



— BUREAU OF —
RECLAMATION

Smallmouth Bass and other Nonnatives

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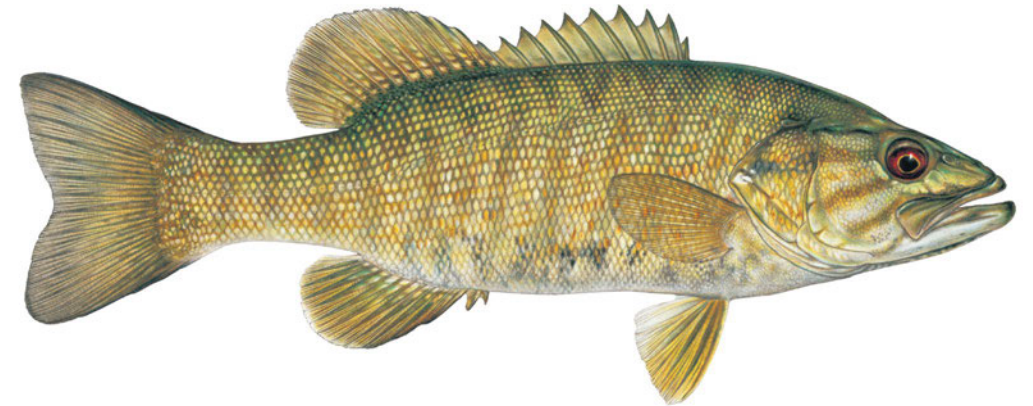
Matt O'Neill

US Department of the Interior

Bureau of Reclamation

U.S. Department of the Interior

U.S. Geological Survey



AMWG

Aug 21, 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

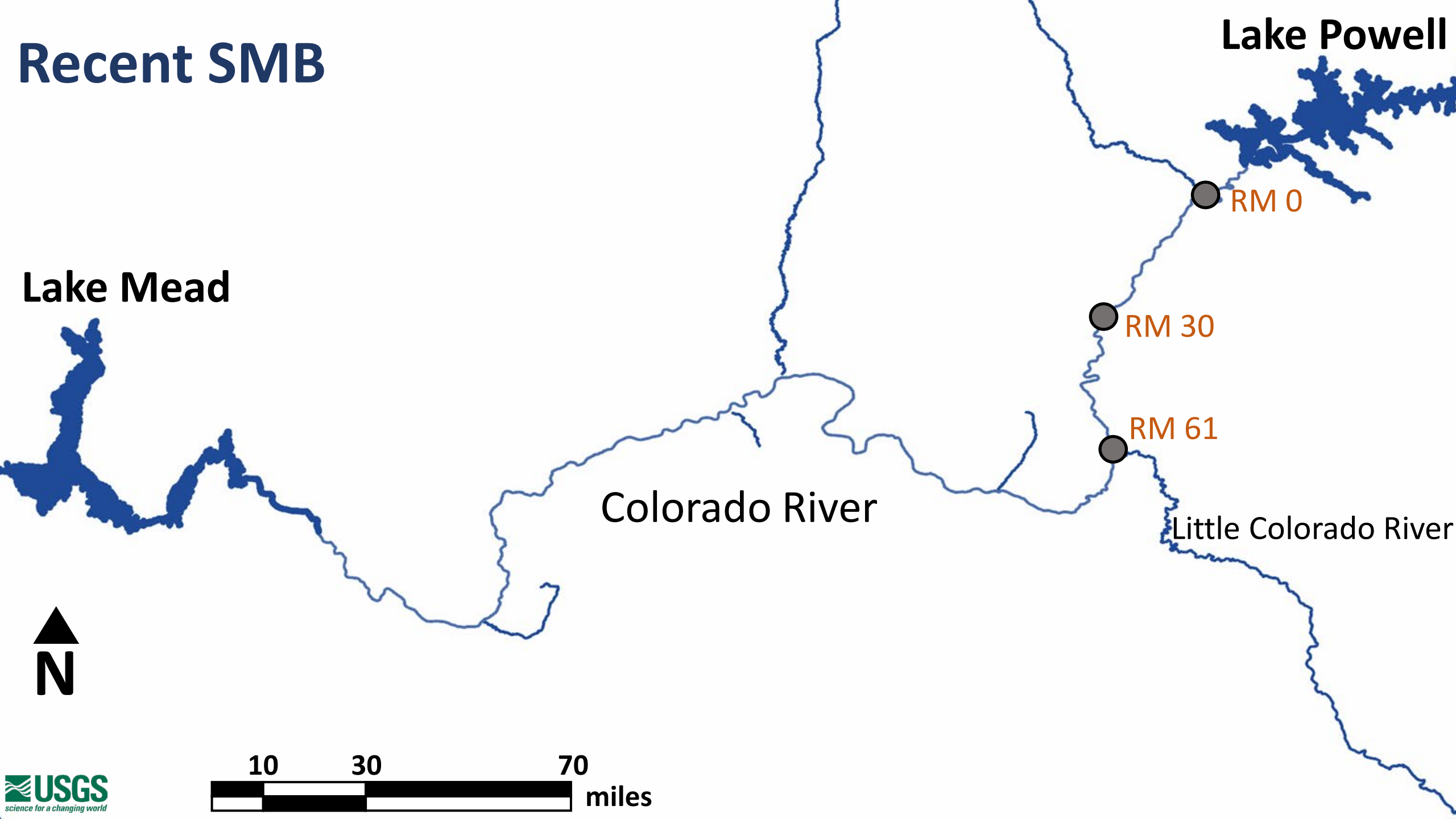
Including:

