



— BUREAU OF —
RECLAMATION

Smallmouth Bass and Other High-Risk Nonnatives

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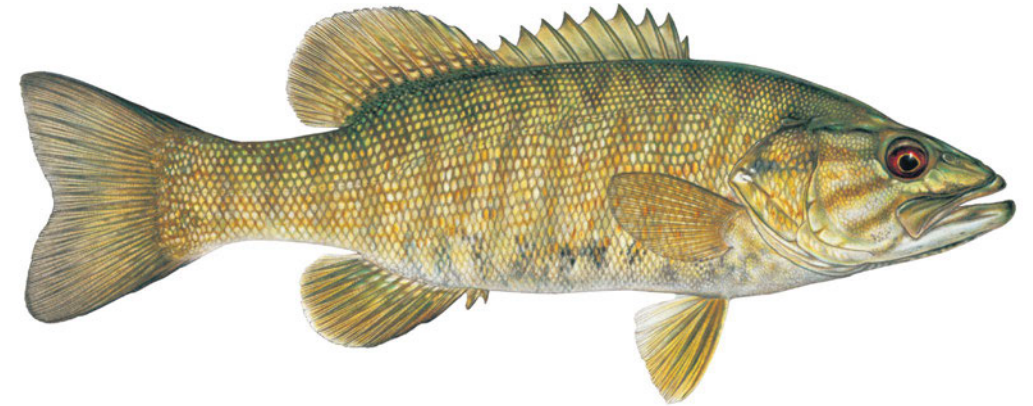
US Department of the Interior

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

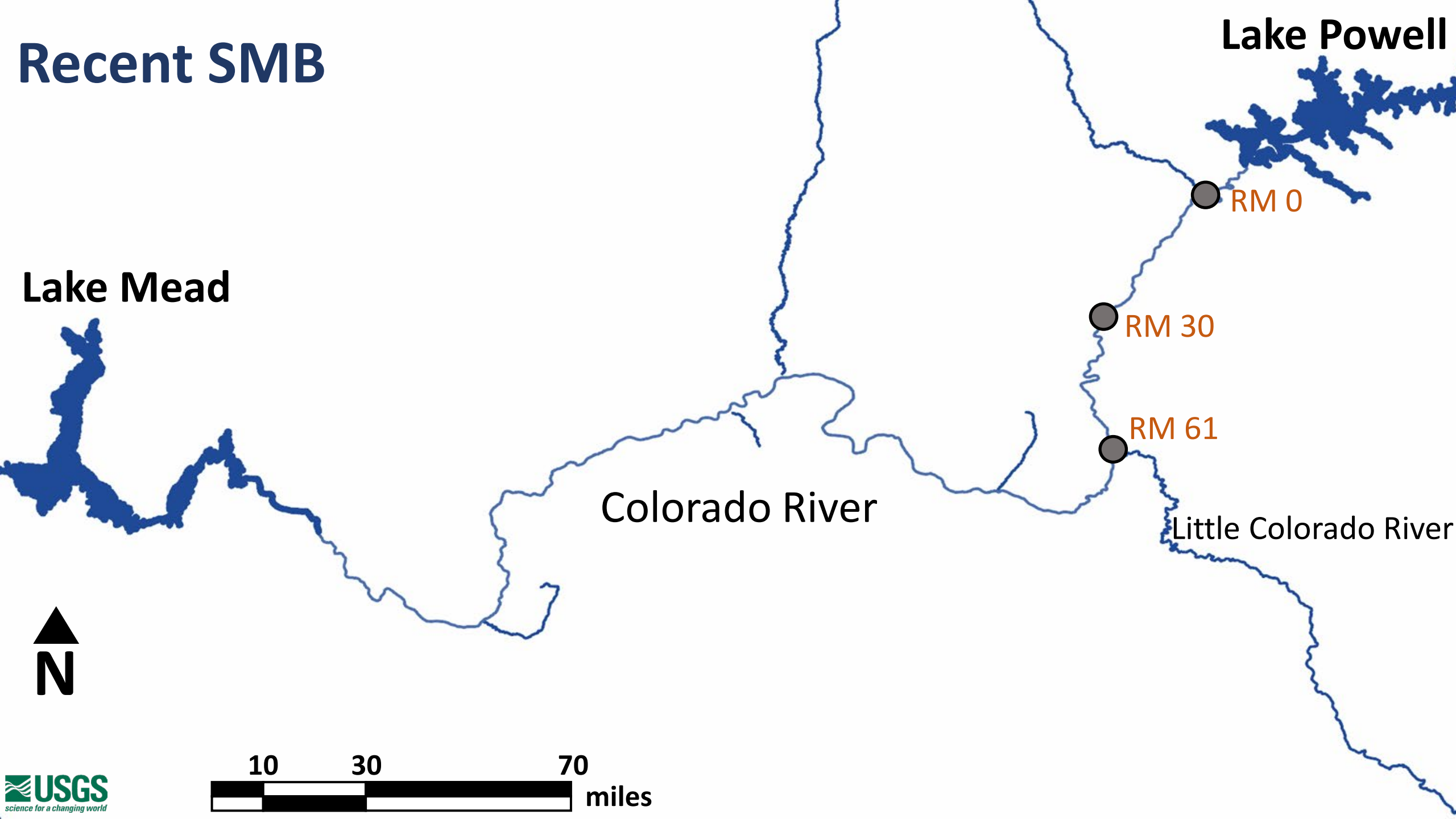
With lots of help

Including:

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



Recent SMB



Lake Powell

RM 0

Lake Mead

RM 30

RM 61

Colorado River

Little Colorado River

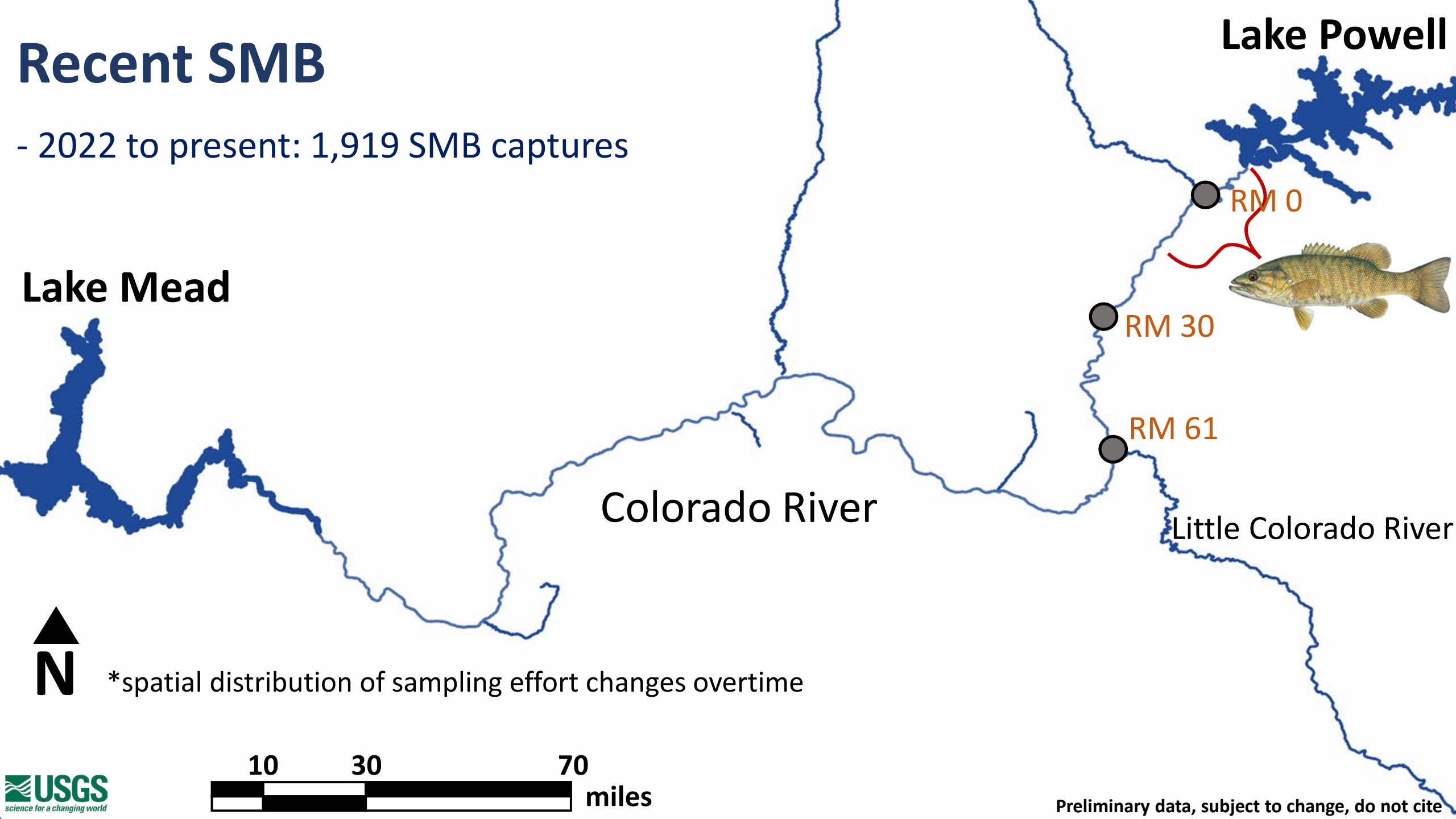


Recent SMB

- 2022 to present: 1,919 SMB captures

Lake Mead

Lake Powell



Colorado River

Little Colorado River

RM 0

RM 30

RM 61



*spatial distribution of sampling effort changes overtime



Farthest Downstream SMB Captures

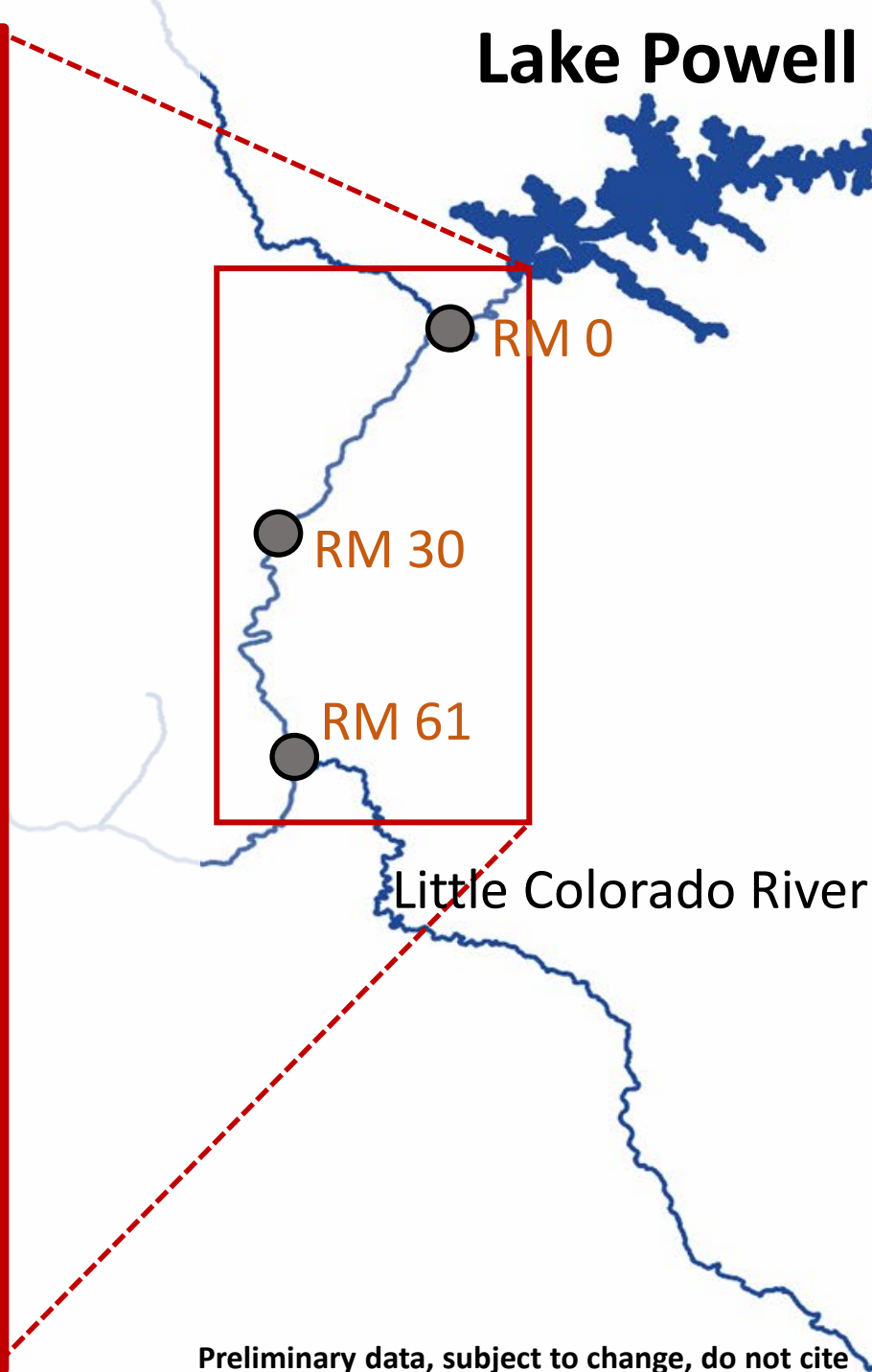
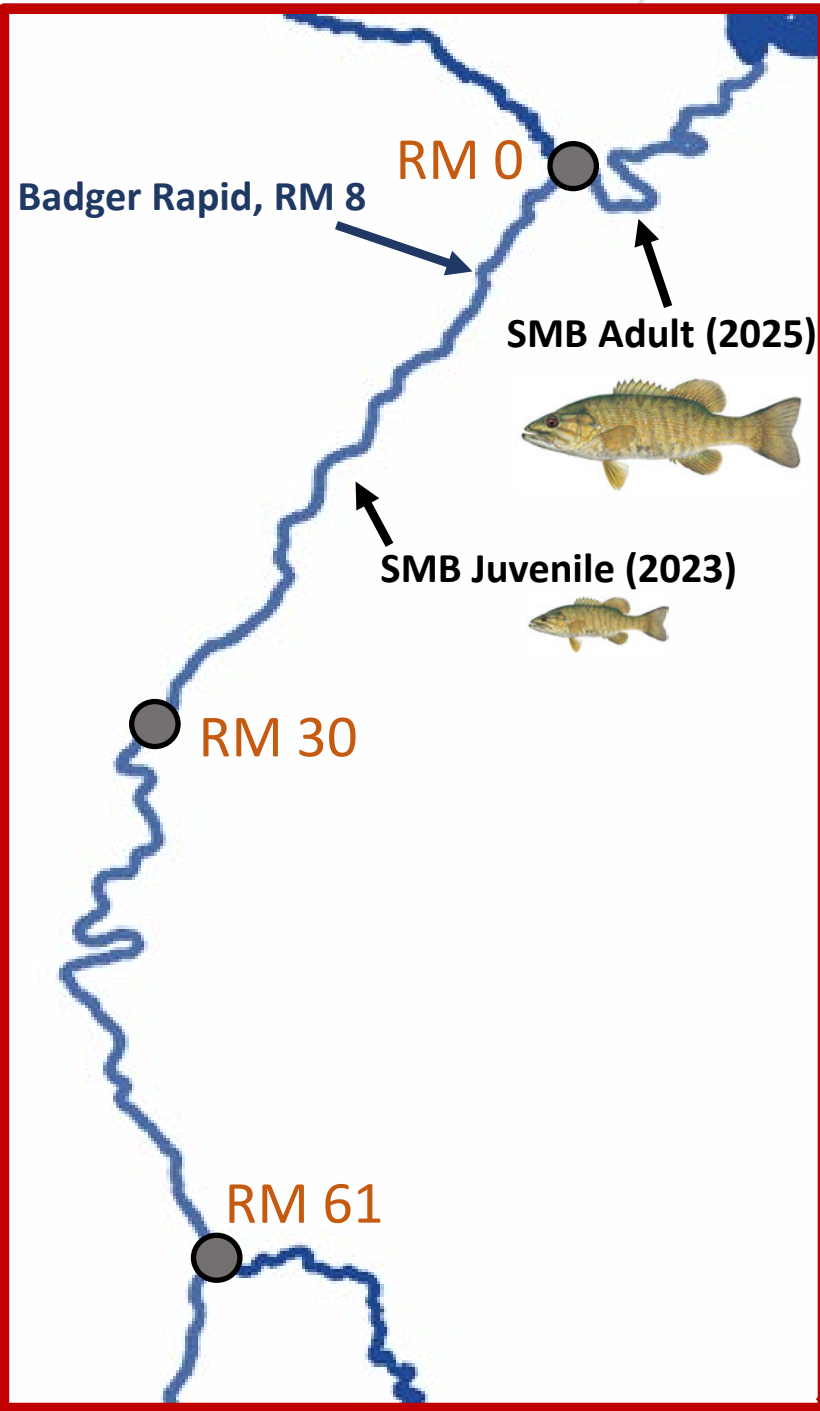
2022 – present

Juvenile: RM 16.38 (2023)

Adult: RM -3.49 (2025)

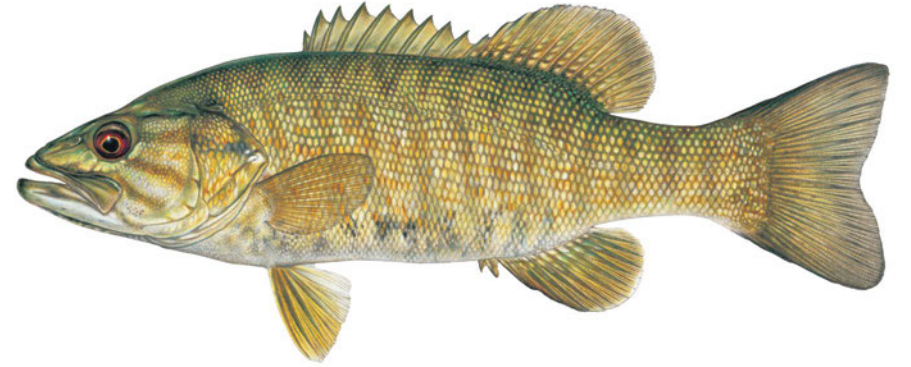


*sampling effort changes



Preliminary data, subject to change, do not cite

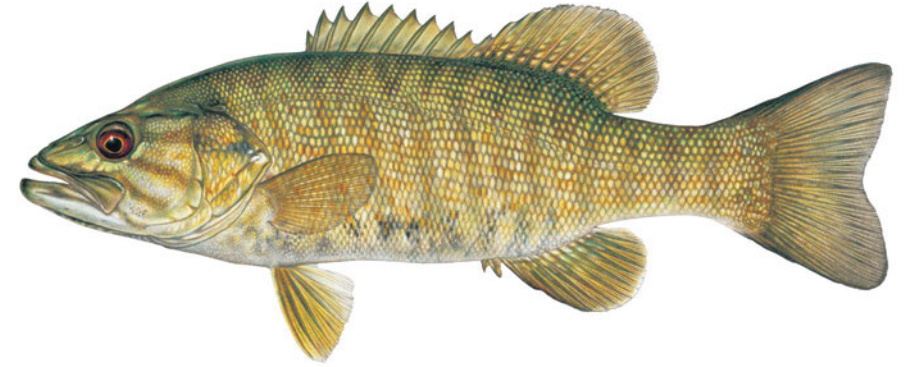
2025 Smallmouth Bass Captures



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

GCMRC AZGFD TRGD
(RM -13, RM -4)

GLCA Monitoring (RM -15.7 to RM 0)

Apr

Jul

Oct

Jan

2025 Sampling Effort: Lees Ferry Tailwater

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(RM -13, RM -4)

