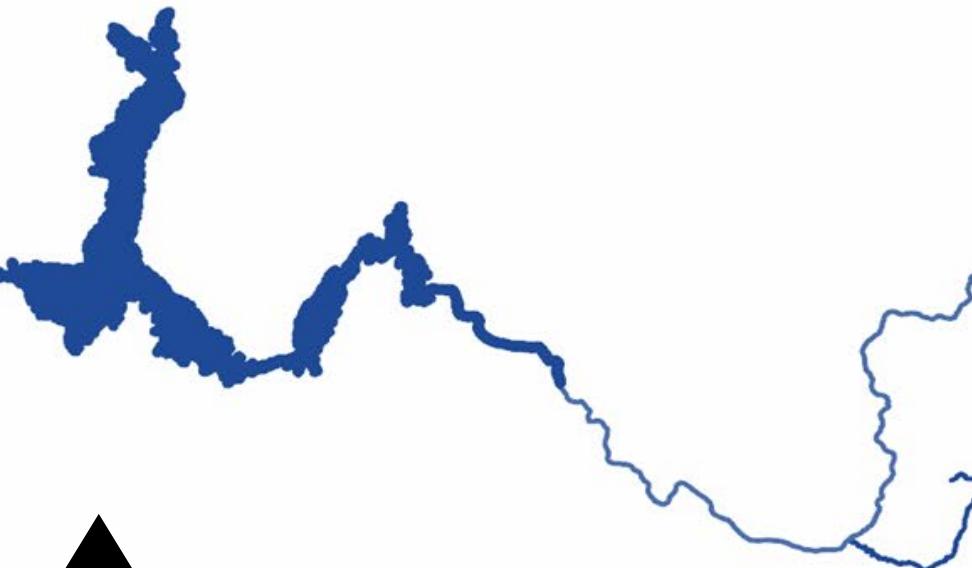
Recent SMB



Recent SMB

- 2022 to present: 1,919 SMB captures

Lake Mead



*spatial distribution of sampling effort changes overtime

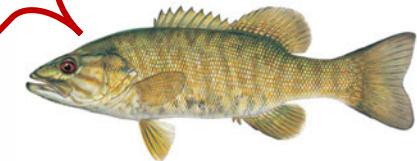
Lake Powell

RM 0

RM 30

RM 61

Little Colorado River



Farthest Downstream

SMB Captures

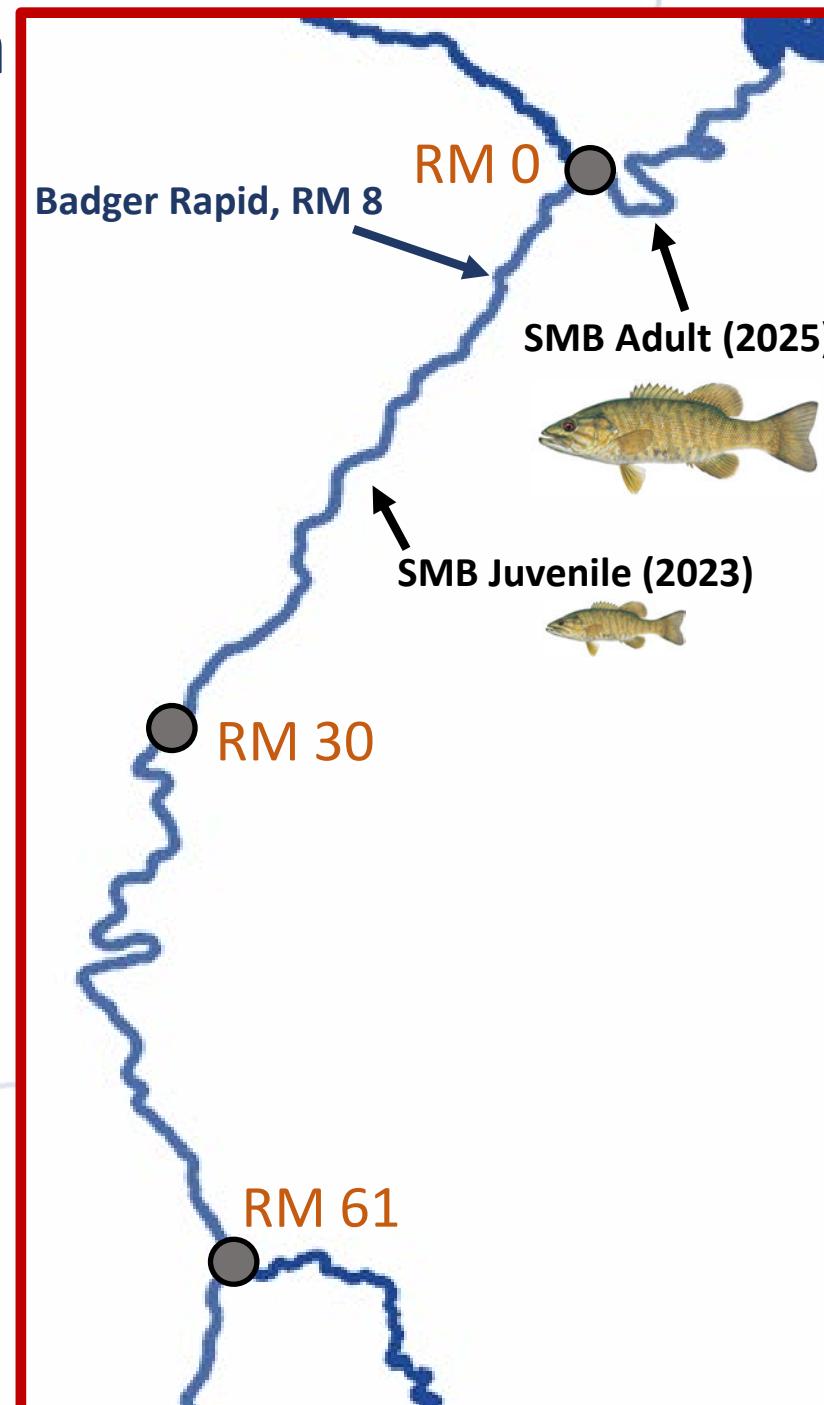
2022 – present

Juvenile: RM 16.38 (2023)

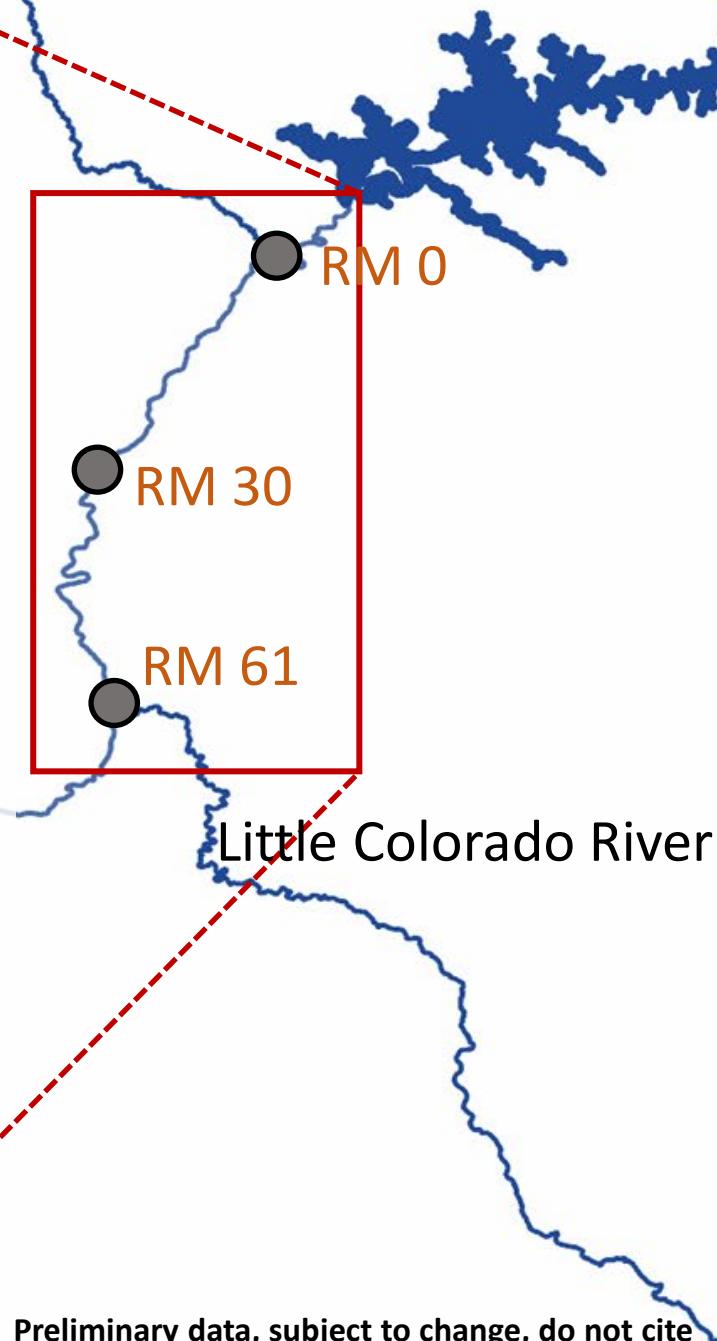
Adult: RM -3.49 (2025)



*sampling effort changes

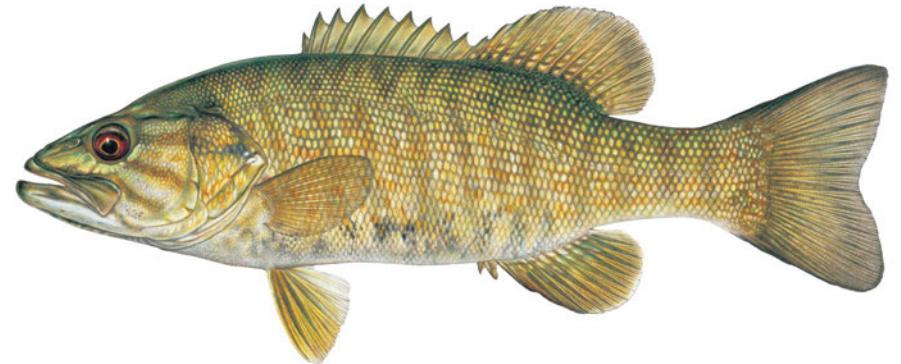


Lake Powell



Preliminary data, subject to change, do not cite

2025 Smallmouth Bass Captures



2025 Smallmouth Bass Captures

Total = 38*

(compared to 254 at this time in 2024*)