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



— BUREAU OF —
RECLAMATION

Recent SMB



Lake Mead

Lake Powell

RM 0

RM 30

RM 61

Colorado River

Little Colorado River

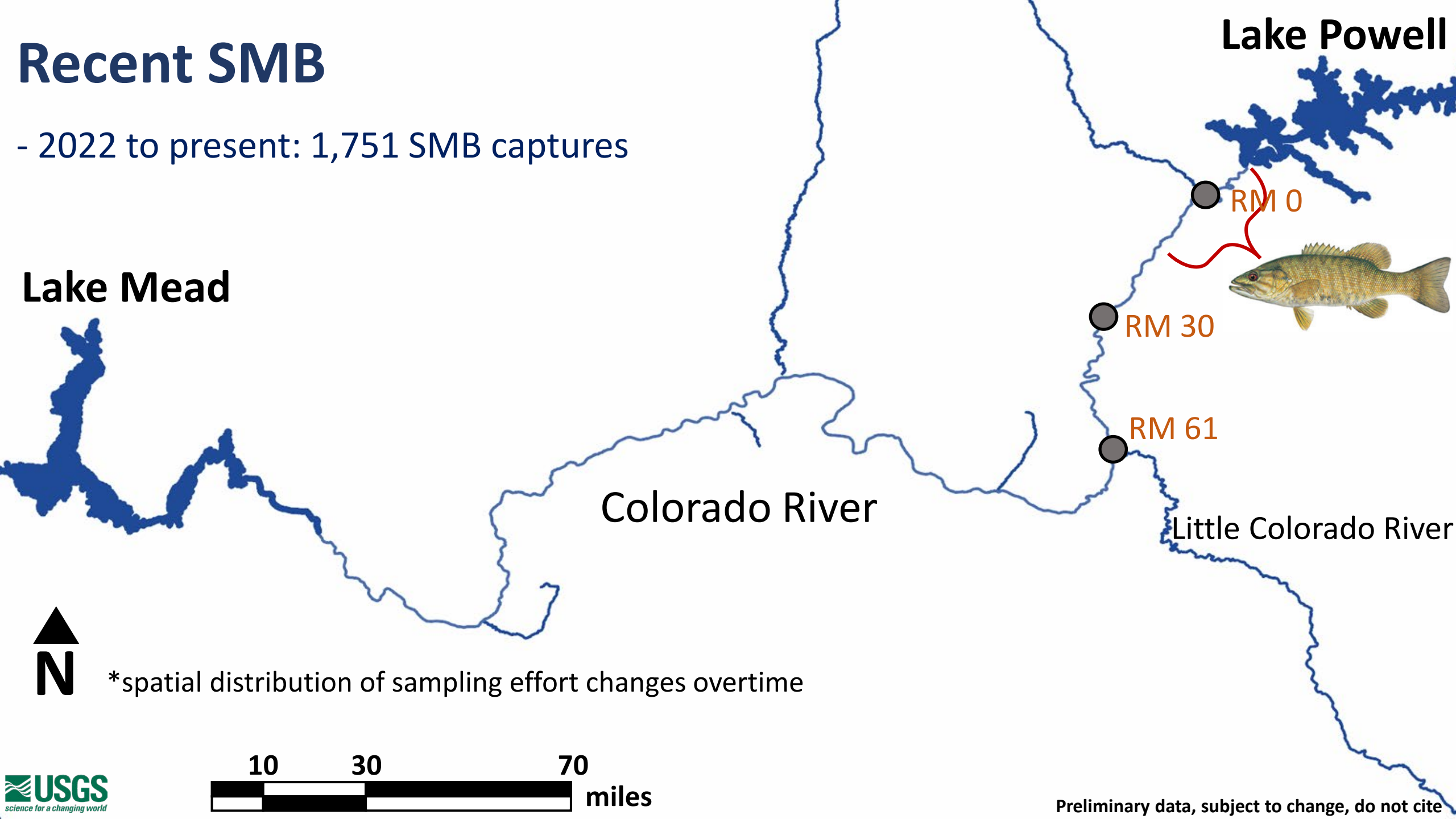


Recent SMB

- 2022 to present: 1,751 SMB captures

Lake Mead

Lake Powell



Colorado River

Little Colorado River



*spatial distribution of sampling effort changes overtime



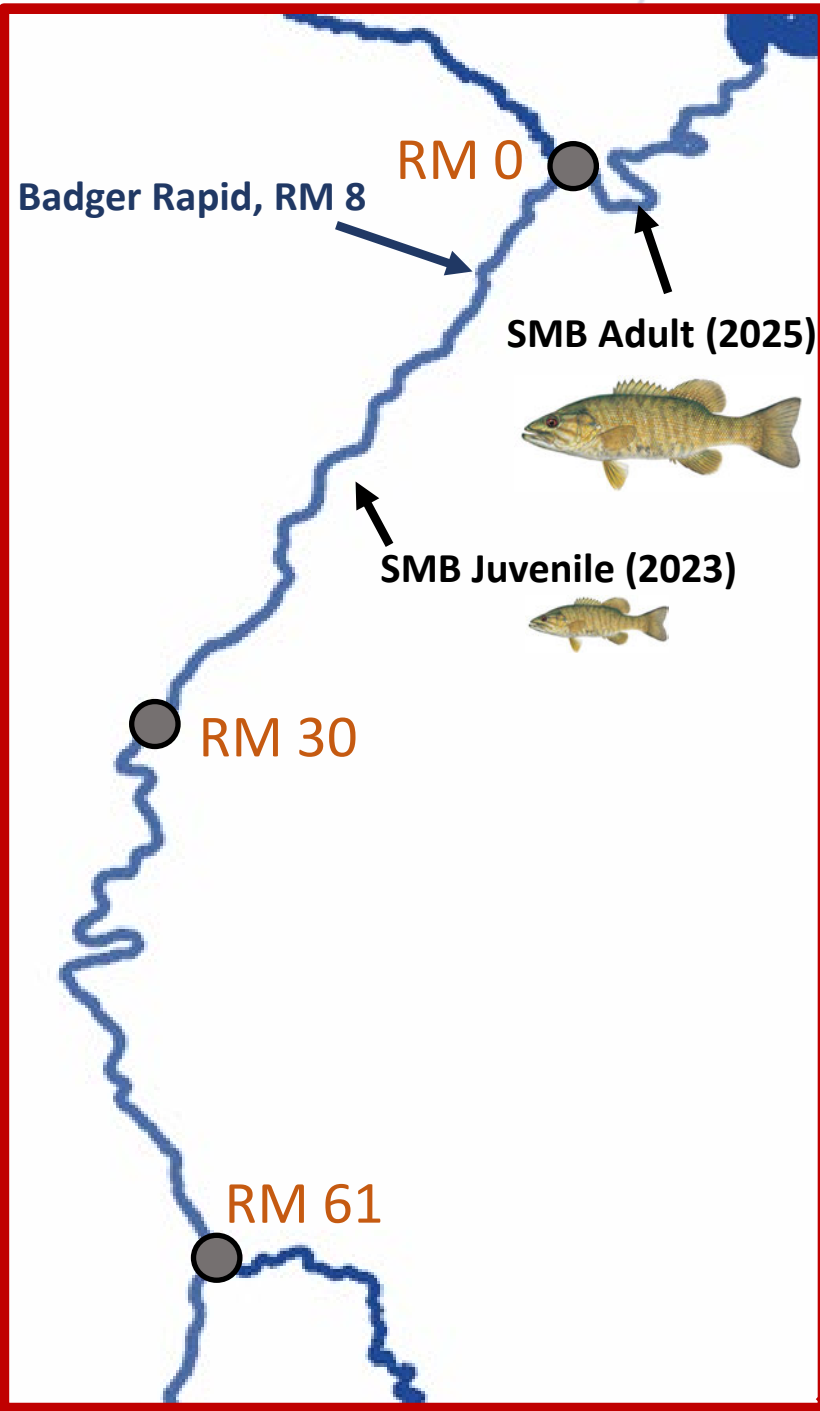