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Coolmix Starts

Coolmix Ends

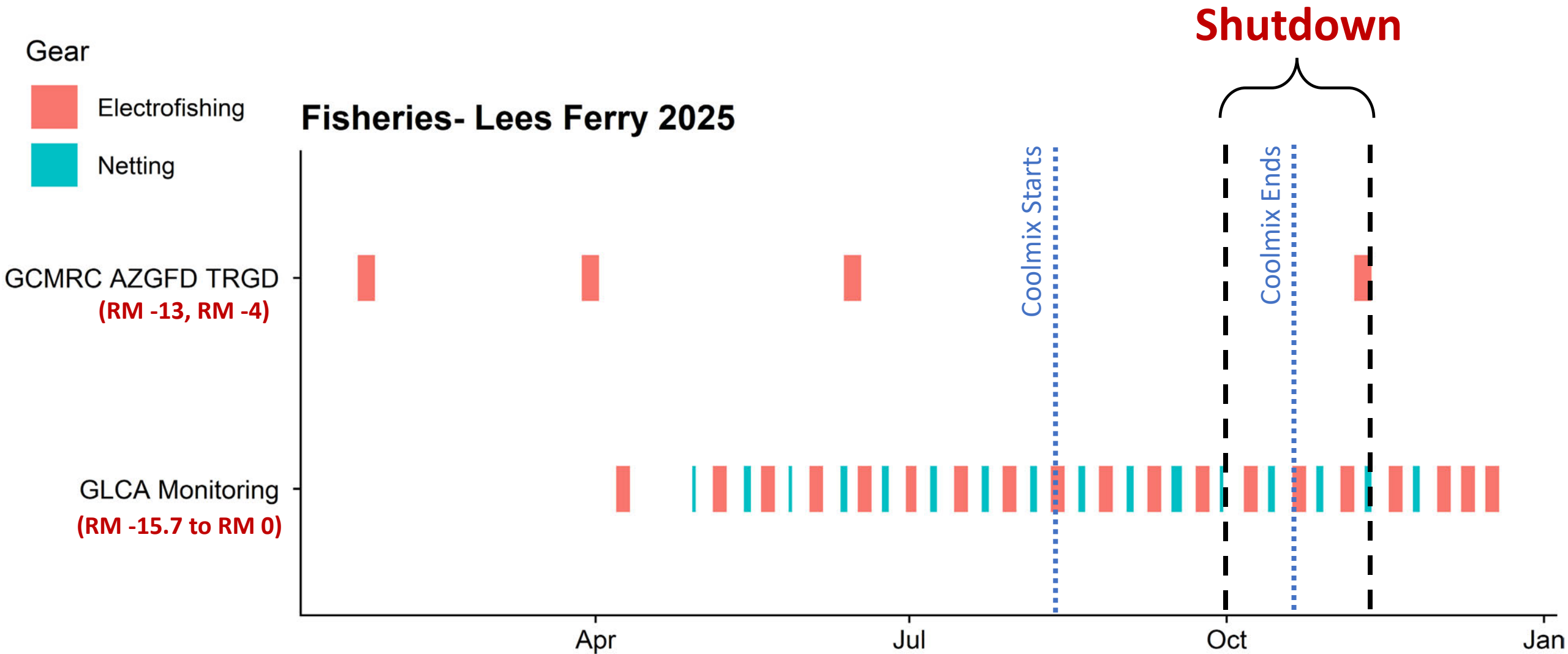
Apr

Jul

Oct

Jan

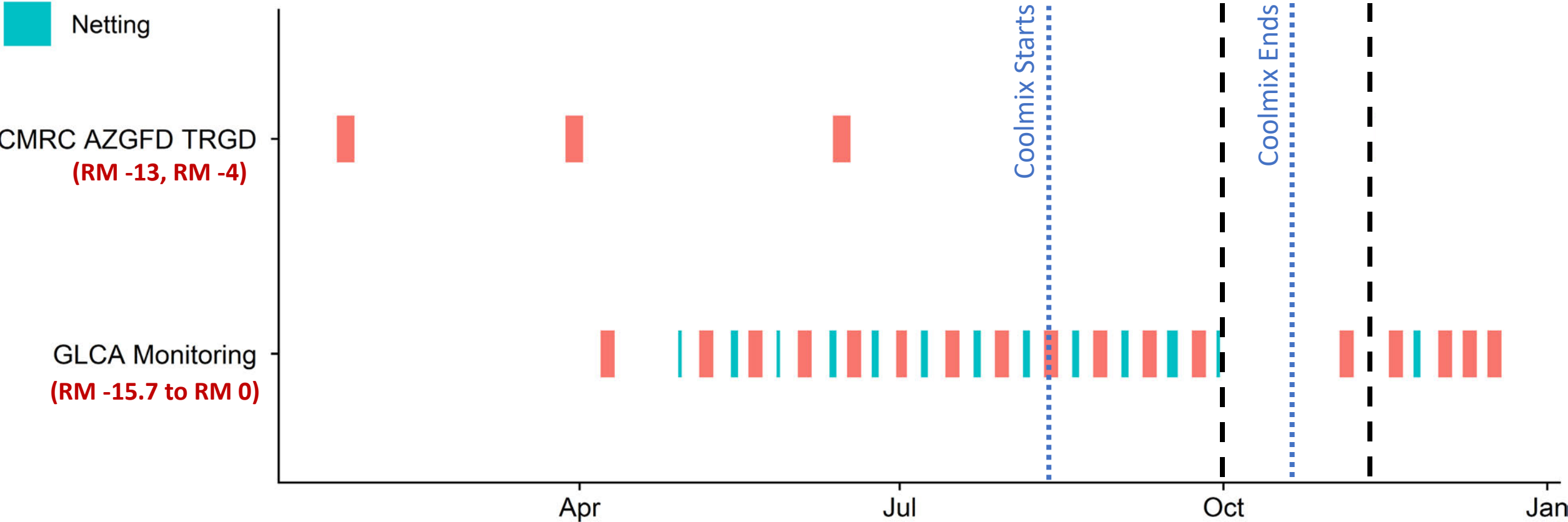
2025 Sampling Effort: Lees Ferry Tailwater



2025 Sampling Effort: Lees Ferry Tailwater

- Gear
- Electrofishing
 - Netting

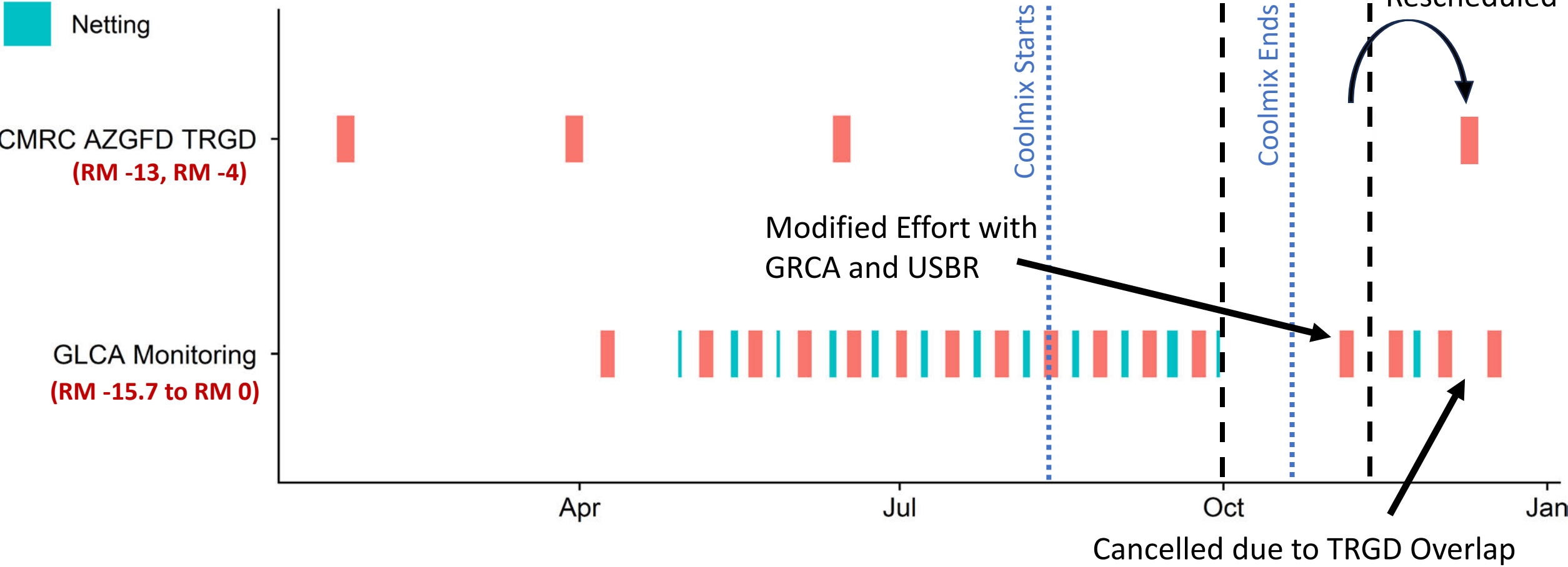
Fisheries- Lees Ferry 2025



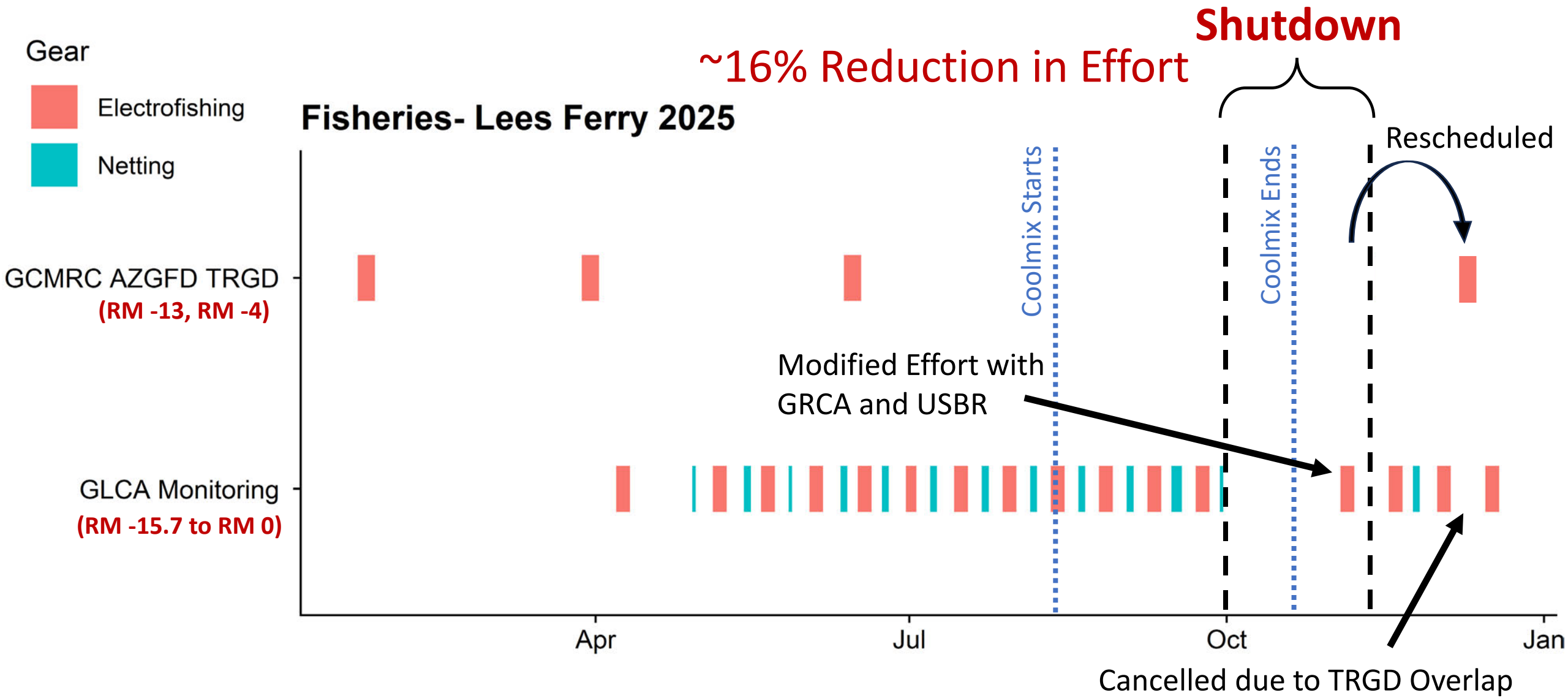
2025 Sampling Effort: Lees Ferry Tailwater