16% from routine, interagency monitoring



84% from targeted removal effort



***Reduced sampling/monitoring effort in 2025**

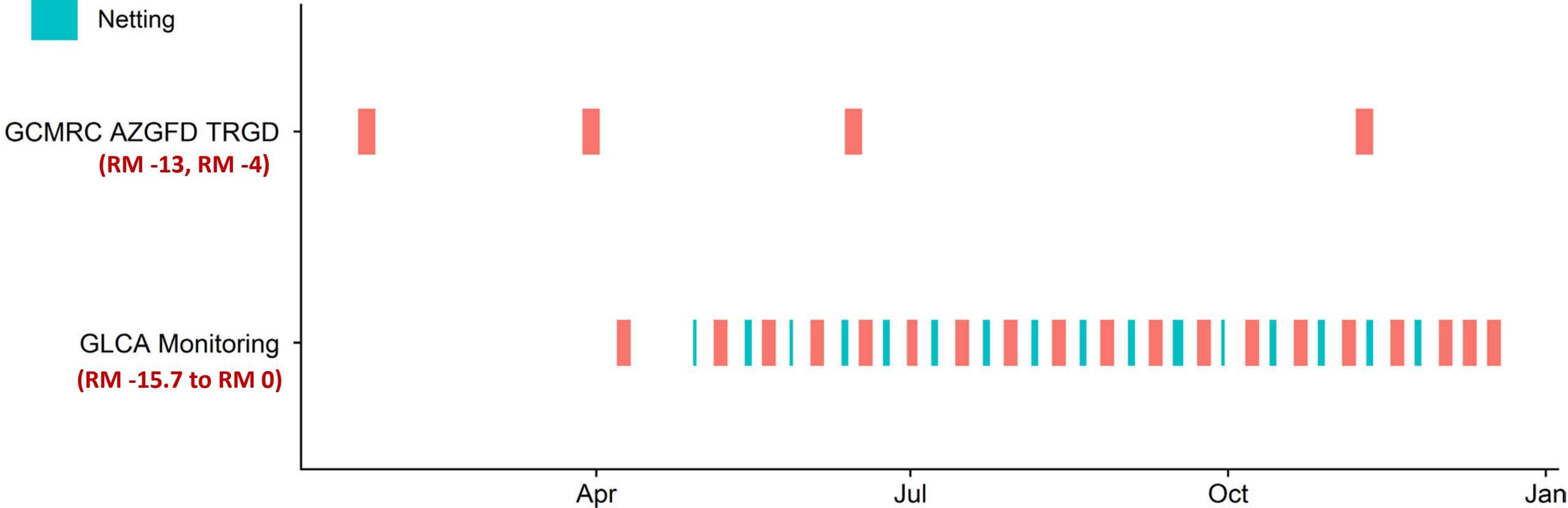
2025 Sampling Effort: Lees Ferry Tailwater

Gear

Electrofishing

Netting

Fisheries- Lees Ferry 2025



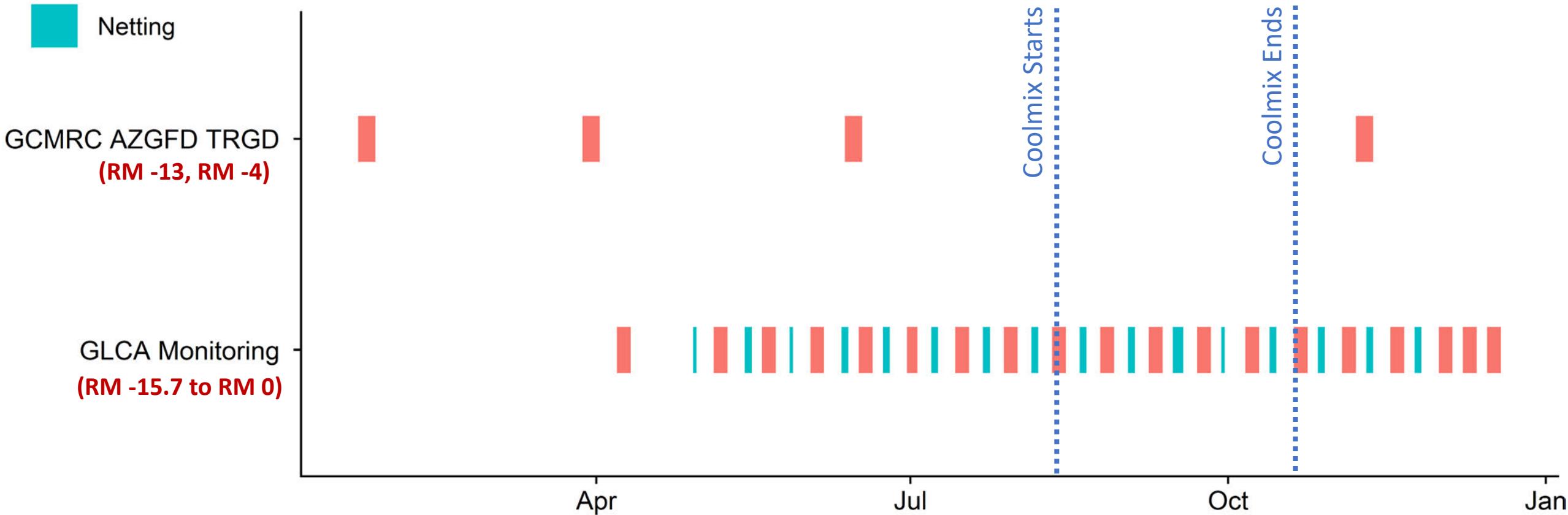
2025 Sampling Effort: Lees Ferry Tailwater