Farthest Downstream SMB Captures

2022 – present

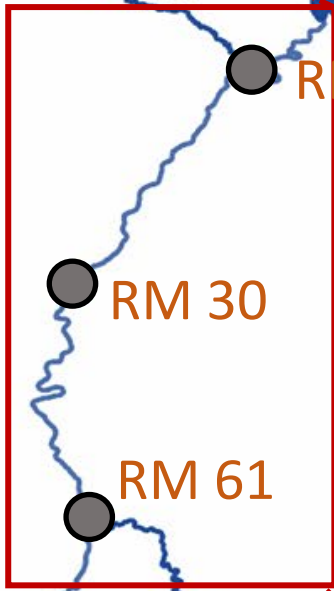
- Juvenile RM 16.38
- Adult RM -3.49



*sampling effort changes



Lake Powell

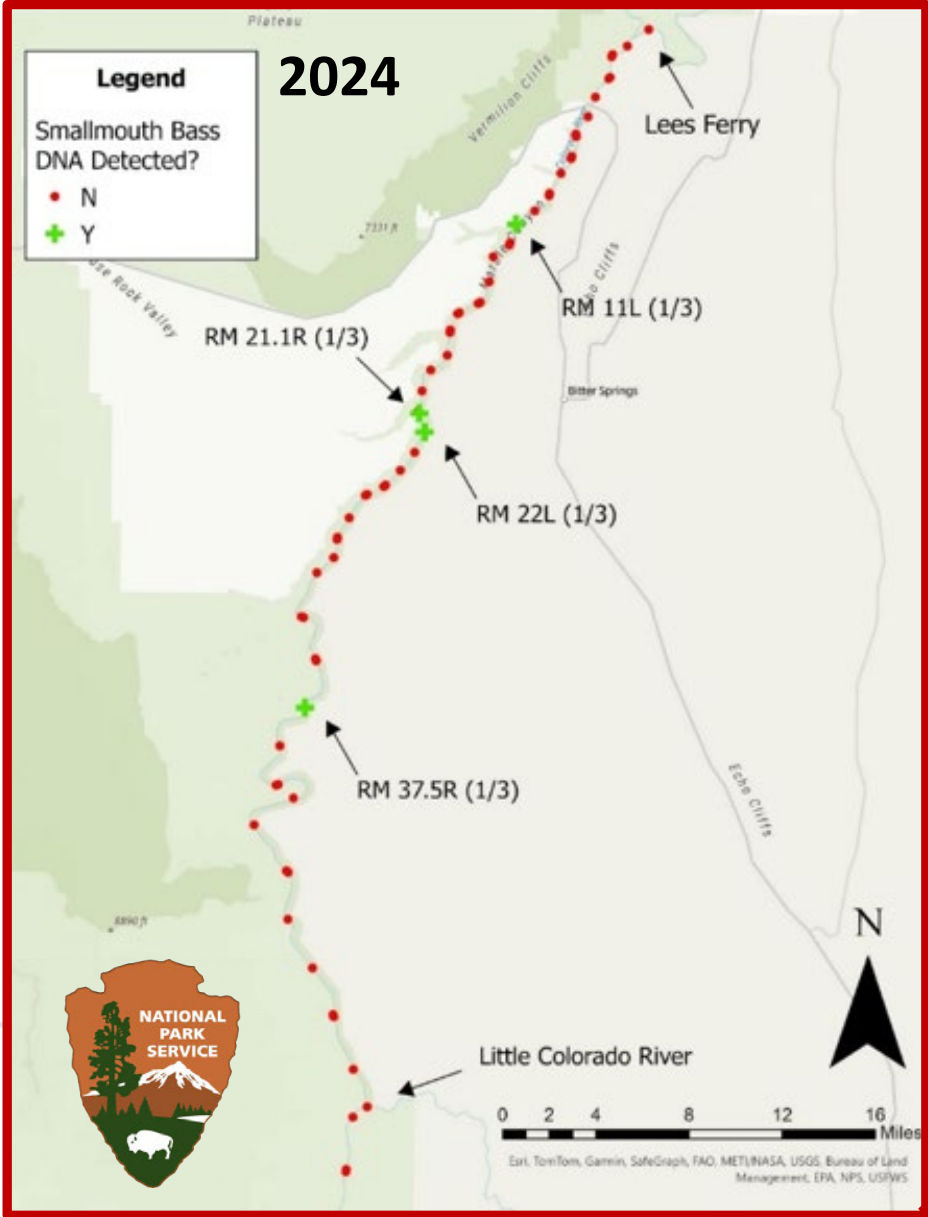


Little Colorado River

Preliminary data, subject to change, do not cite

2024 eDNA

SMB eDNA detection at RM 37.5



Lake Powell

RM 0

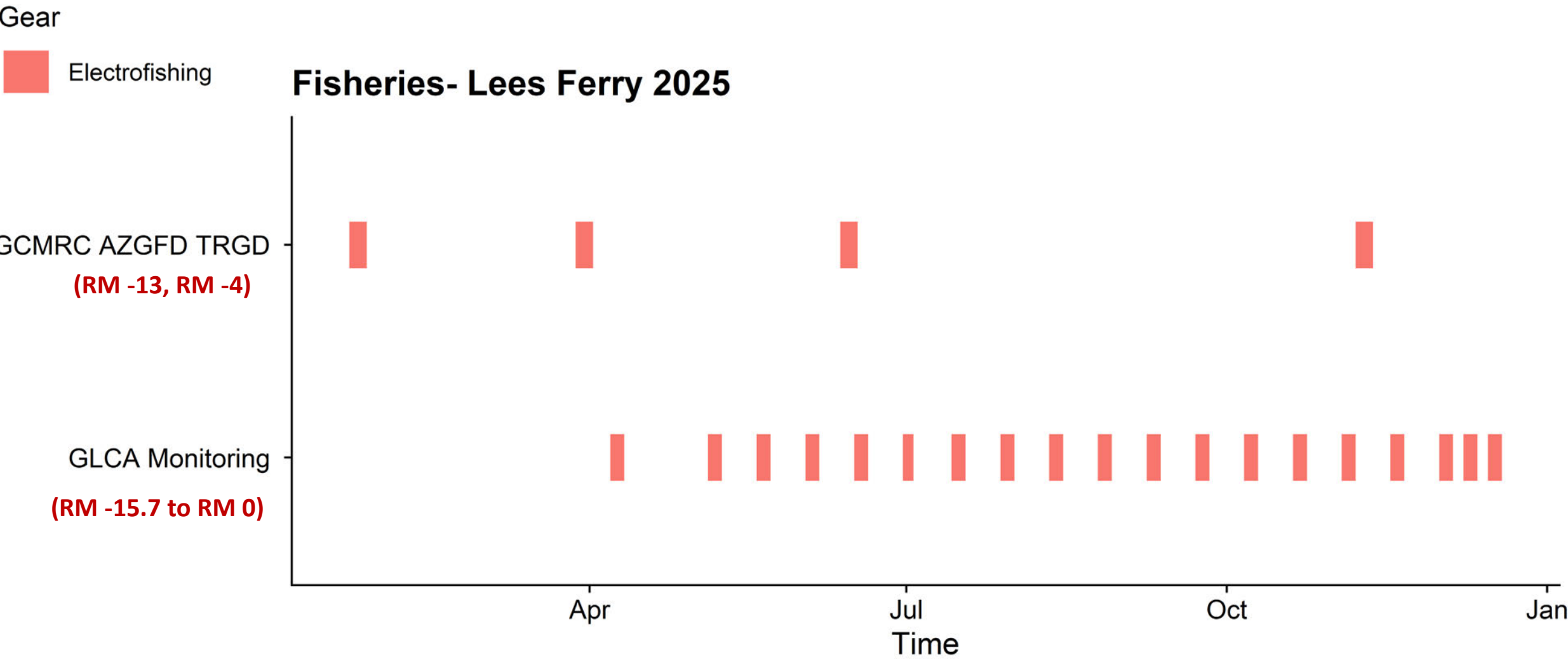
RM 30

RM 61

Little Colorado River

Data and Figure: NPS GRCA, courtesy of Kurt Shollenberger, NPS