- Gear
- Electrofishing
 - Netting

Fisheries- Lees Ferry 2025



2025 Sampling Effort: Lees Ferry Tailwater

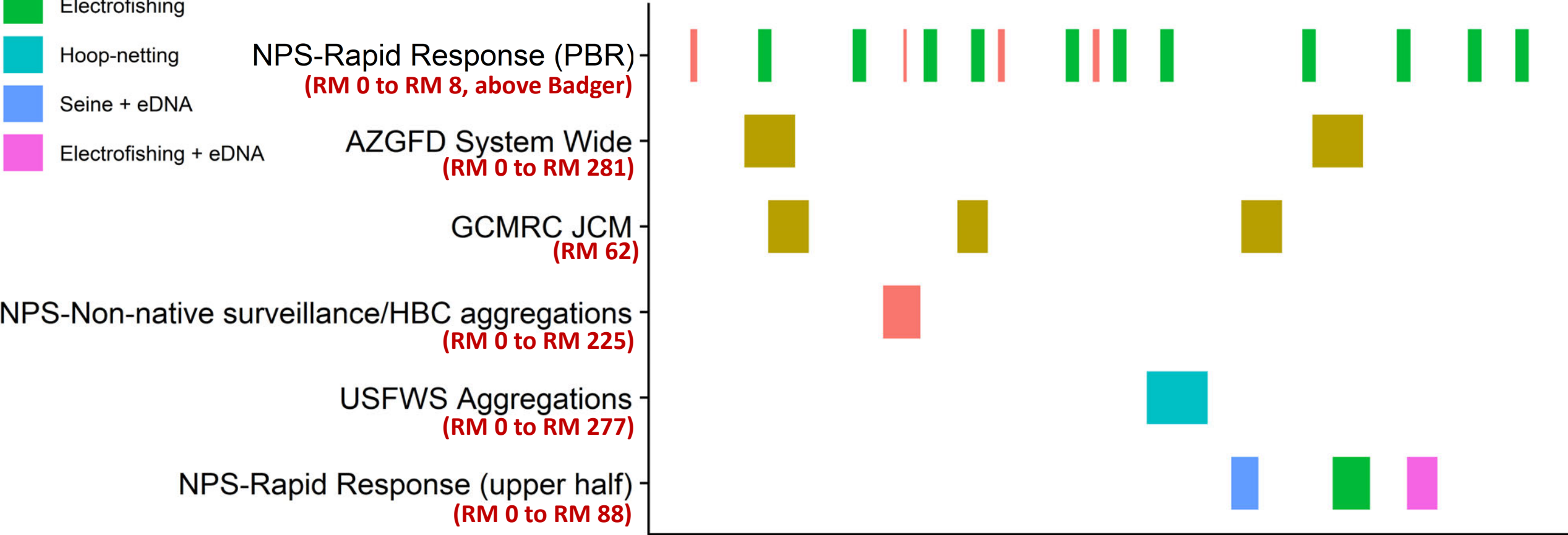


2025 Sampling Effort: Downstream

Gear

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

Fisheries- Grand Canyon Mainstem 2025



Preliminary data, subject to change, do not cite

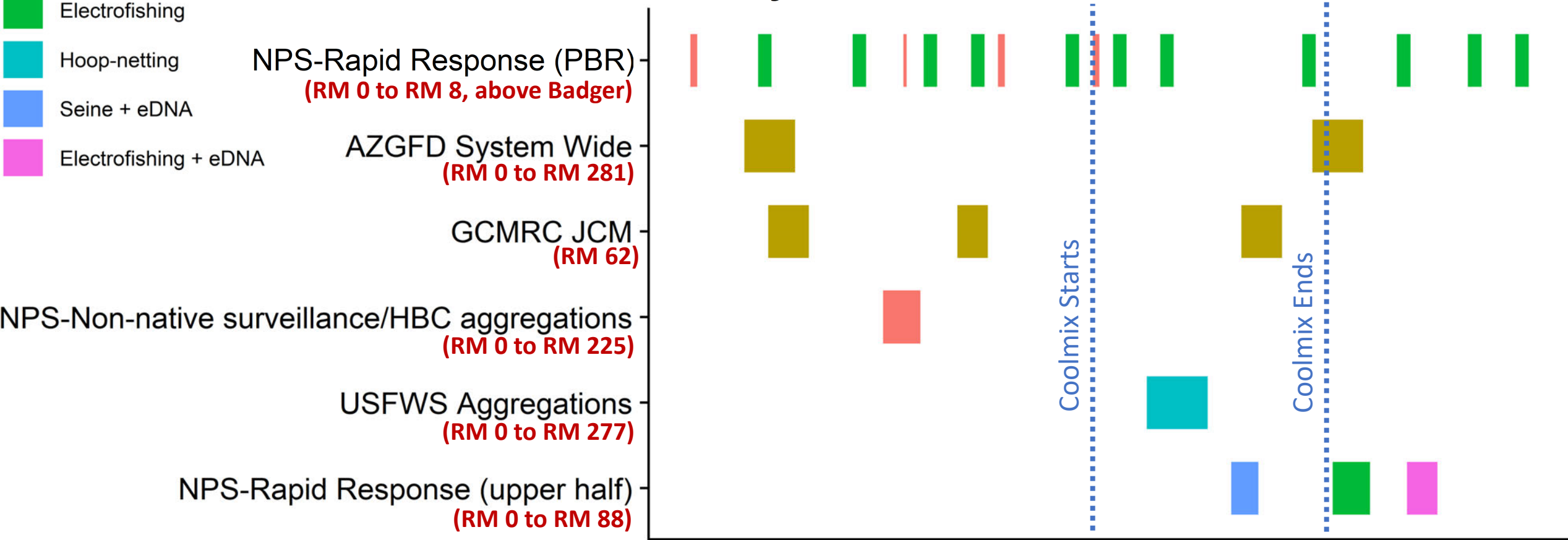
Figure: B. Healy, USGS

2025 Sampling Effort: Downstream

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Fisheries- Grand Canyon Mainstem 2025



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Figure: B. Healy, USGS

2025 Sampling Effort: Downstream

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- 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)

Shutdown

Coolmix Starts

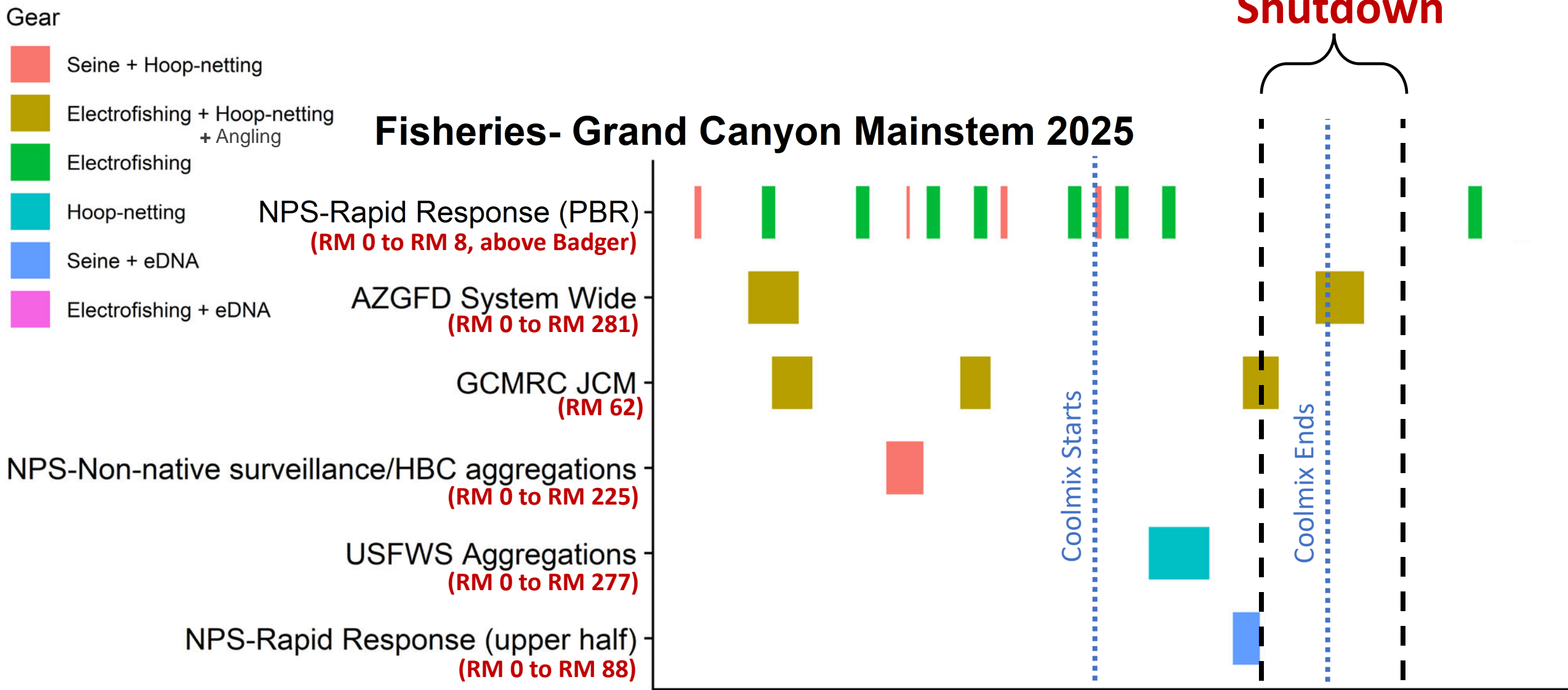
Coolmix Ends



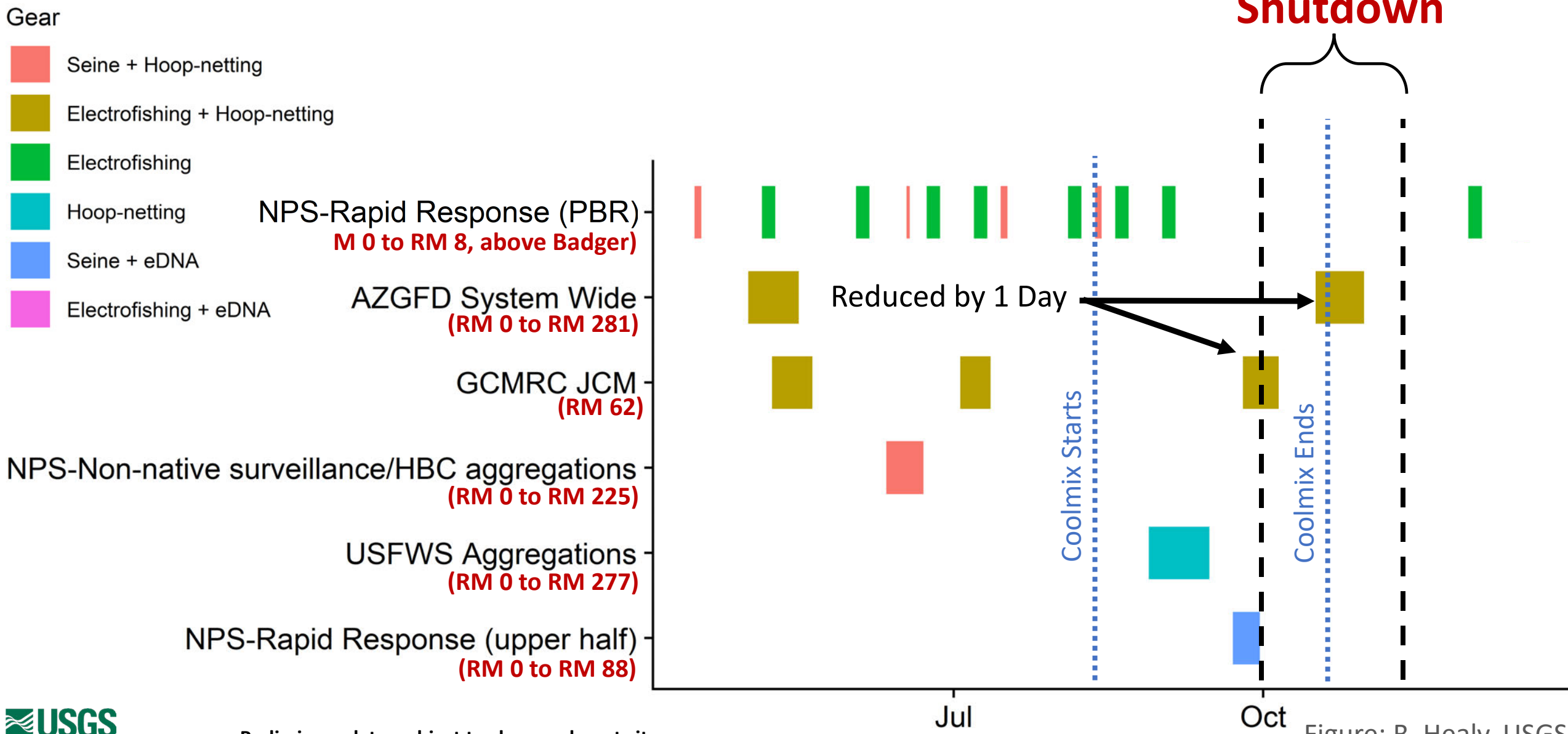
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Figure: B. Healy, USGS