Gear

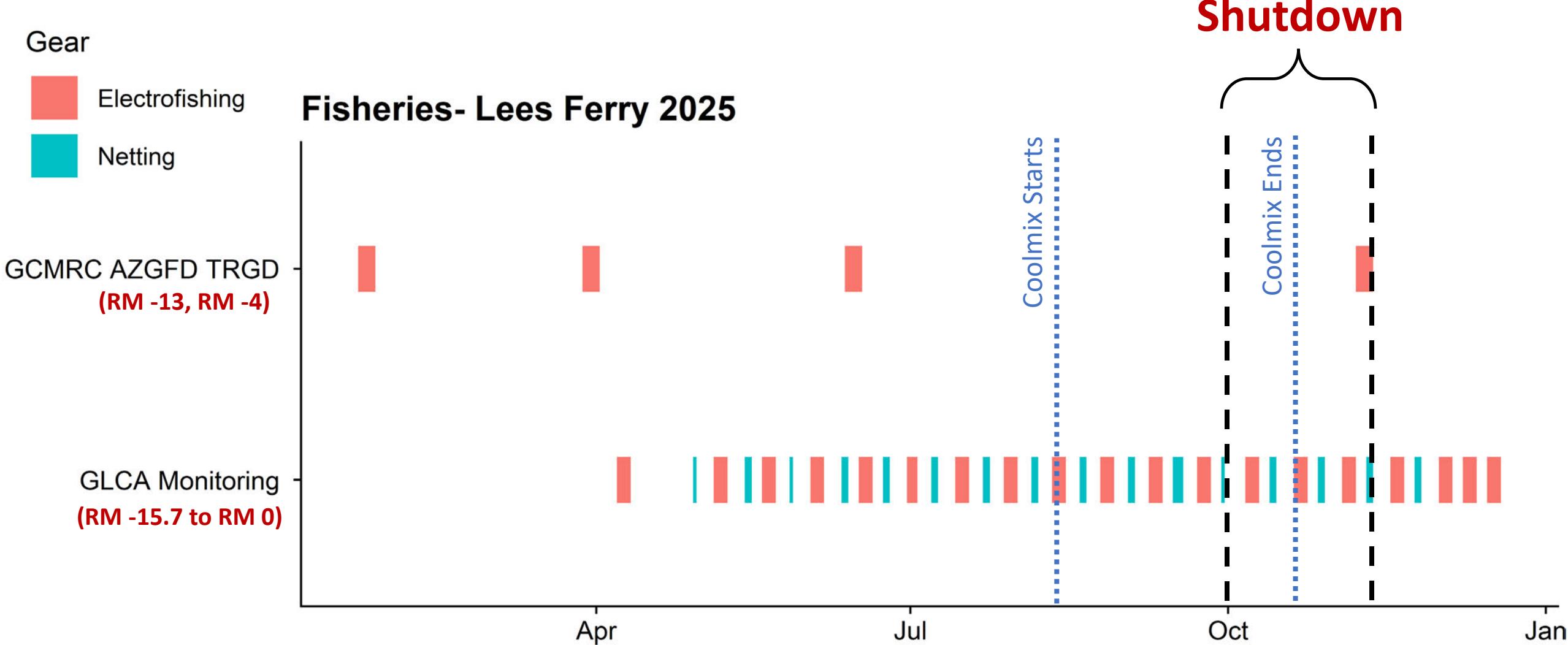
Electrofishing

Netting

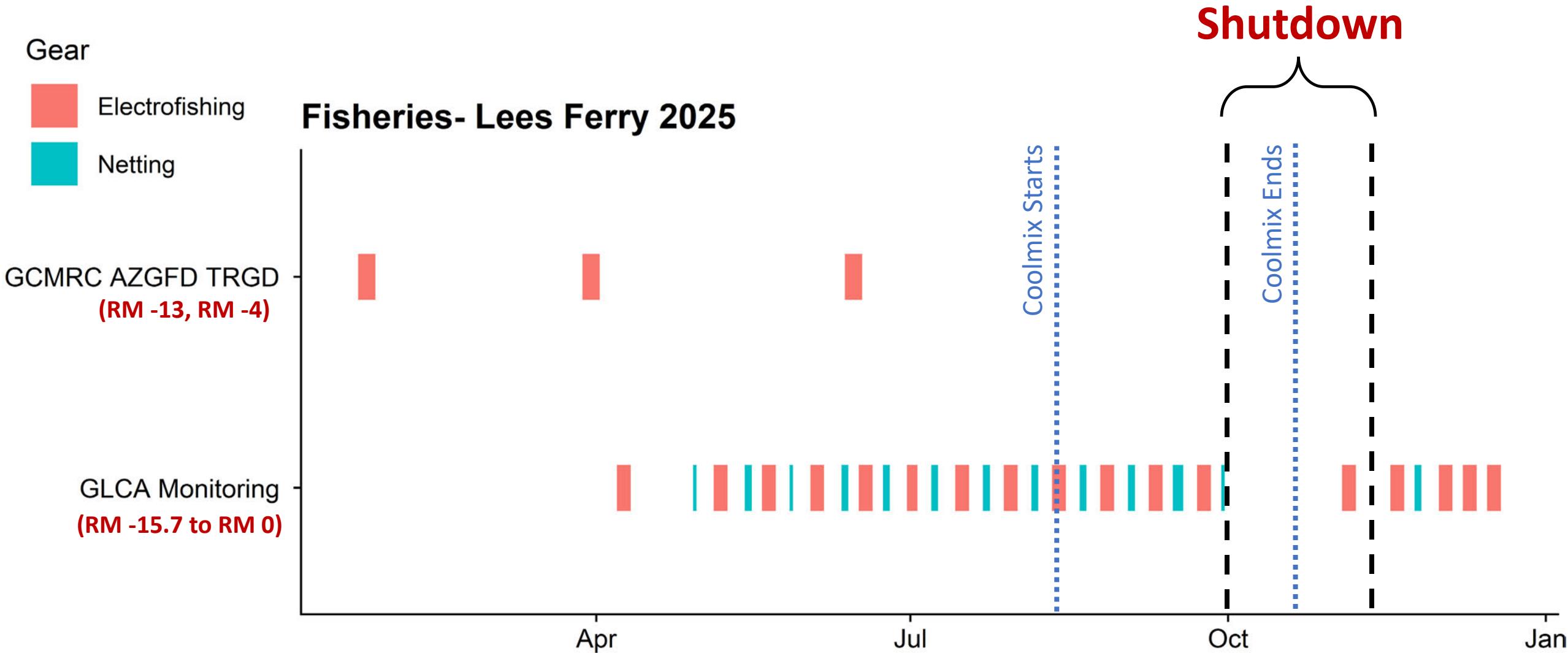
Fisheries- Lees Ferry 2025



2025 Sampling Effort: Lees Ferry Tailwater



2025 Sampling Effort: Lees Ferry Tailwater

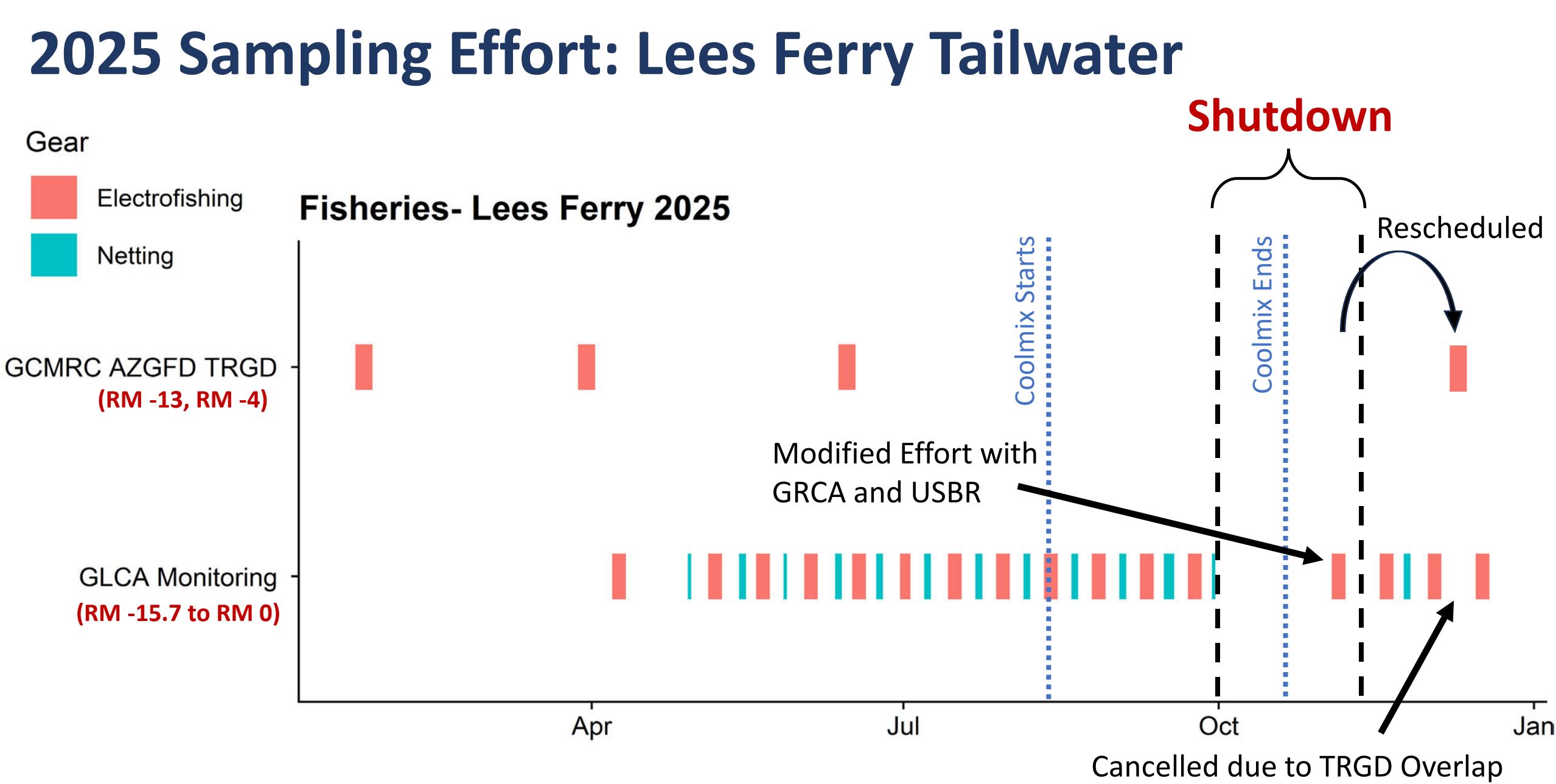


2025 Sampling Effort: Lees Ferry Tailwater

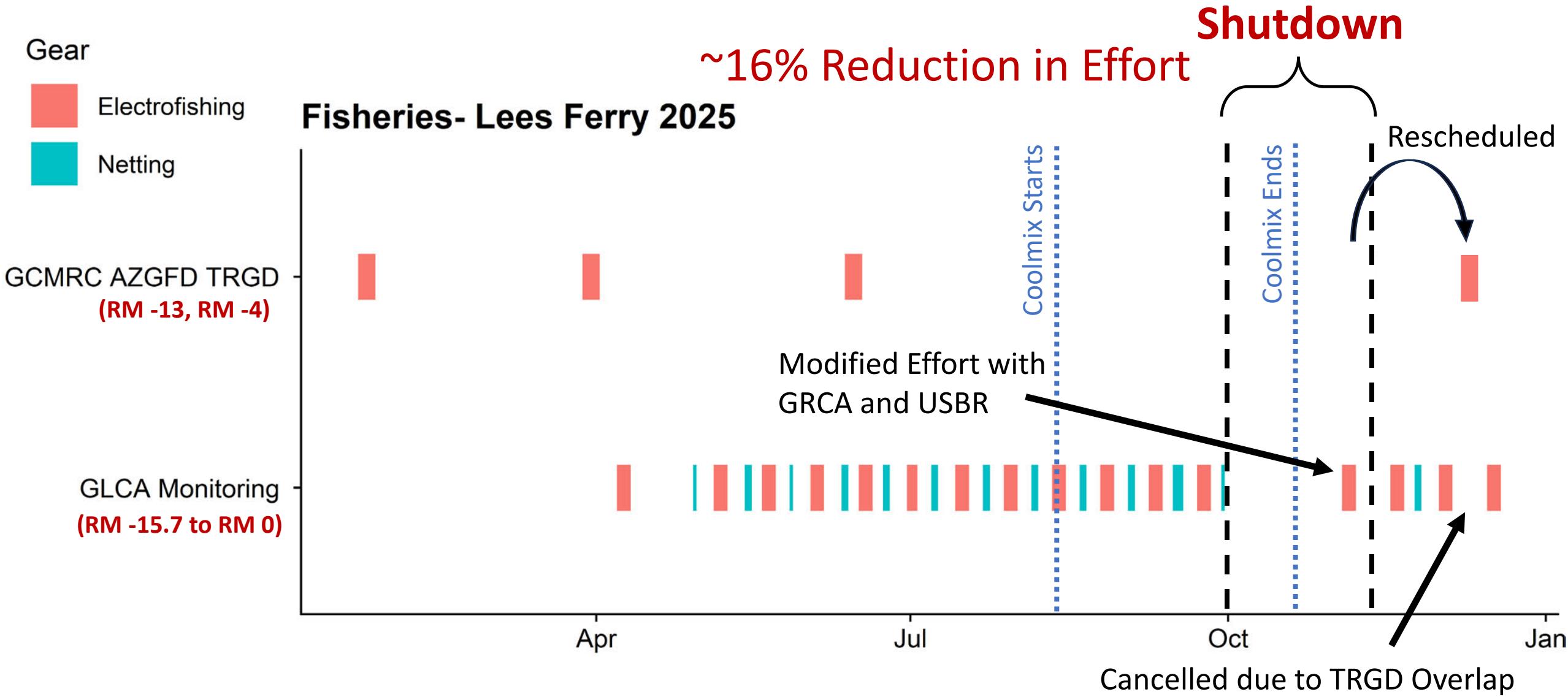
Gear

Electrofishing

Netting



2025 Sampling Effort: Lees Ferry Tailwater

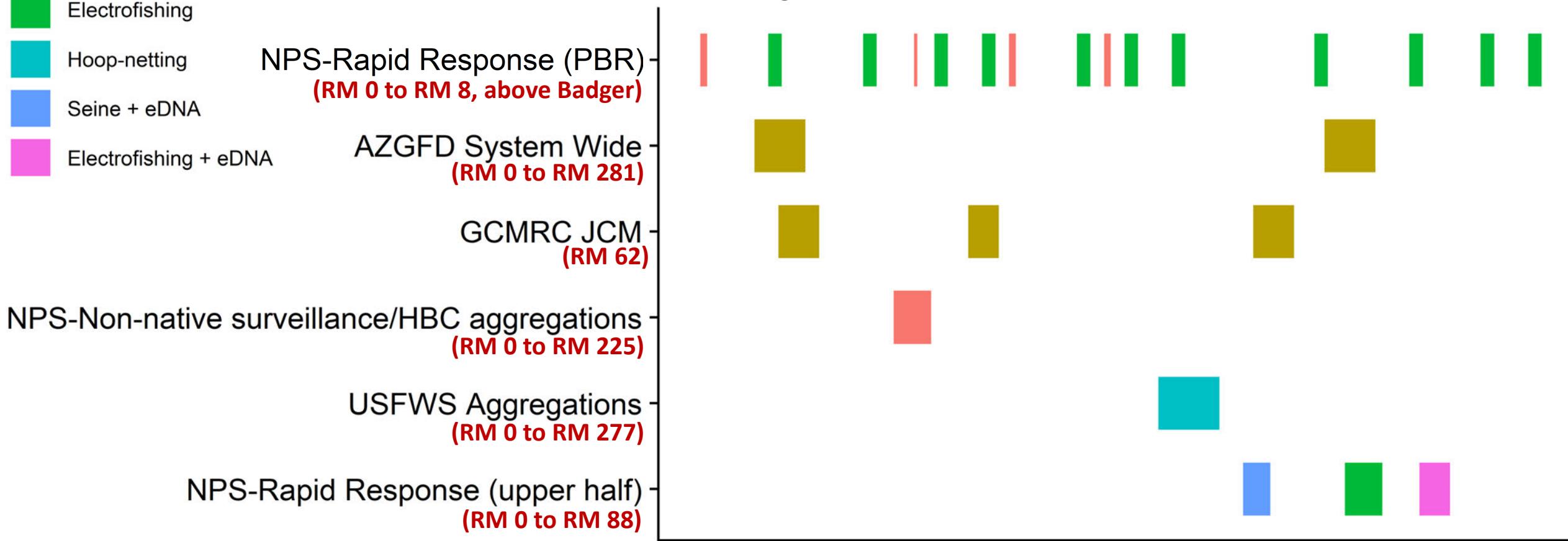


2025 Sampling Effort: Downstream

Gear

- Seine + Hoop-netting
- Electrofishing + Hoop-netting + Angling
- Electrofishing
- Hoop-netting
- Seine + eDNA
- Electrofishing + eDNA