2025 Sampling Effort: Lees Ferry Tailwater

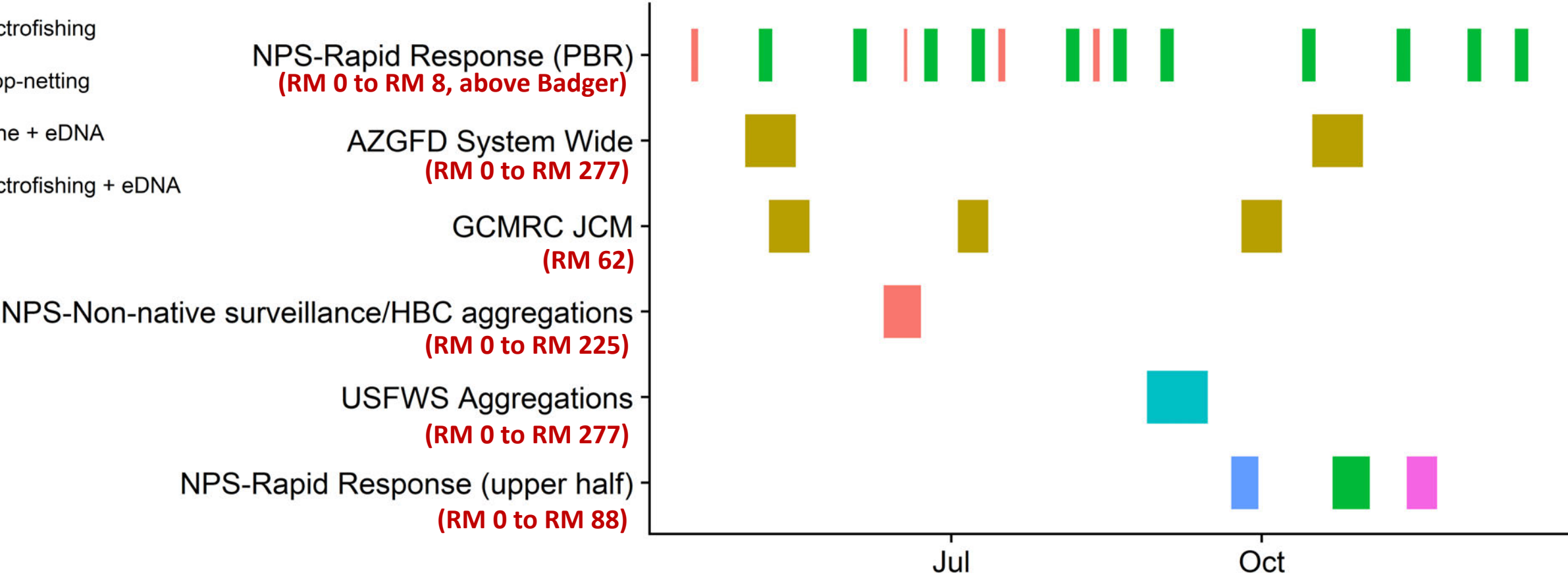


2025 Sampling Effort: Downstream

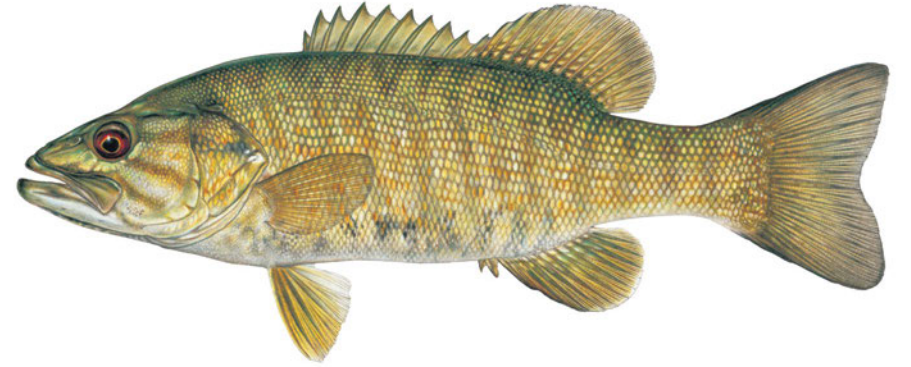
Gear

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

Fisheries- Grand Canyon Mainstem 2025



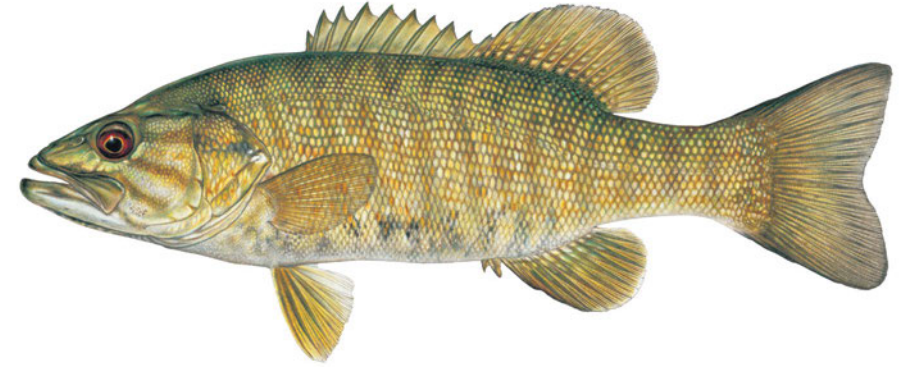
2025 Smallmouth Bass Captures



2025 Smallmouth Bass Captures

Total = 36*

(compared to 183 at this time in 2024)