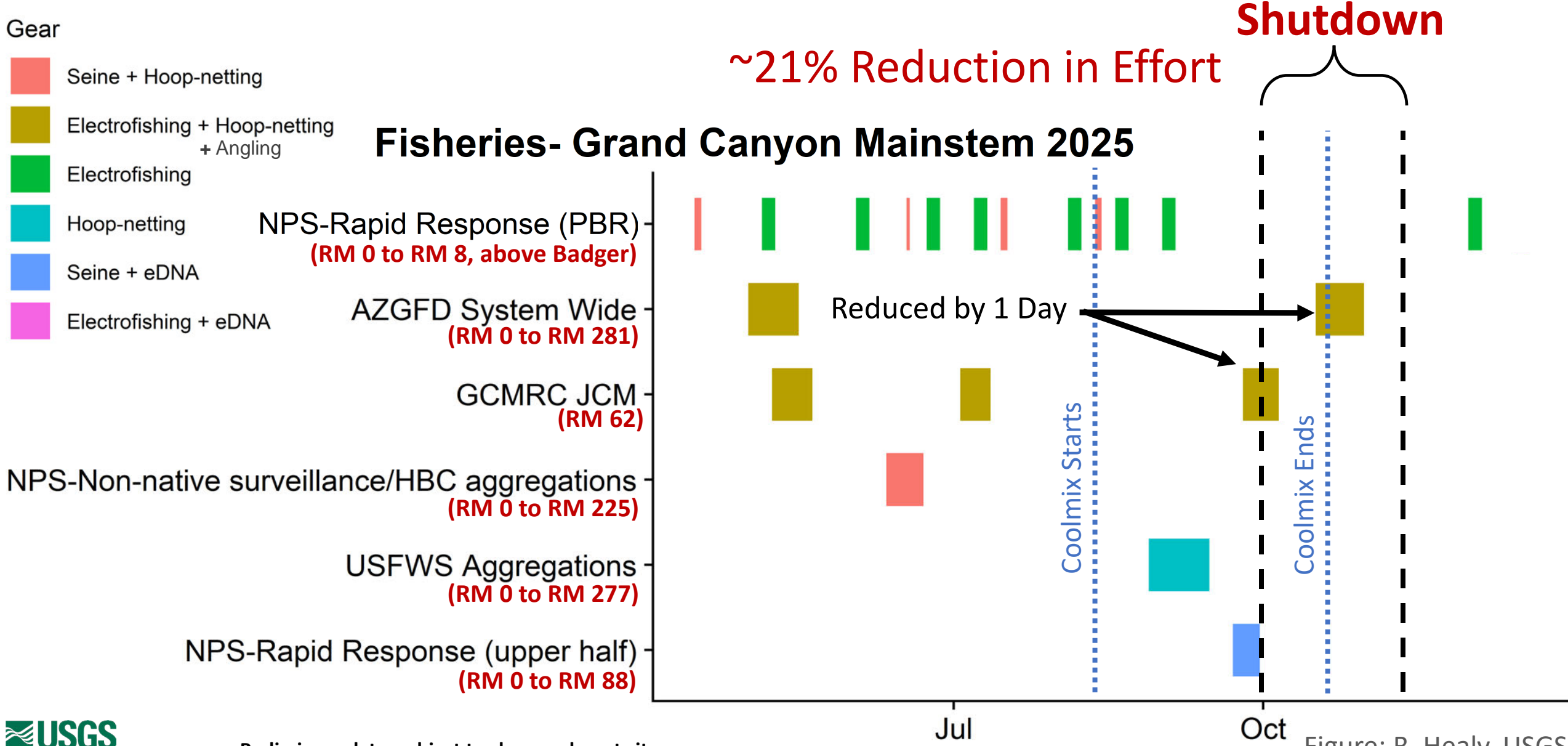
2025 Sampling Effort: Downstream



2025 Sampling Effort: Downstream



2025 Sampling Effort: Downstream



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)



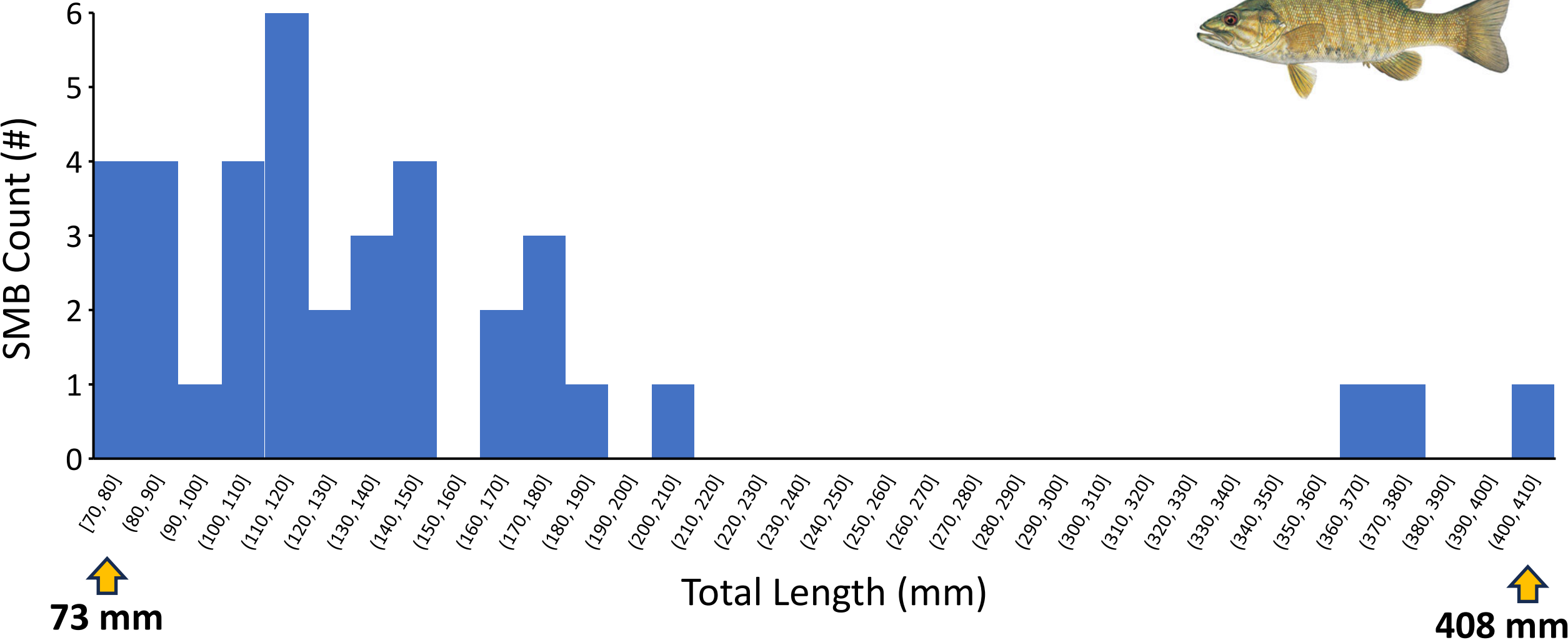
- 3 **NPS GLCA Tailwater Monitoring**
(RM -15.7 to RM 0)