Fisheries- Grand Canyon Mainstem 2025

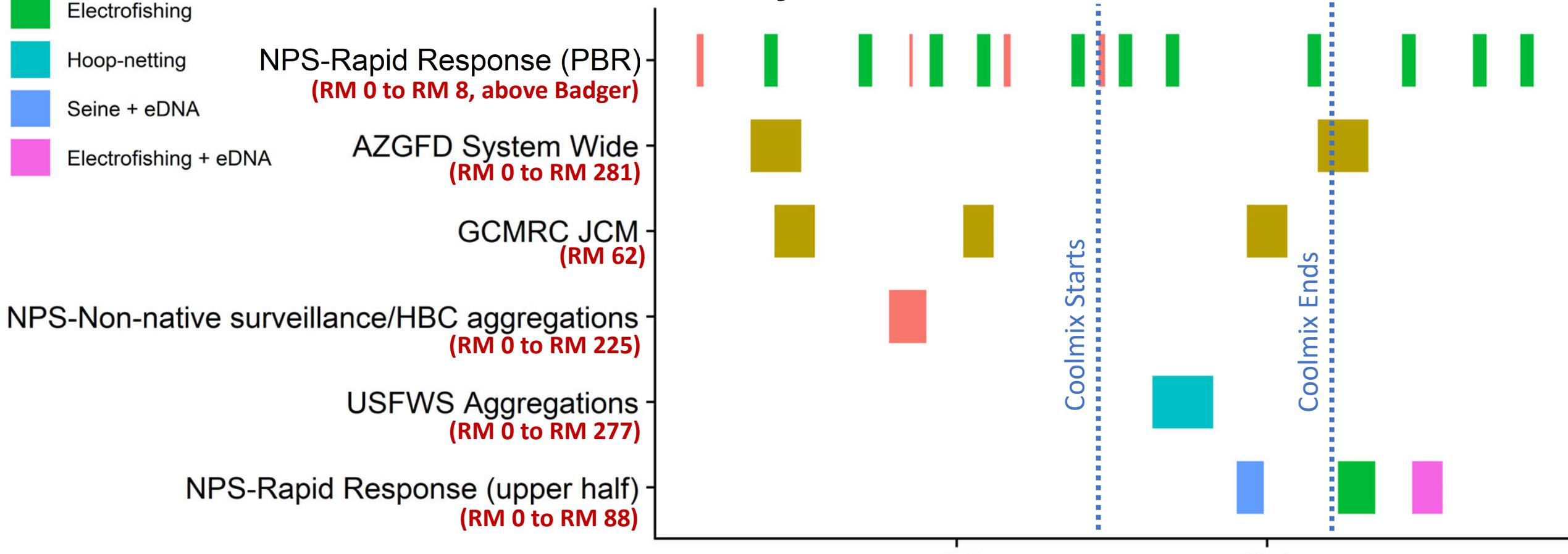


2025 Sampling Effort: Downstream

Gear

- Seine + Hoop-netting
- Electrofishing + Hoop-netting + Angling
- Electrofishing
- Hoop-netting
- Seine + eDNA
- Electrofishing + eDNA

Fisheries- Grand Canyon Mainstem 2025



2025 Sampling Effort: Downstream

Gear

Seine + Hoop-netting
Electrofishing + Hoop-netting
Electrofishing
Hoop-netting
Seine + eDNA
Electrofishing + eDNA

Fisheries- Grand Canyon Mainstem 2025

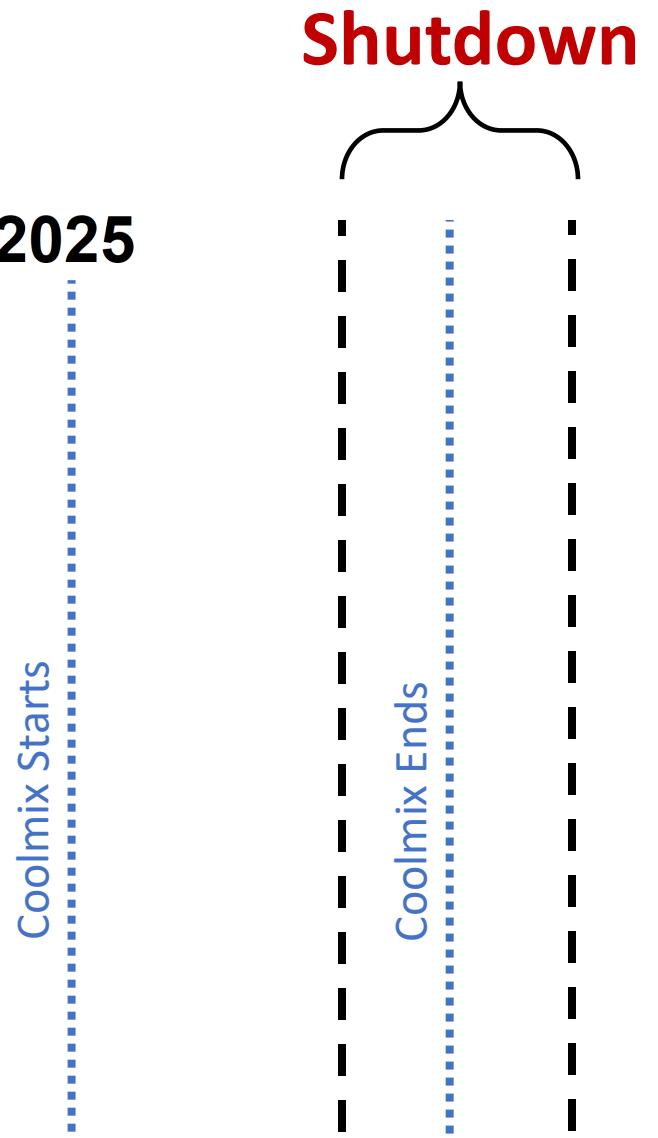
NPS-Rapid Response (PBR)
M 0 to RM 8, above Badger
(RM 0 to RM 281)

(RM 62)

(RM 0 to RM 225)

(RM 0 to RM 277)

(RM 0 to RM 88)

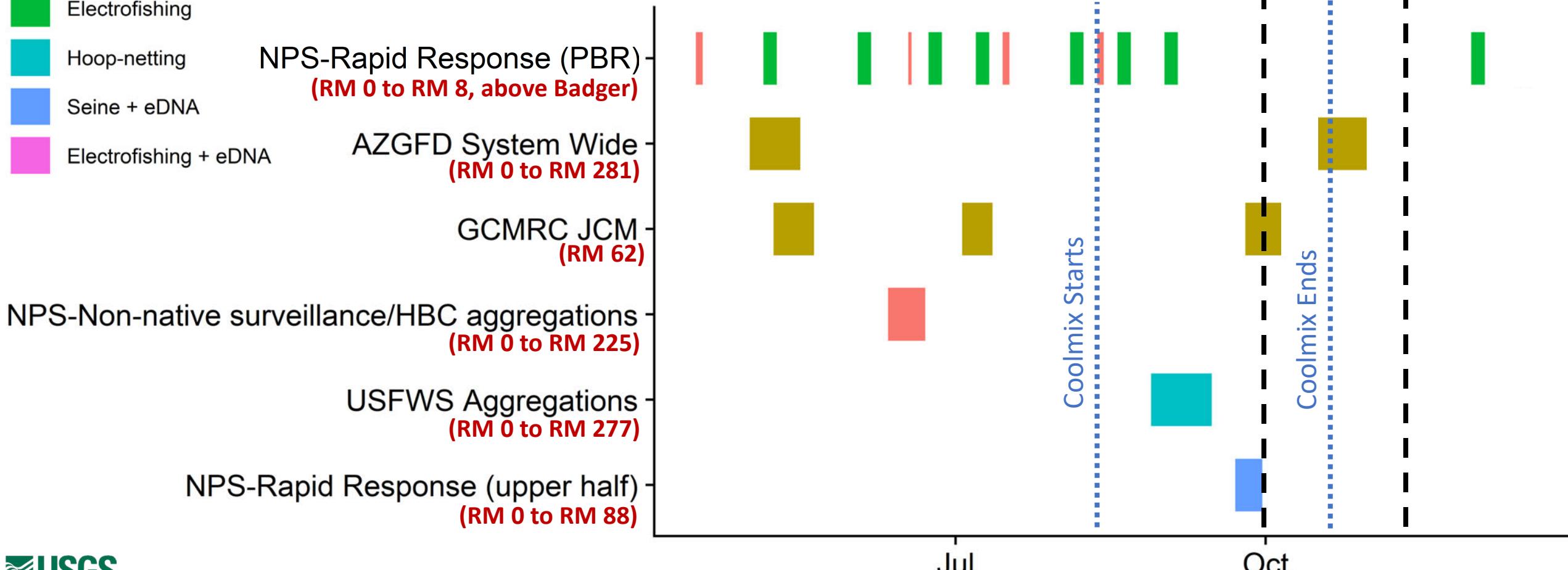


2025 Sampling Effort: Downstream

Gear

- Seine + Hoop-netting
- Electrofishing + Hoop-netting + Angling
- Electrofishing
- Hoop-netting
- Seine + eDNA
- Electrofishing + eDNA

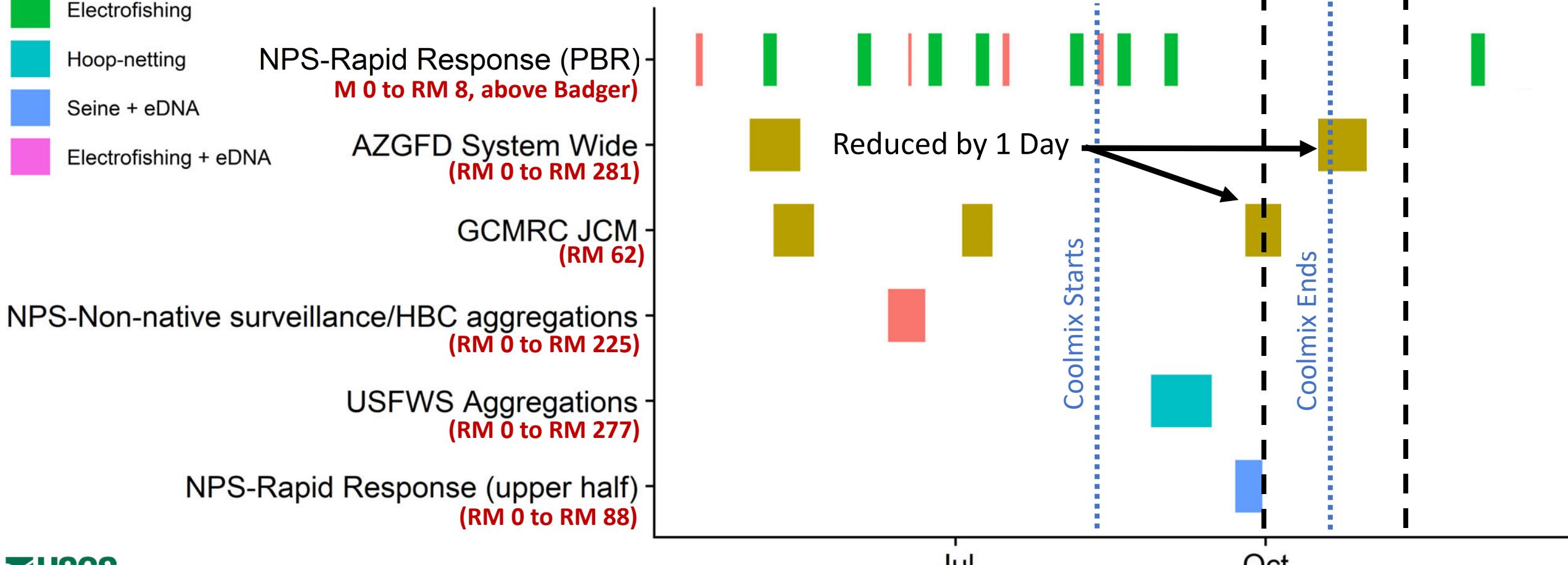
Fisheries- Grand Canyon Mainstem 2025



2025 Sampling Effort: Downstream

Gear

- Seine + Hoop-netting
- Electrofishing + Hoop-netting
- Electrofishing
- Hoop-netting
- Seine + eDNA
- Electrofishing + eDNA