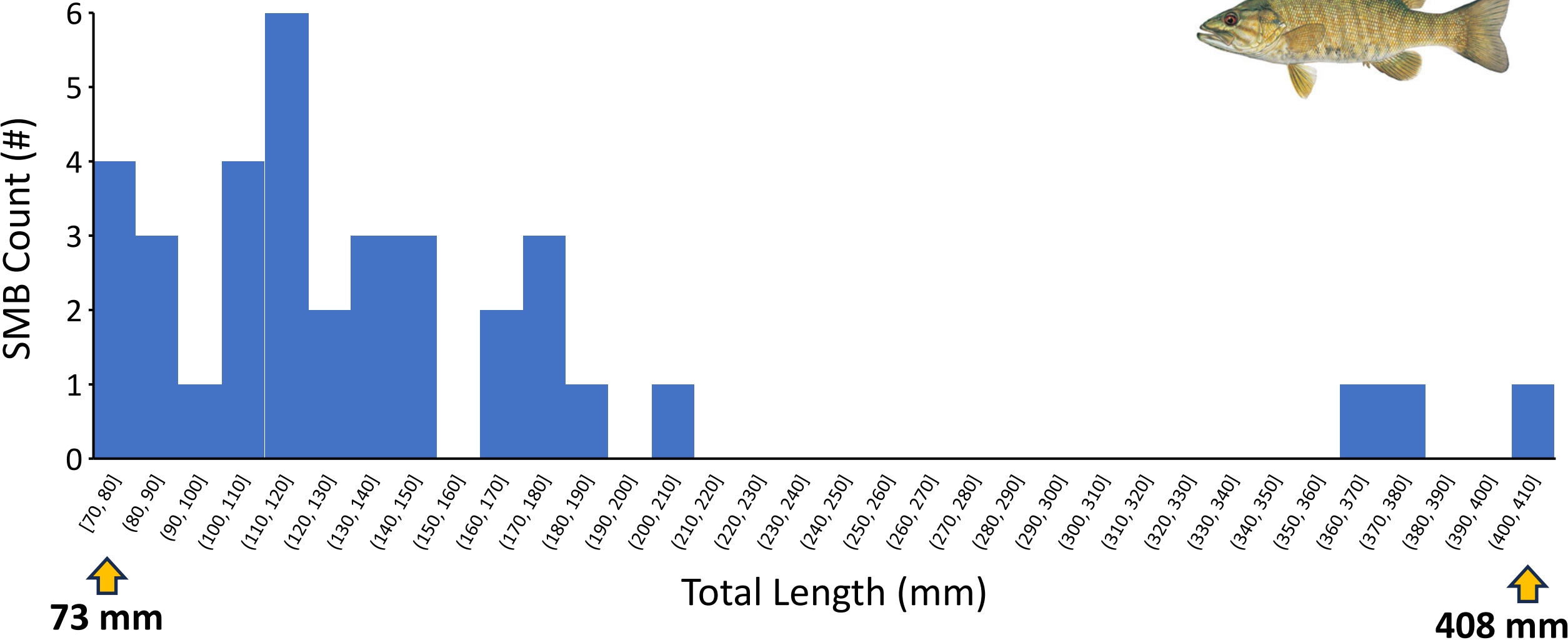


17% from routine, interagency monitoring

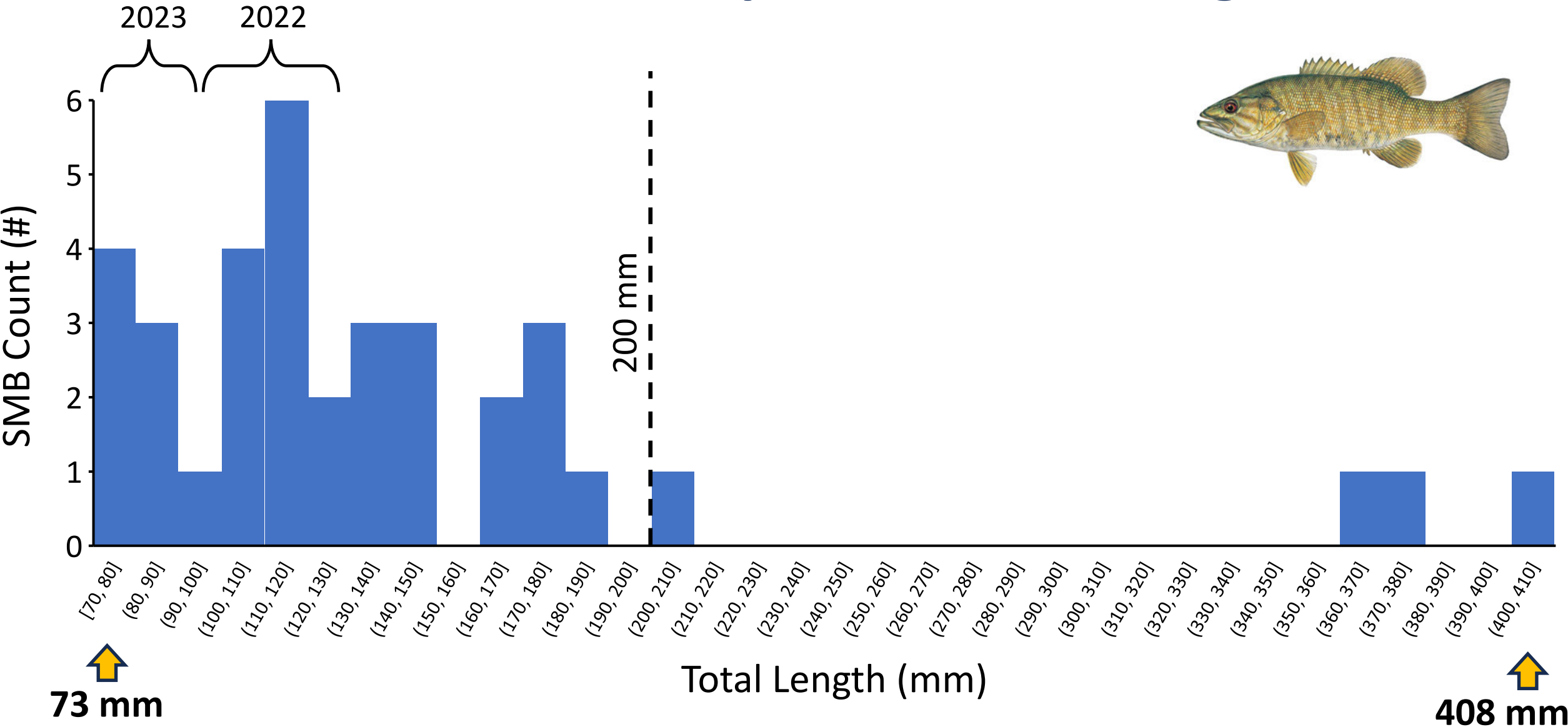
83% from targeted removal effort

*Catchability is temperature dependent, and temperatures have been relatively cool