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



2025 Smallmouth Bass Captures: Total Length

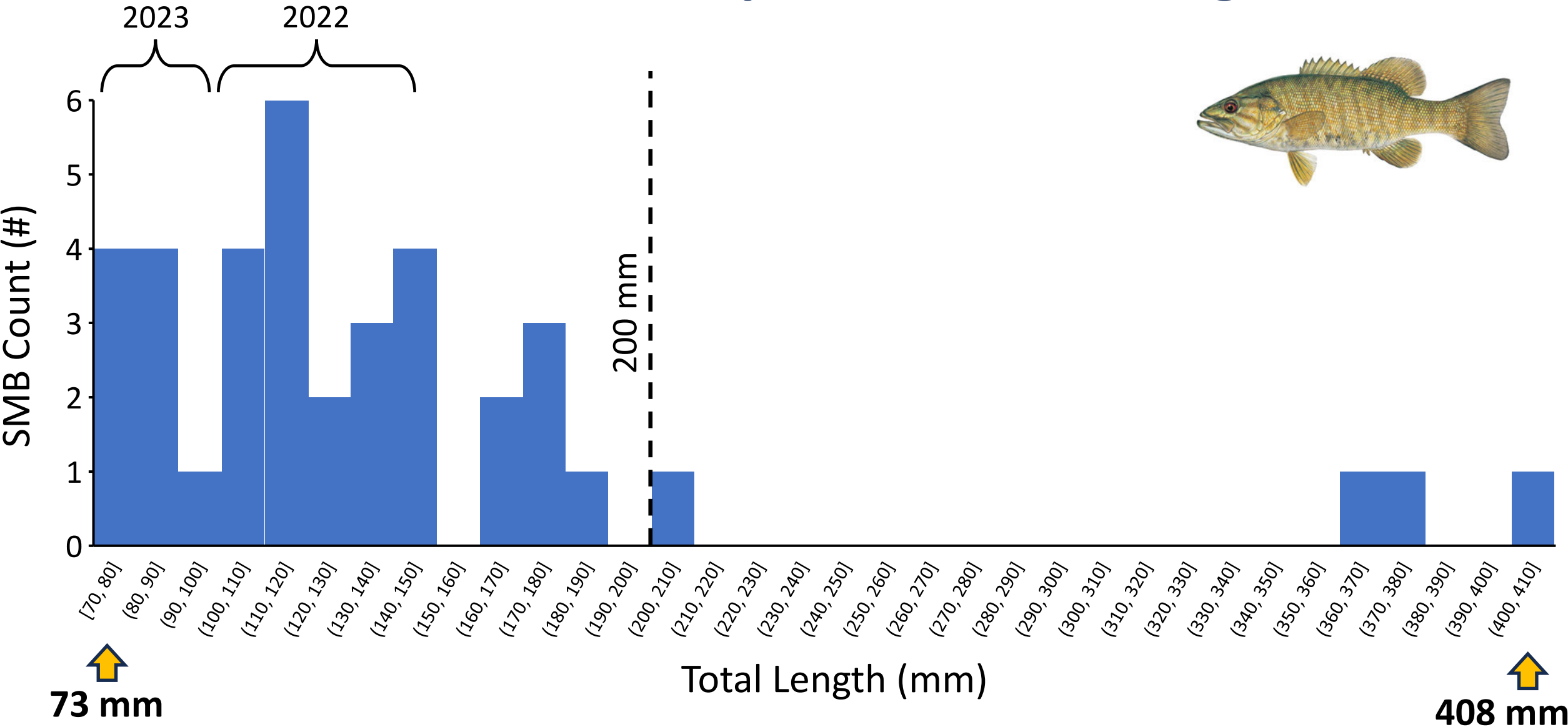


73 mm

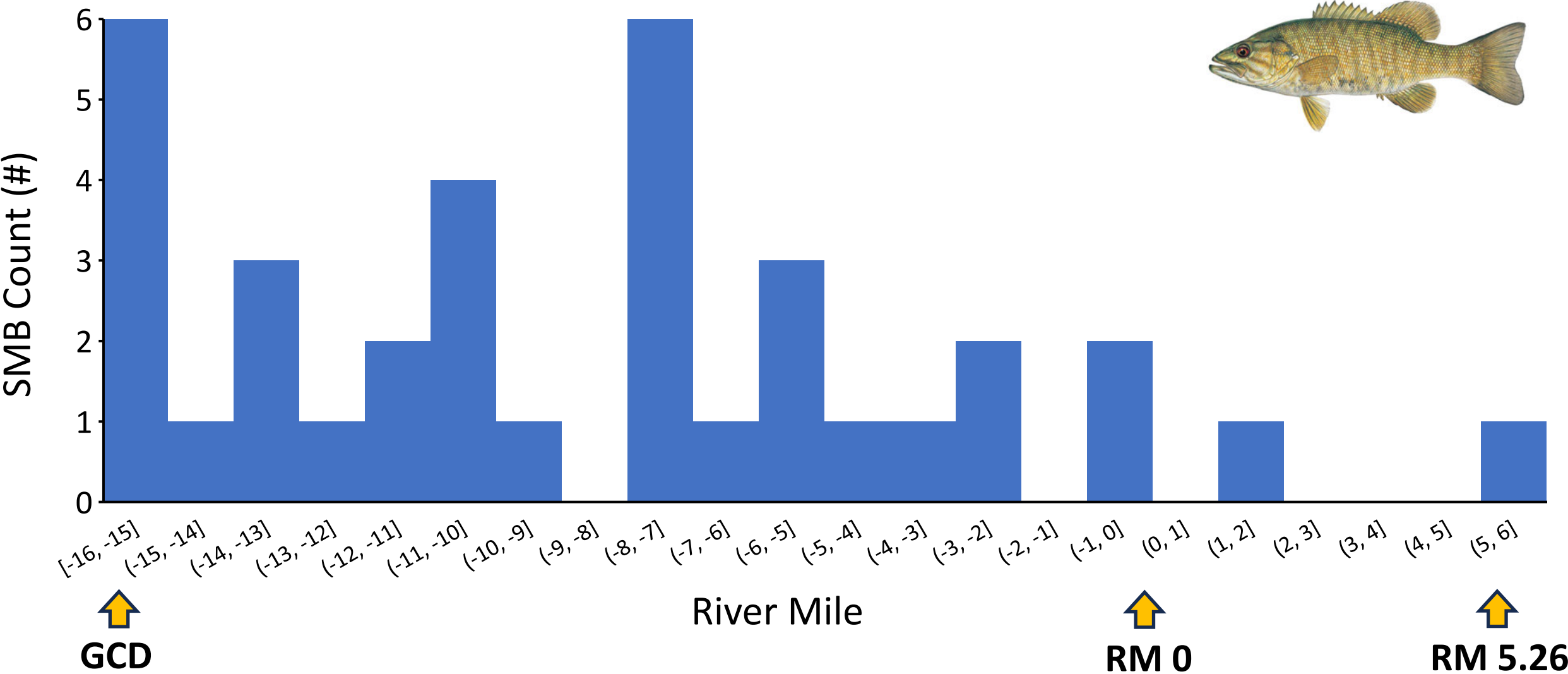
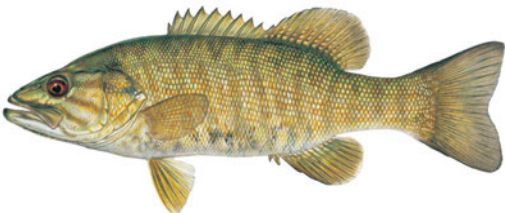


408 mm

2025 Smallmouth Bass Captures: Total Length



2025 Smallmouth Bass Captures: Location



SMB Research and Monitoring

Determining the effectiveness of removals & flow experiments

**Abundance/
Catch**

**Distribution/
Dispersal**

Growth

Diet

Kinship

Reproduction?

No evidence of
Age-0

Evidence of
Age-0

Age-0 Growth
Rate

Recruitment?

Entrained
from Lake?

Reproduced
locally?

When?
(relative to
experimental
actions)

Pop Growth?

Entrainment?

Where?
(mainstem or
backwater)

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Pop Growth?

Entrained
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Reproduced
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When?
(relative to
experimental
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Where?
(mainstem or
backwater)

Entrainment?

To date, no evidence of recruitment in 2024 or 2025
*But effort was reduced in 2025

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



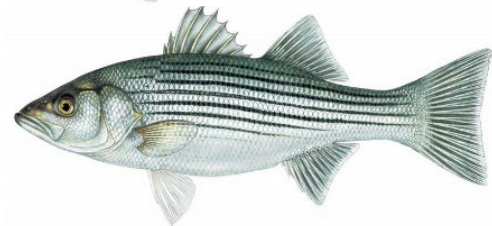
176 (354) Bluegill



35 (52) Walleye



8 (3) Striped Bass



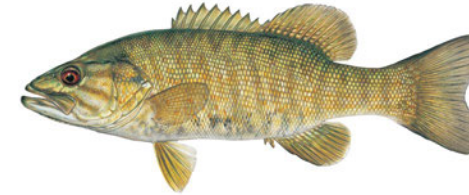
2025 Other High-Risk Nonnative Fishes Captures

Jan 1st to Sept 30th, 2025 (Jan 1st to Sept 30th, 2024)

System Wide

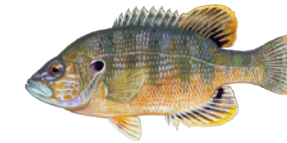
36 (214)

Smallmouth Bass



2,802 (13,727)

Green Sunfish



256 (1,136)

Brown Trout



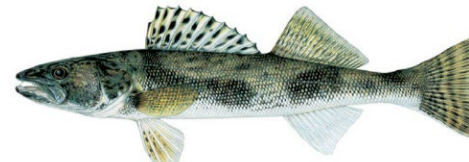
123 (301)

Bluegill



32 (33)

Walleye



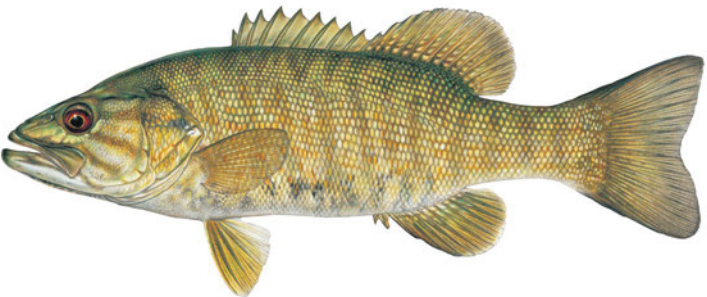
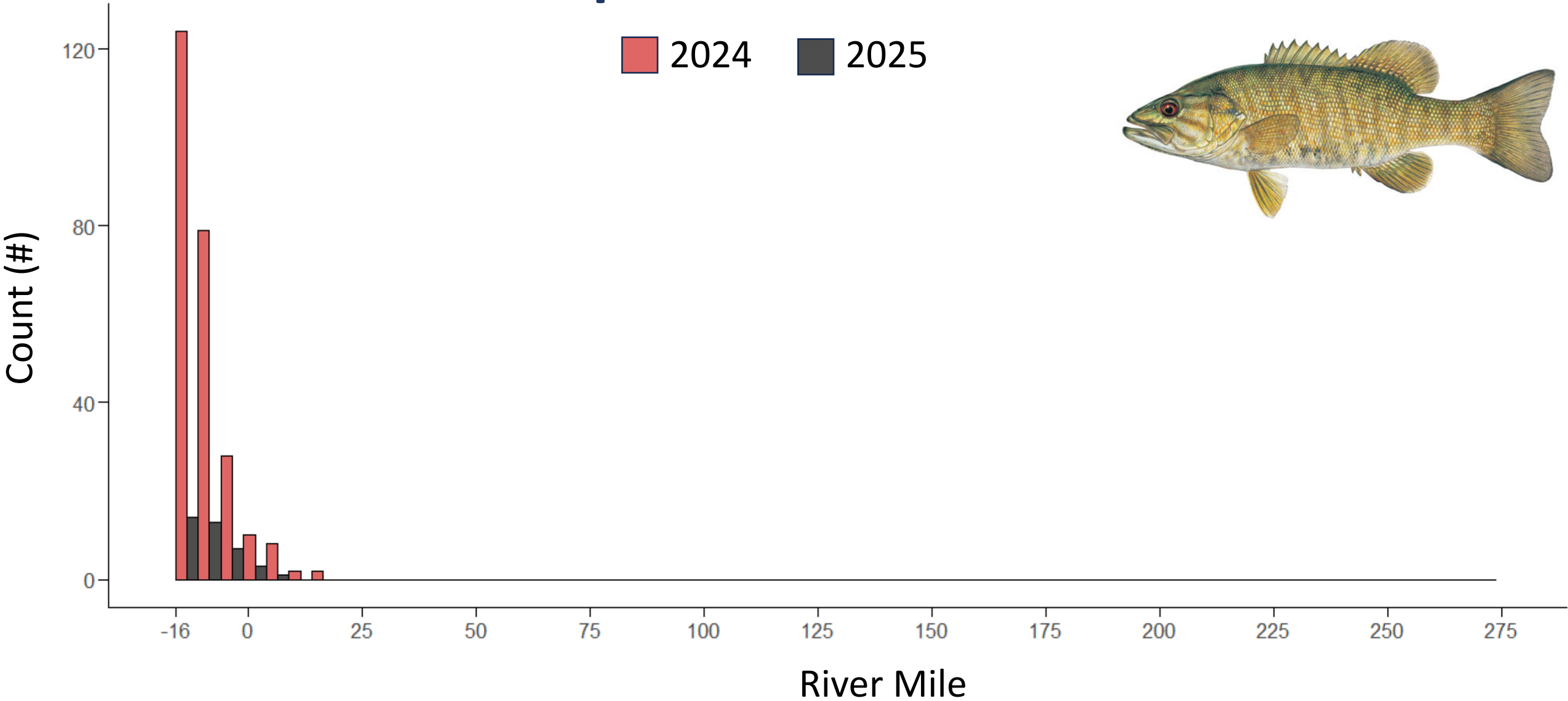
8 (3)