2025 Sampling Effort: Downstream

Gear

Seine + Hoop-netting

Electrofishing + Hoop-netting + Angling

Electrofishing

Hoop-netting

Seine + eDNA

Electrofishing + eDNA

Fisheries- Grand Canyon Mainstem 2025

~21% Reduction in Effort

Shutdown

NPS-Rapid Response (PBR)
(RM 0 to RM 8, above Badger)

AZGFD System Wide
(RM 0 to RM 281)

GCMRC JCM
(RM 62)

NPS-Non-native surveillance/HBC aggregations
(RM 0 to RM 225)

USFWS Aggregations
(RM 0 to RM 277)

NPS-Rapid Response (upper half)
(RM 0 to RM 88)

Reduced by 1 Day

Coolmix Starts

Coolmix Ends

Jul

Oct

2025 Sampling Effort: What has happened post-Coolmix?

1 **NPS GRCA, USBR Modified Tailwater Monitoring**
(RM -15.7 to RM 0)



1 **AZGFD System Wide Sampling**
(RM 0 to RM 281)



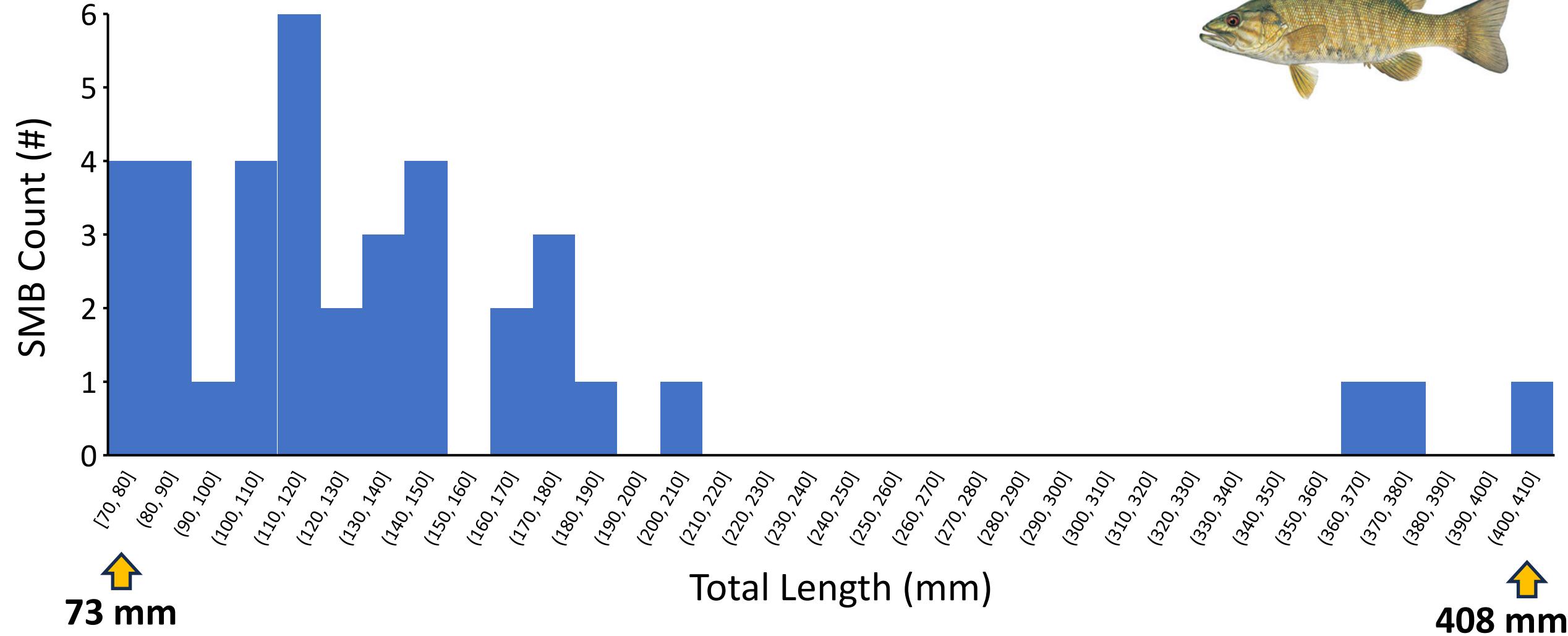
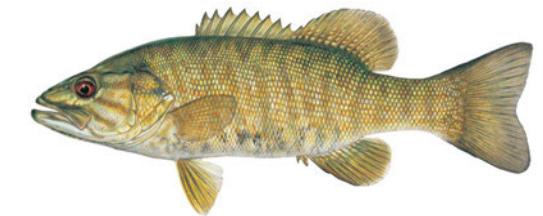
3 **NPS GLCA Tailwater Monitoring**
(RM -15.7 to RM 0)



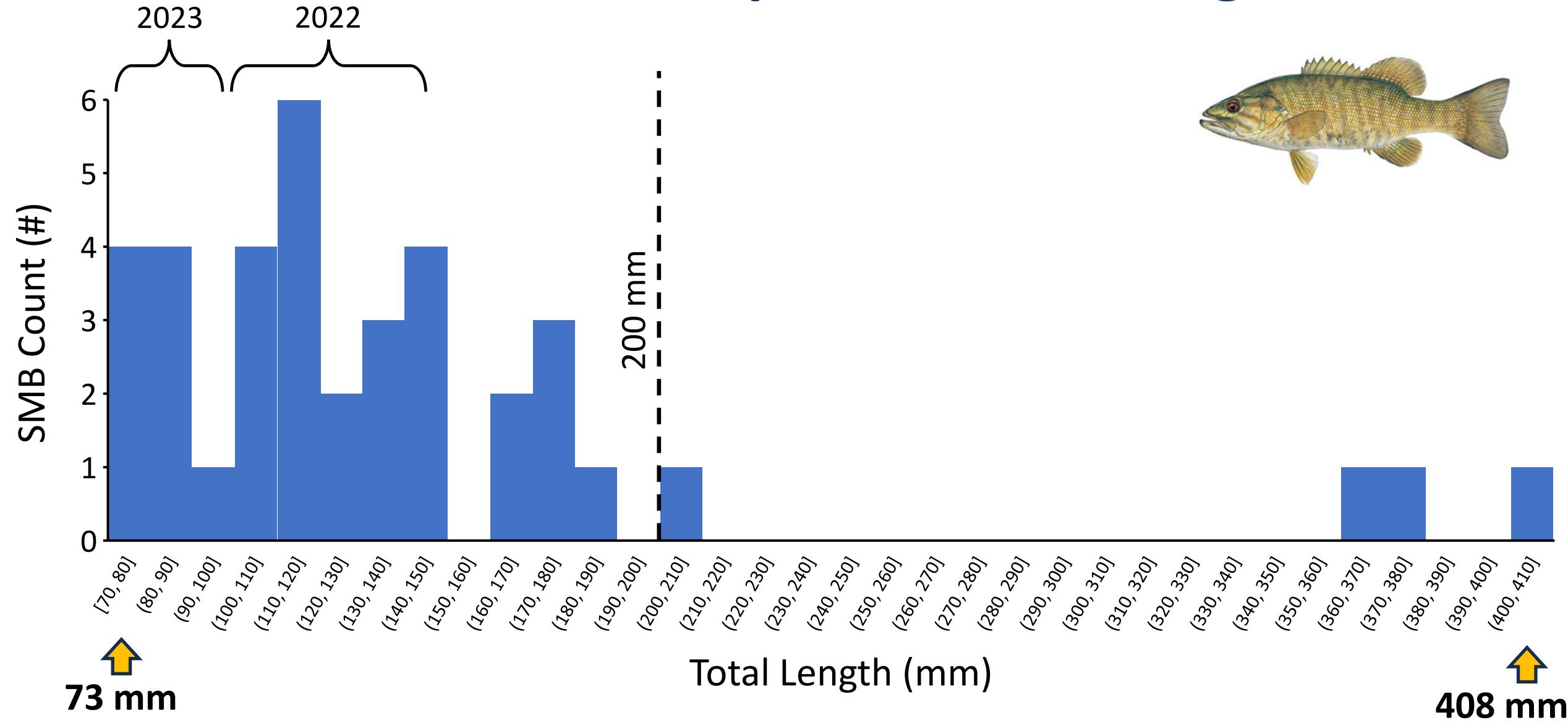
1 **NPS GRCA Rapid Response, Paria to Badger (PBR)**
(RM 0 to RM 8, above Badger)