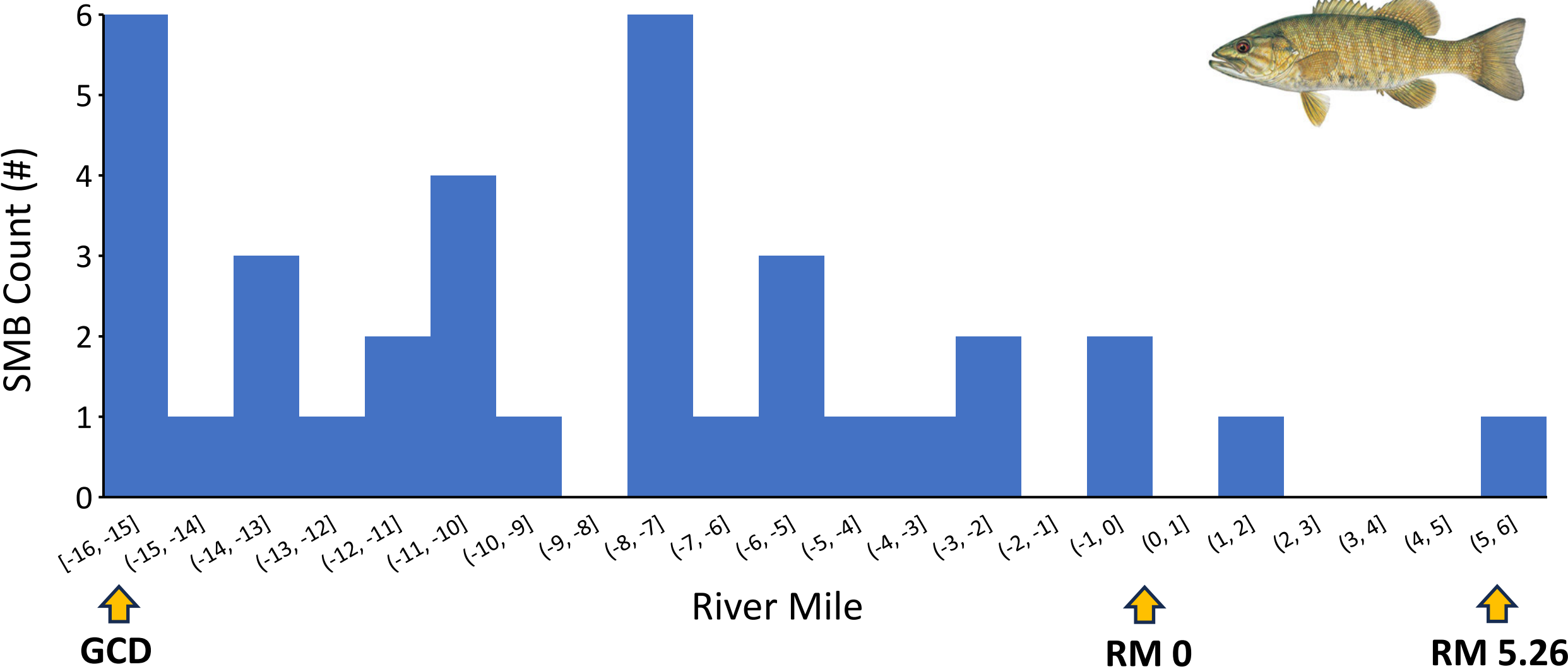
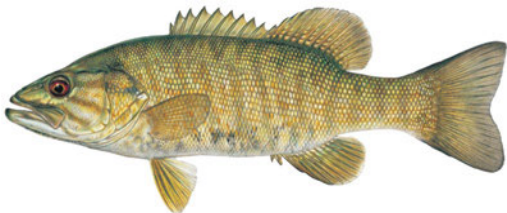
2025 Smallmouth Bass Captures: Total Length