Striped Bass

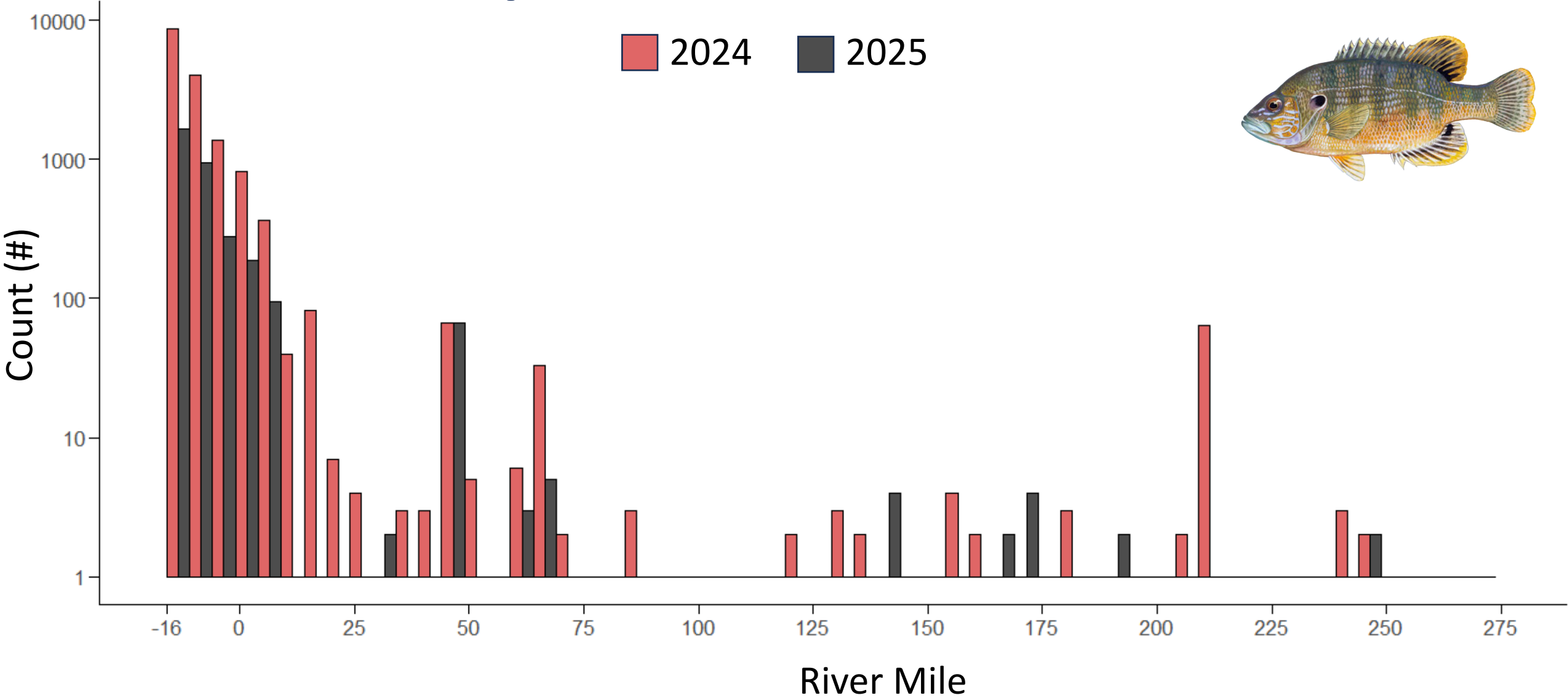


Smallmouth Bass Captures: Location

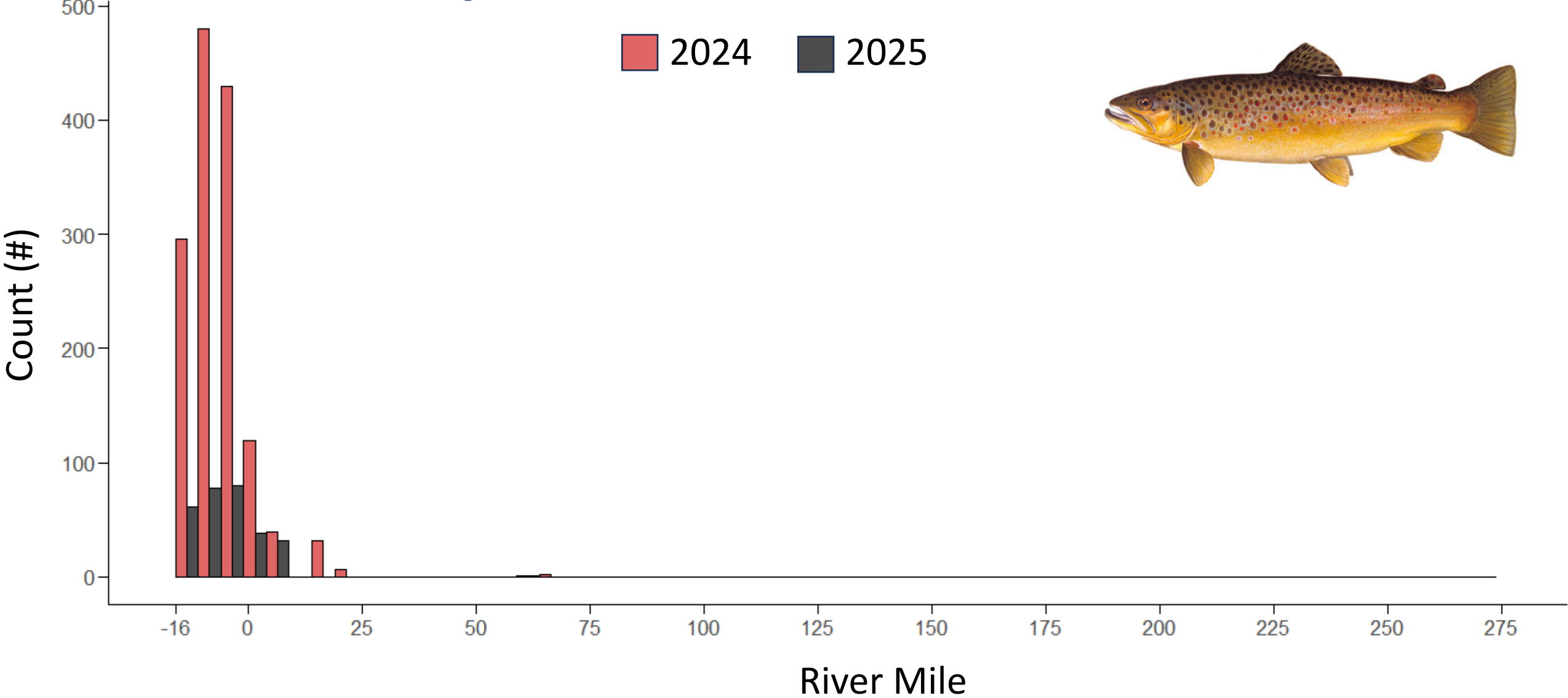
(Full calendar year)