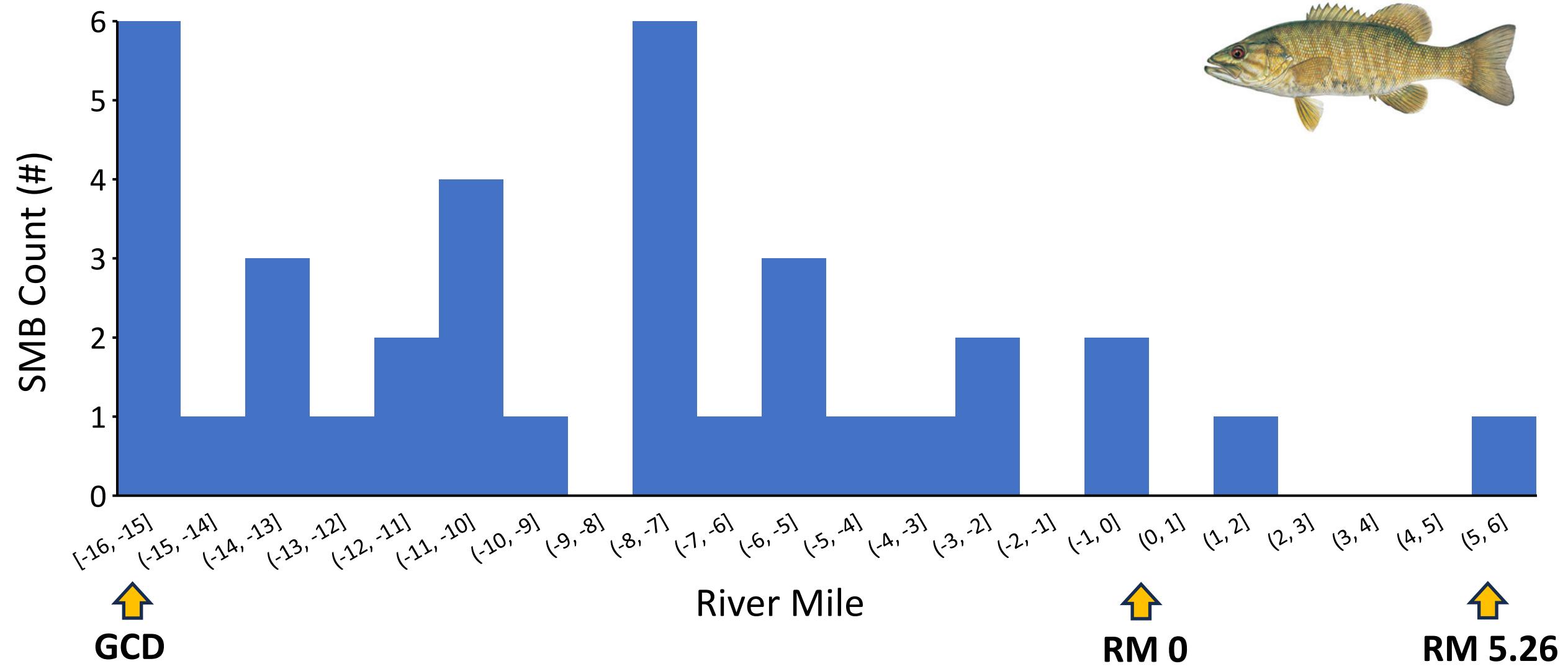
2025 Smallmouth Bass Captures: Total Length



2025 Smallmouth Bass Captures: Total Length

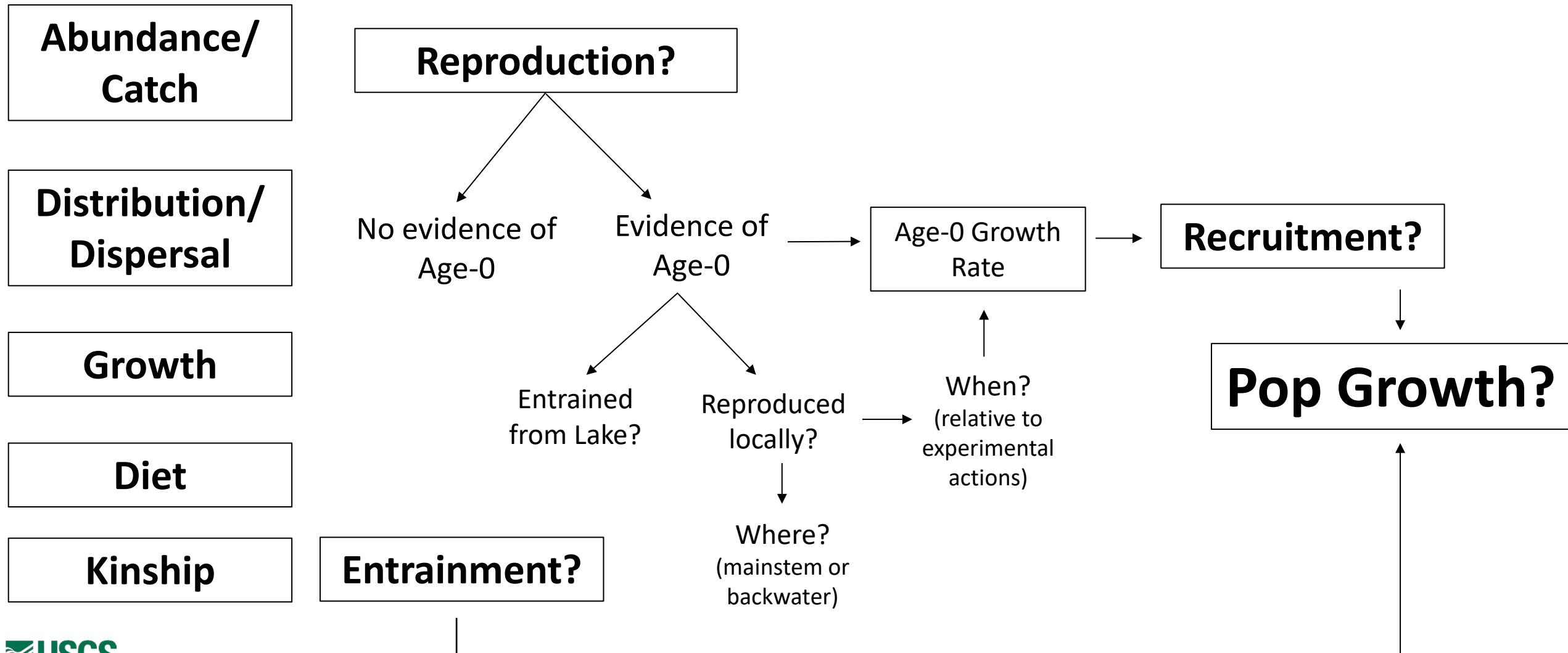


2025 Smallmouth Bass Captures: Location



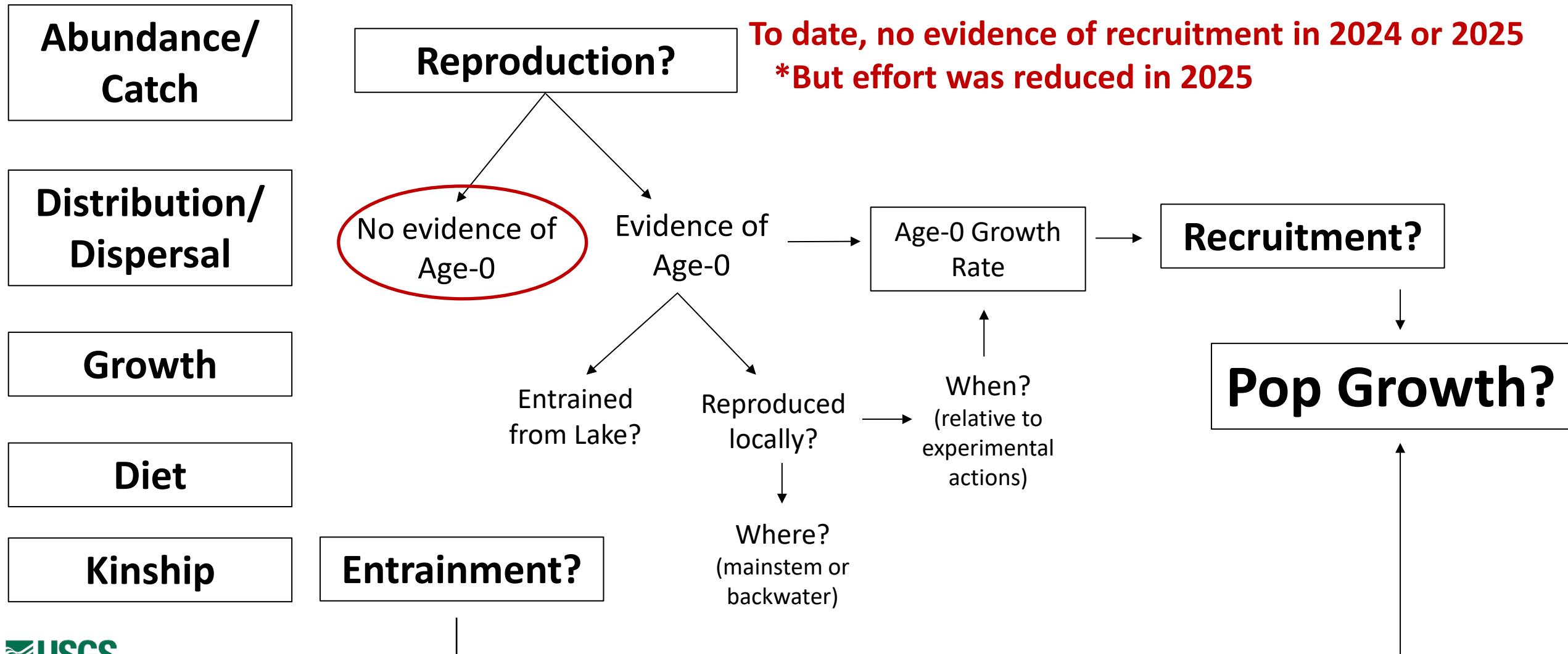
SMB Research and Monitoring

Determining the effectiveness of removals & flow experiments



SMB Research and Monitoring

Determining the effectiveness of removals & flow experiments



2025 Other High-Risk Nonnative Fishes Captures

2025 Other High-Risk Nonnative Fishes Captures

(at this same point in 2024)

System Wide

38 (254)

Smallmouth Bass



3,240 (15,718)

Green Sunfish



289 (1,405)

Brown Trout



176 (354)

Bluegill



35 (52)

Walleye



8 (3)

Striped Bass



2025 Other High-Risk Nonnative Fishes Captures

Jan 1st to Sept 30th, 2025

(Jan 1st to Sept 30th, 2024)

System Wide

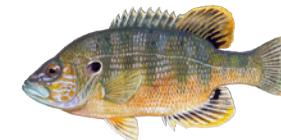
36 (214)

Smallmouth Bass



2,802 (13,727)

Green Sunfish



256 (1,136)

Brown Trout



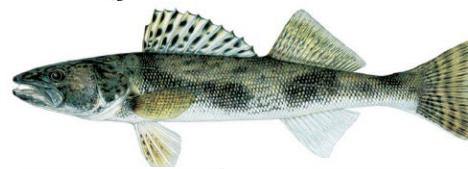
123 (301)

Bluegill



32 (33)

Walleye



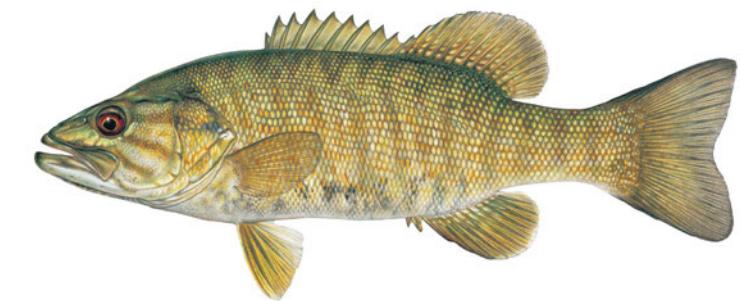
8 (3)