2025 Smallmouth Bass Captures: Total Length



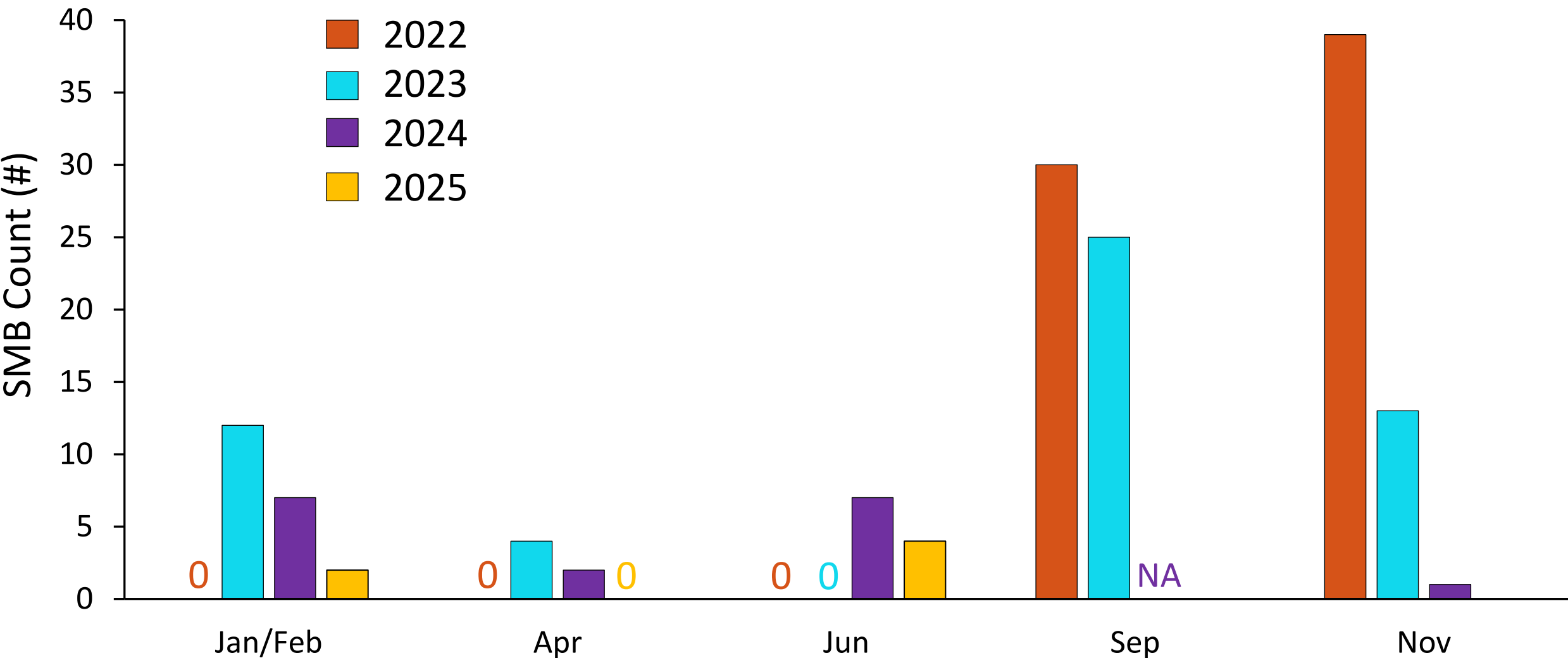
2025 Smallmouth Bass Captures: Location



SMB Captures: Lees Ferry, GCMRC AZGFD TRGD



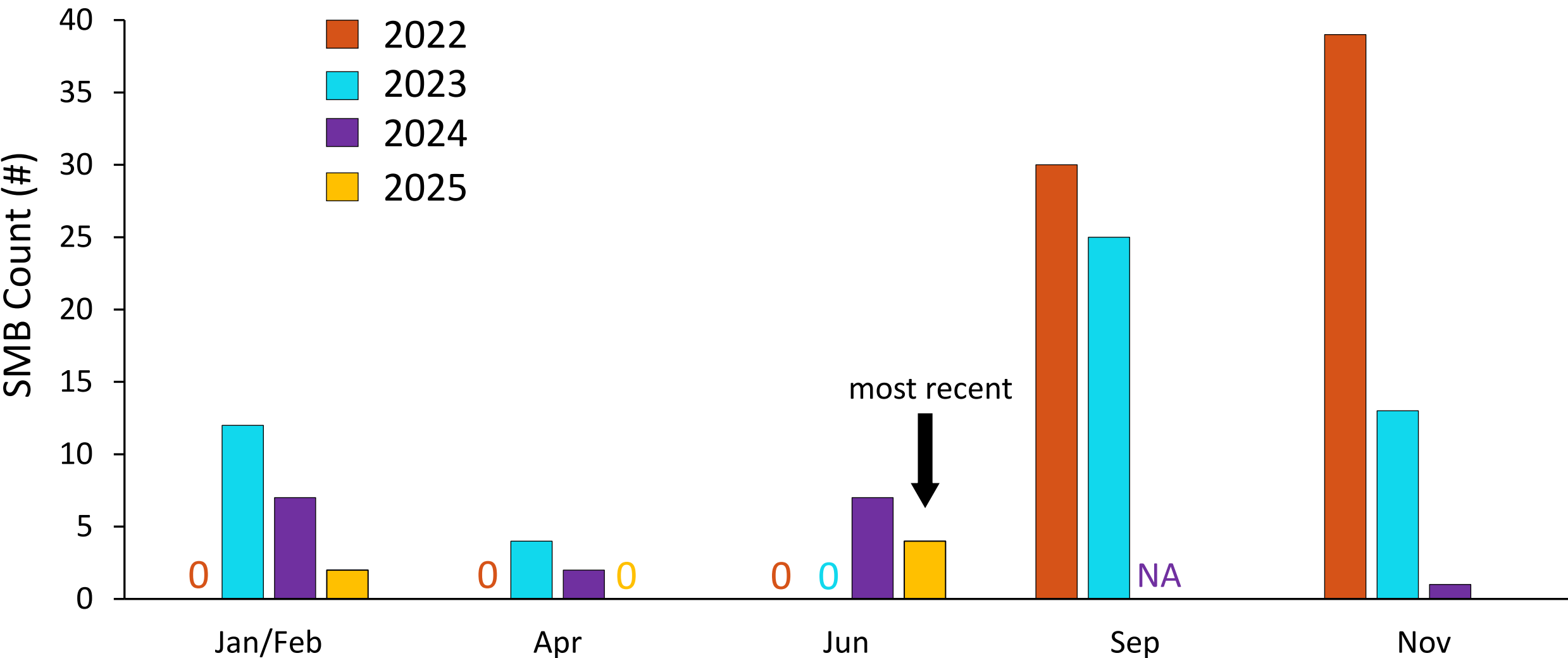
Boat electrofishing, fixed sites (near RM -13 and RM -4)



SMB Captures: Lees Ferry, GCMRC AZGFD TRGD



Boat electrofishing, fixed sites (near RM -13 and RM -4)



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)