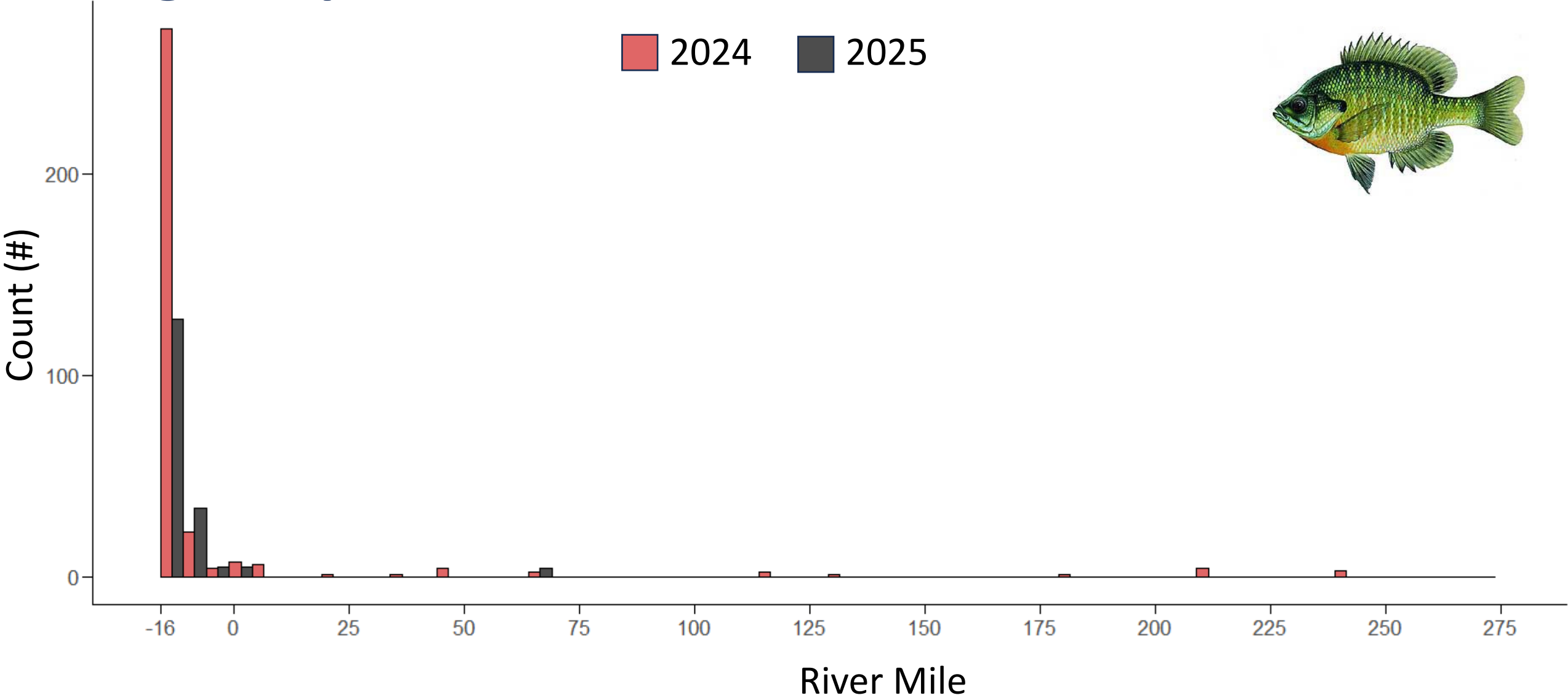
Green Sunfish Captures: Location



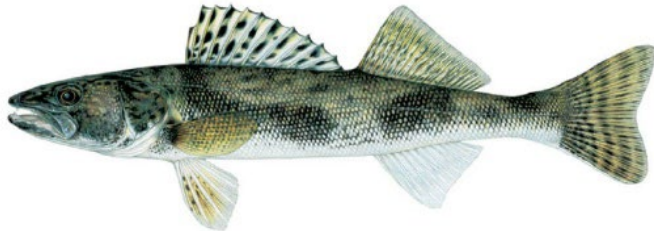
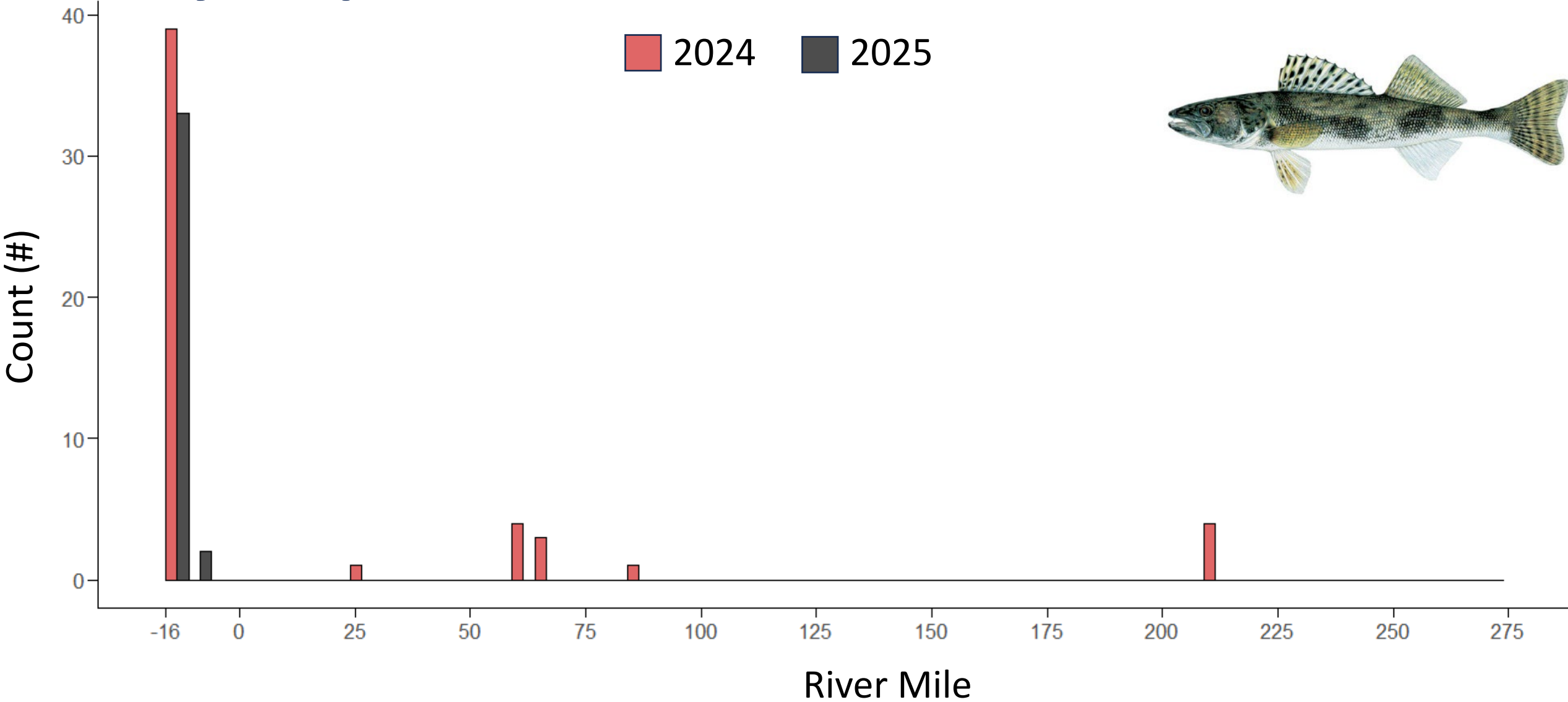
Brown Trout Captures: Location



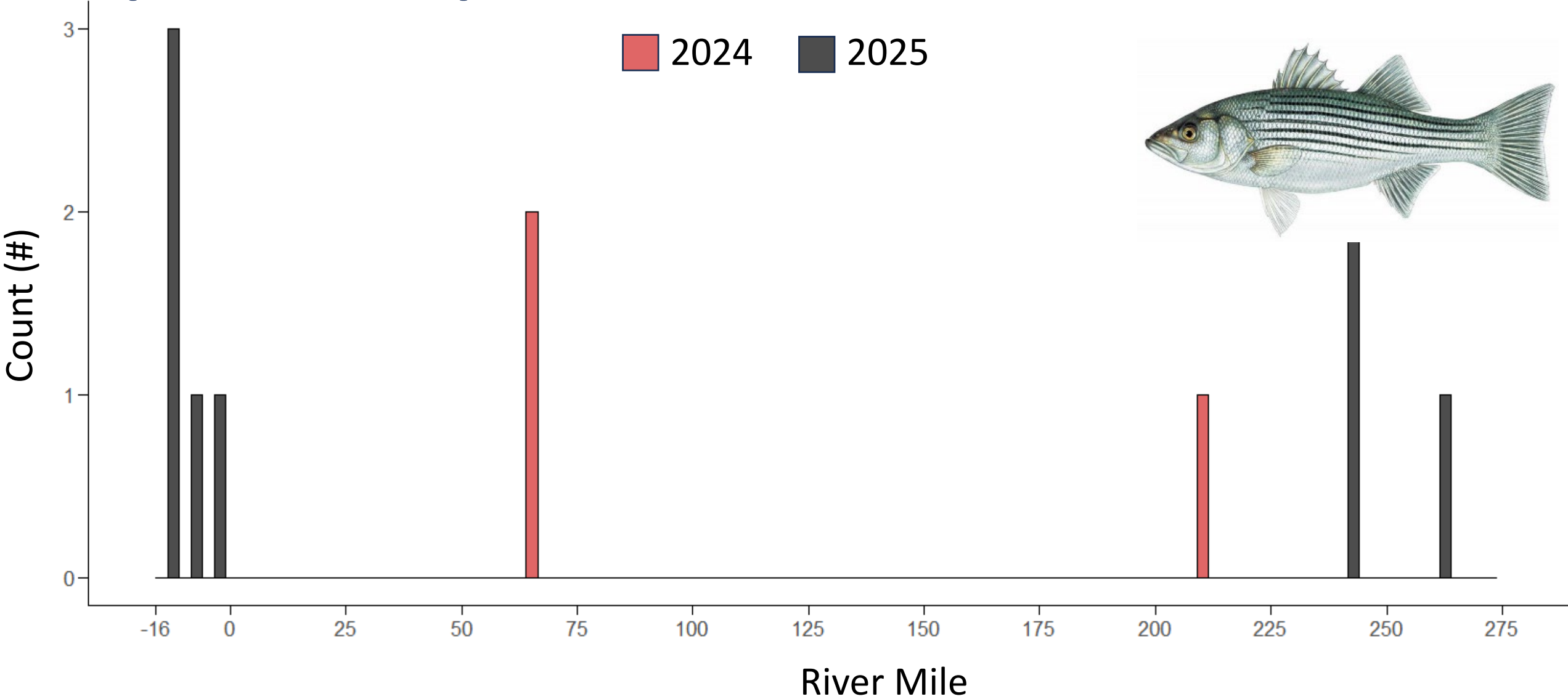
Bluegill Captures: Location



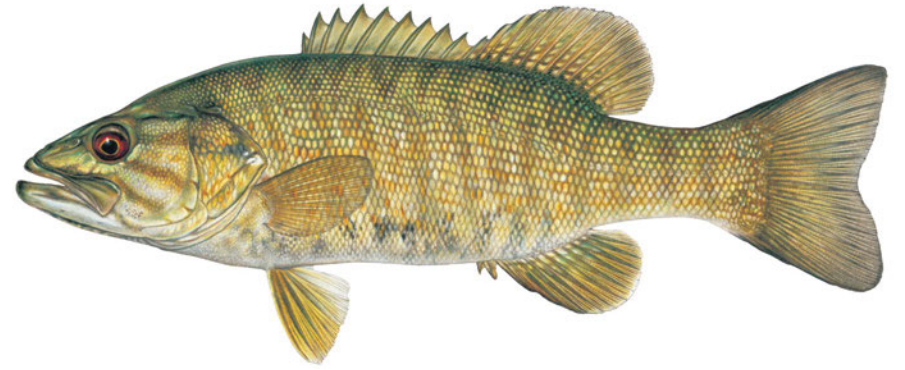
Walleye Captures: Location



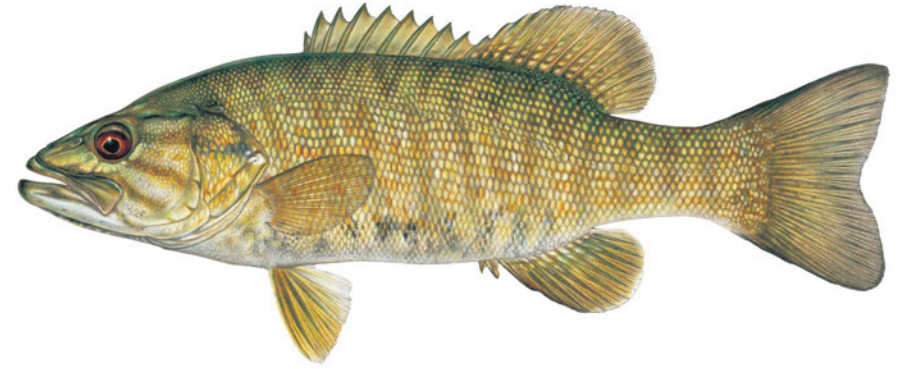
Striped Bass Captures: Location



Summary



Summary

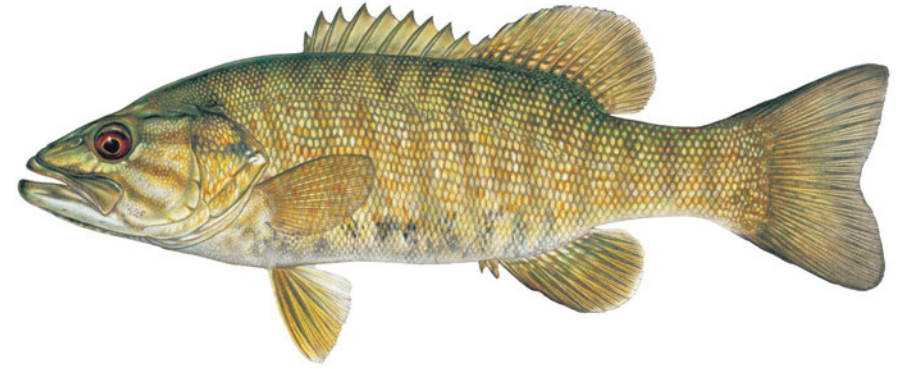


2025 Shutdown Effects

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?