Striped Bass

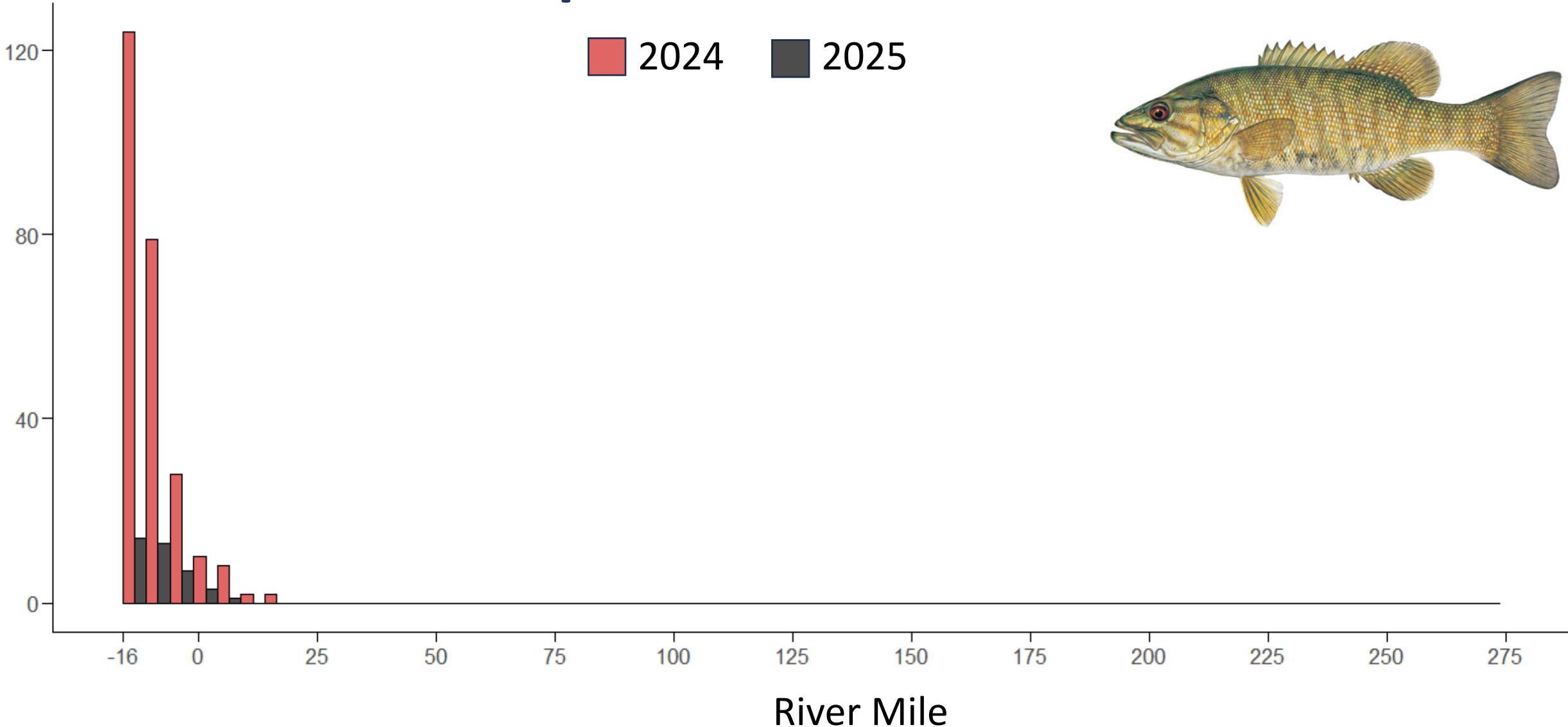


Smallmouth Bass Captures: Location

(Full calendar year)

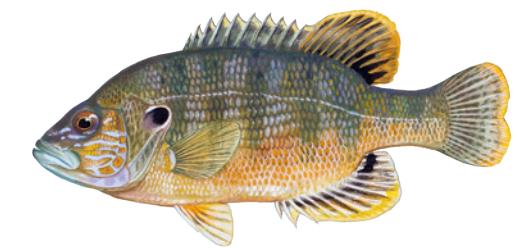


Count (#)

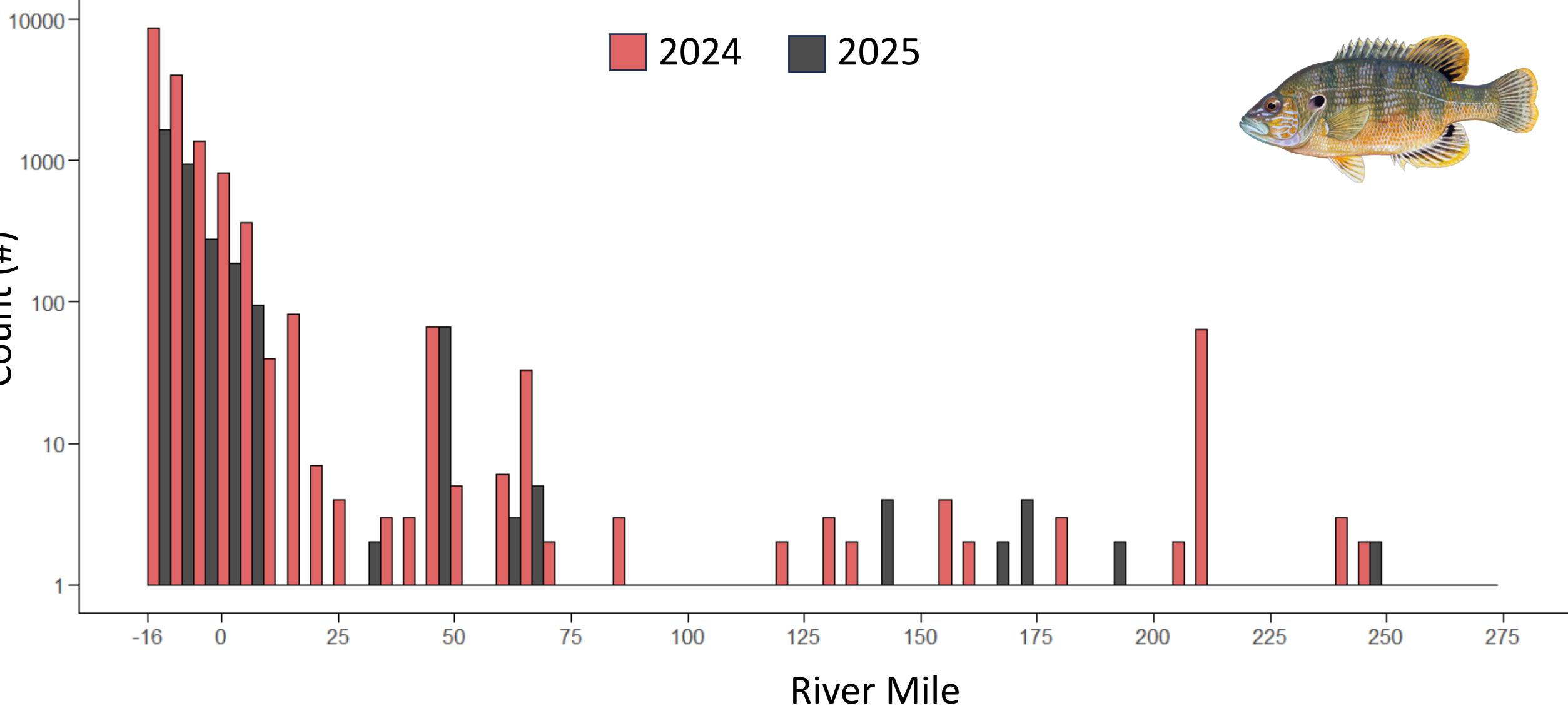


Green Sunfish Captures: Location

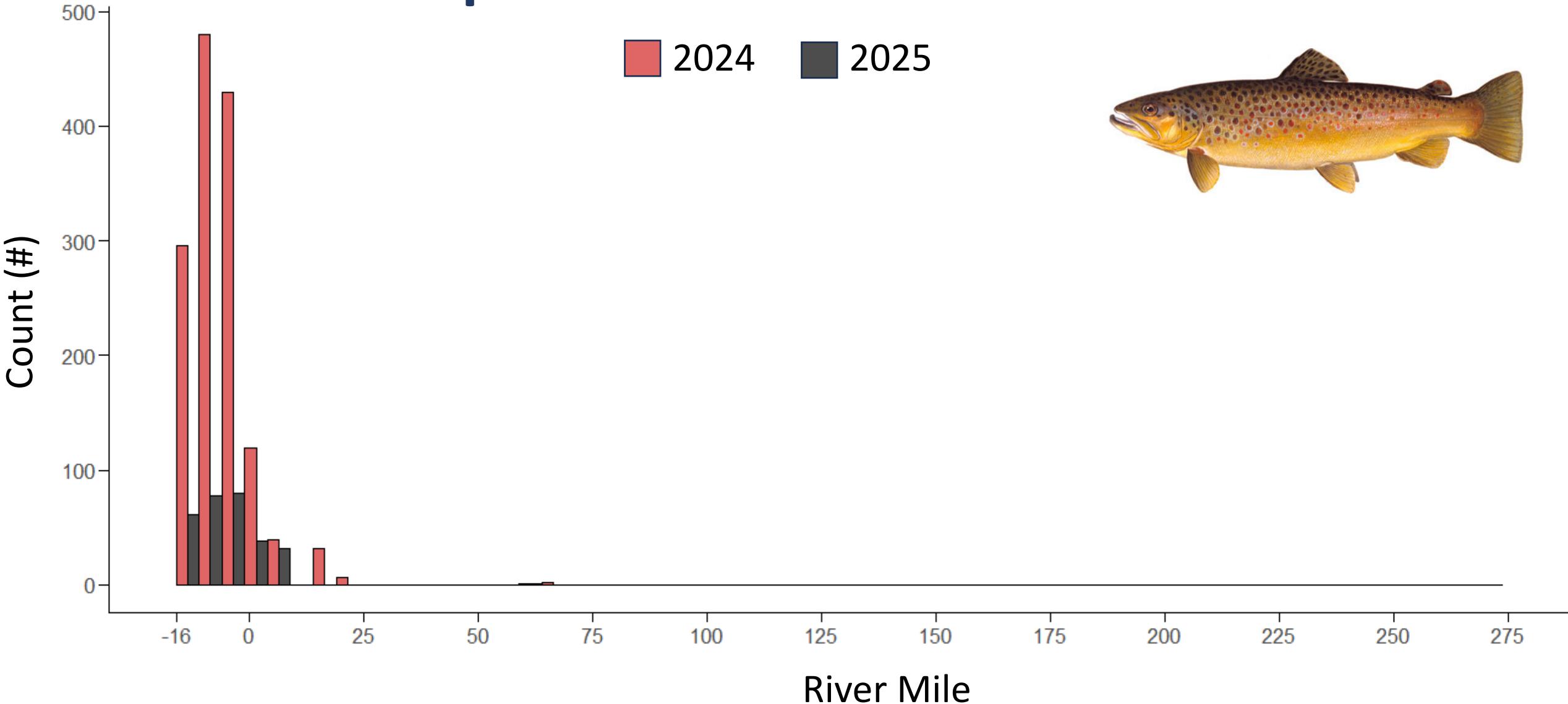
2024 2025



Count (#)



Brown Trout Captures: Location



Bluegill Captures: Location

2024 2025



Count (#)

200

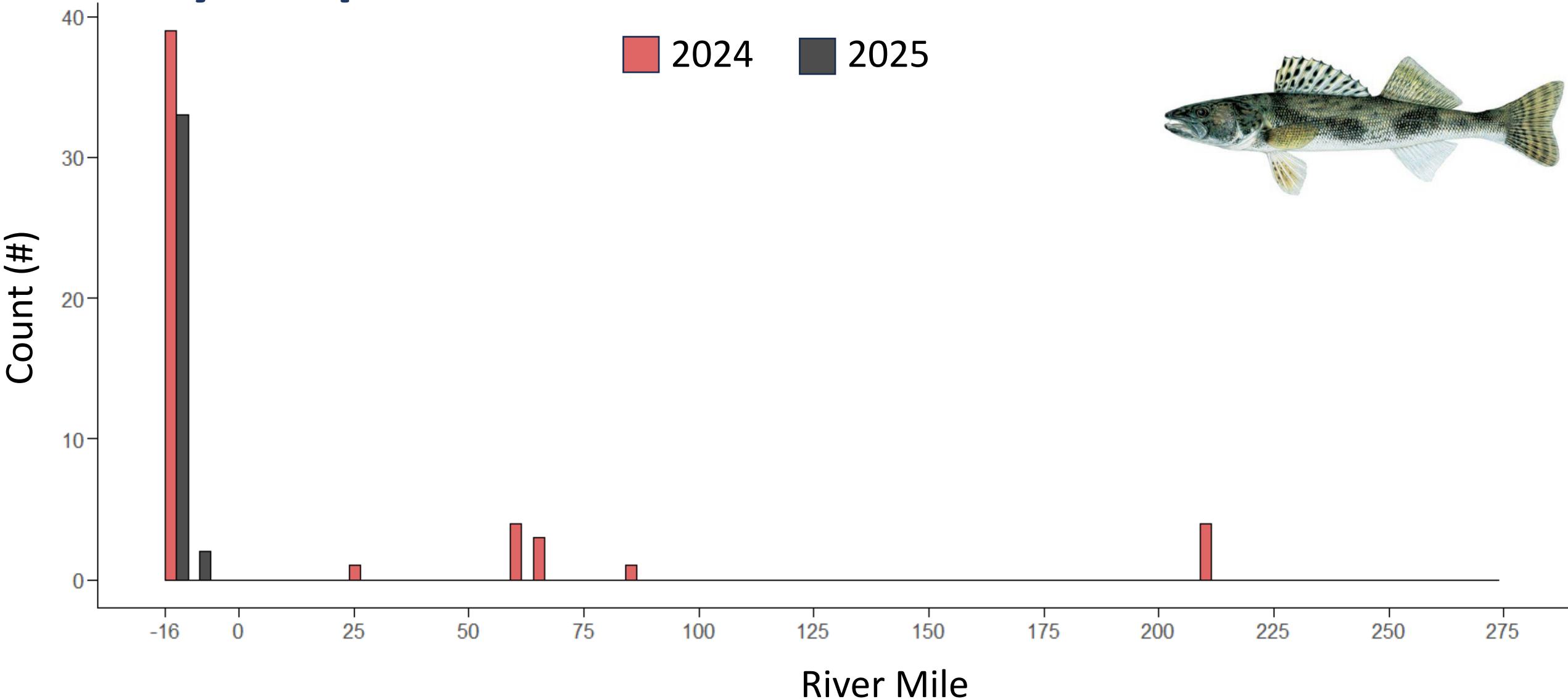
100

0

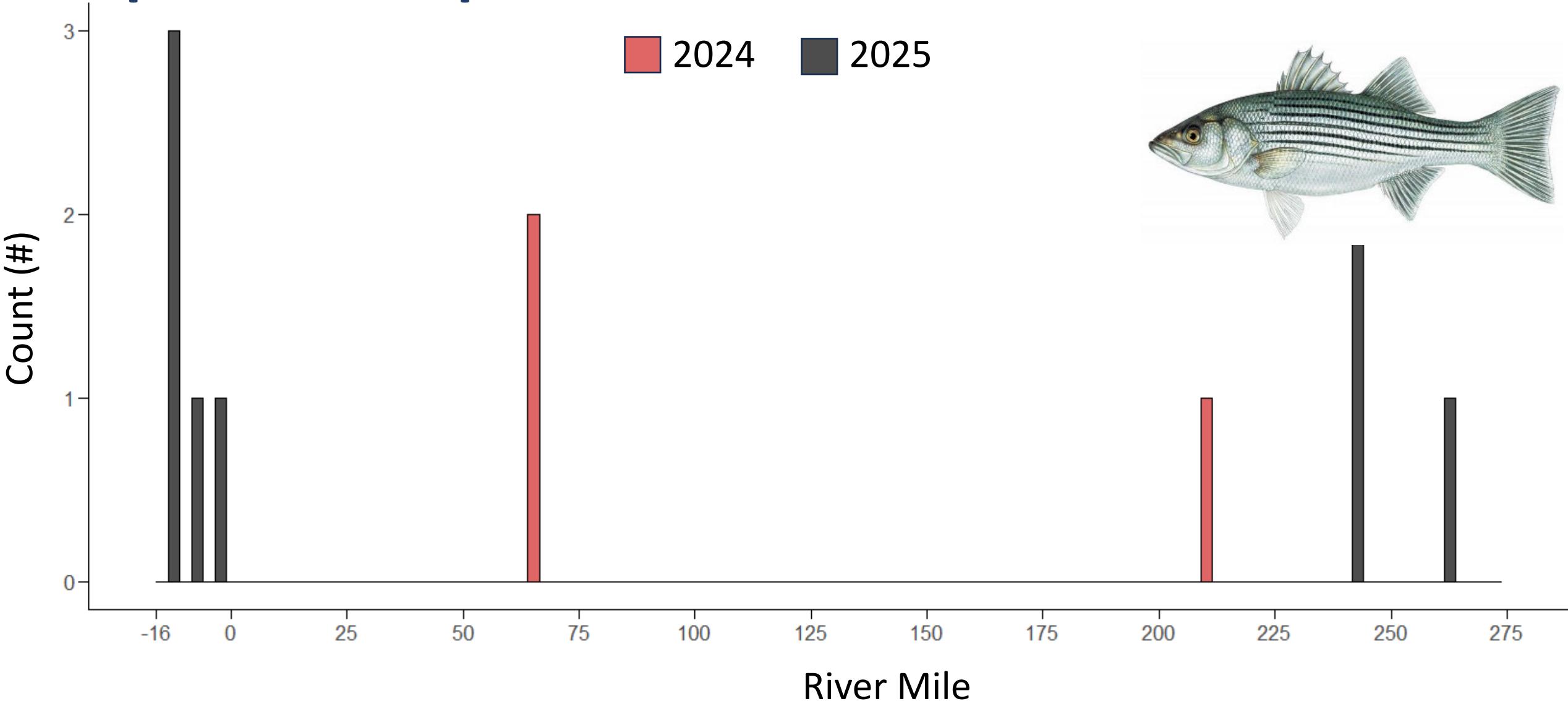
-16 0 25 50 75 100 125 150 175 200 225 250 275

River Mile

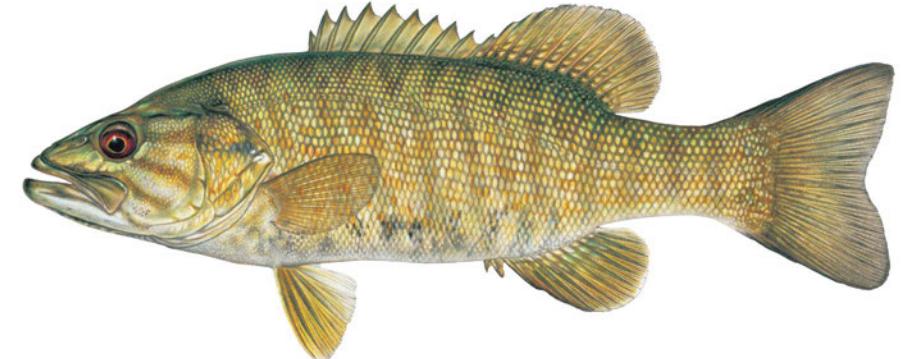
Walleye Captures: Location



Striped Bass Captures: Location

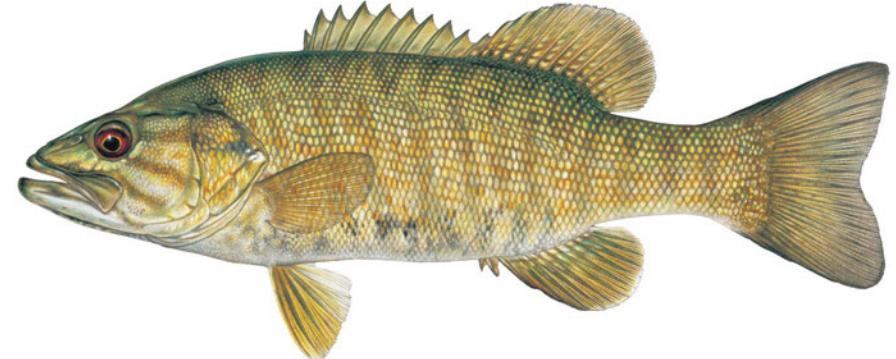


Summary



Summary

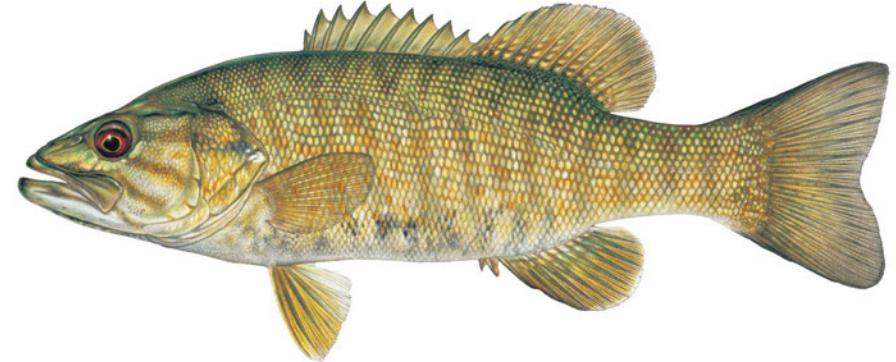
2025 Shutdown Effects



Missed Sampling Opportunity:

- Hindered detection of any SMB potentially spawned earlier in 2025
- Hindered detection of adult spawning condition post-Coolmix
- 2026 sampling/monitoring will increase confidence in Coolmix impacts

Summary



- 2025 SMB catch is lower than 2024*
(as with most other high-risk non-natives)
- To date, no evidence of SMB recruitment in 2024/2025
- Continued sampling/monitoring is important

*Spatial distribution of effort differs through time, 2025 sampling was reduced

Questions?