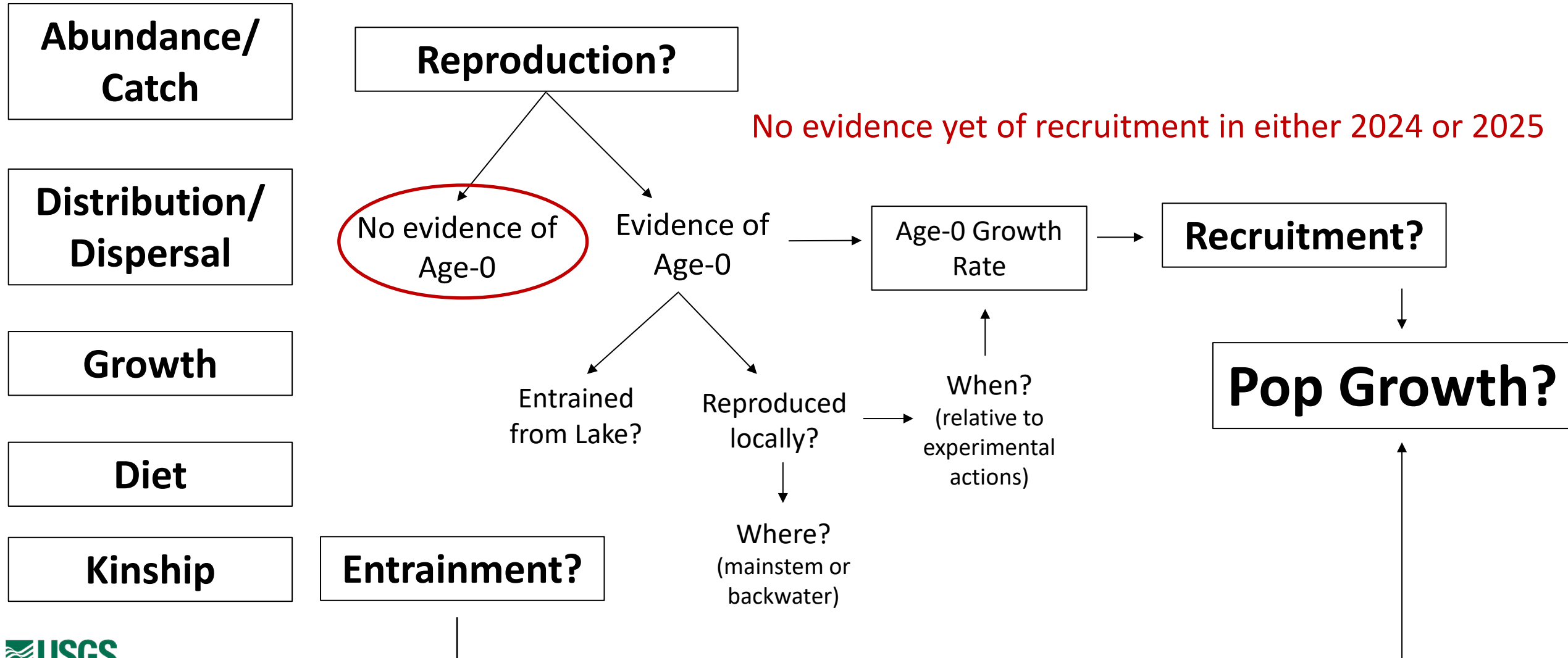
Pop Growth?

Entrainment?

Where?
(mainstem or
backwater)

SMB Research and Monitoring

Determining the effectiveness of removals & flow experiments



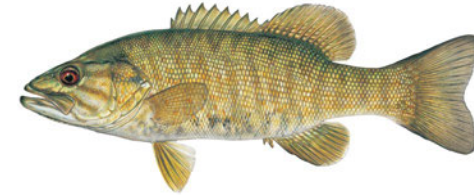
2025 Other Nonnative Fishes Captures

2025 Other Nonnative Fishes Captures

(at the same point in 2024)

36 (183)

Smallmouth Bass



2,702 (11,174)

Green Sunfish



123 (217)

Bluegill



33 (30)

Walleye



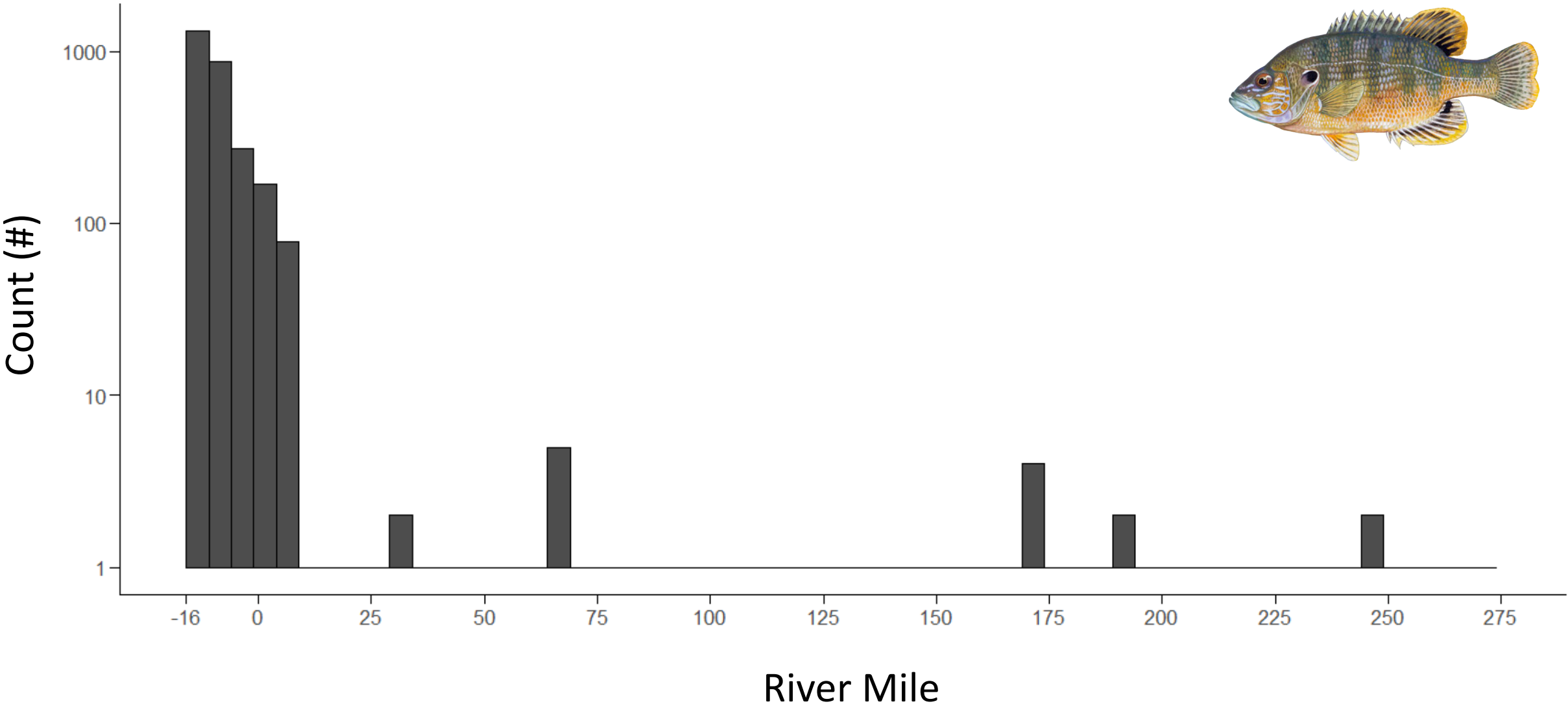
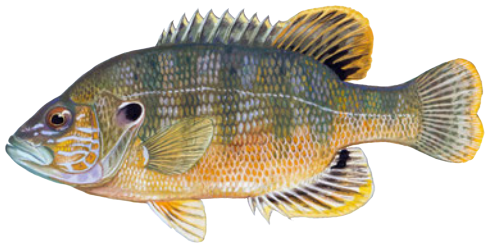
8 (3)

Striped Bass



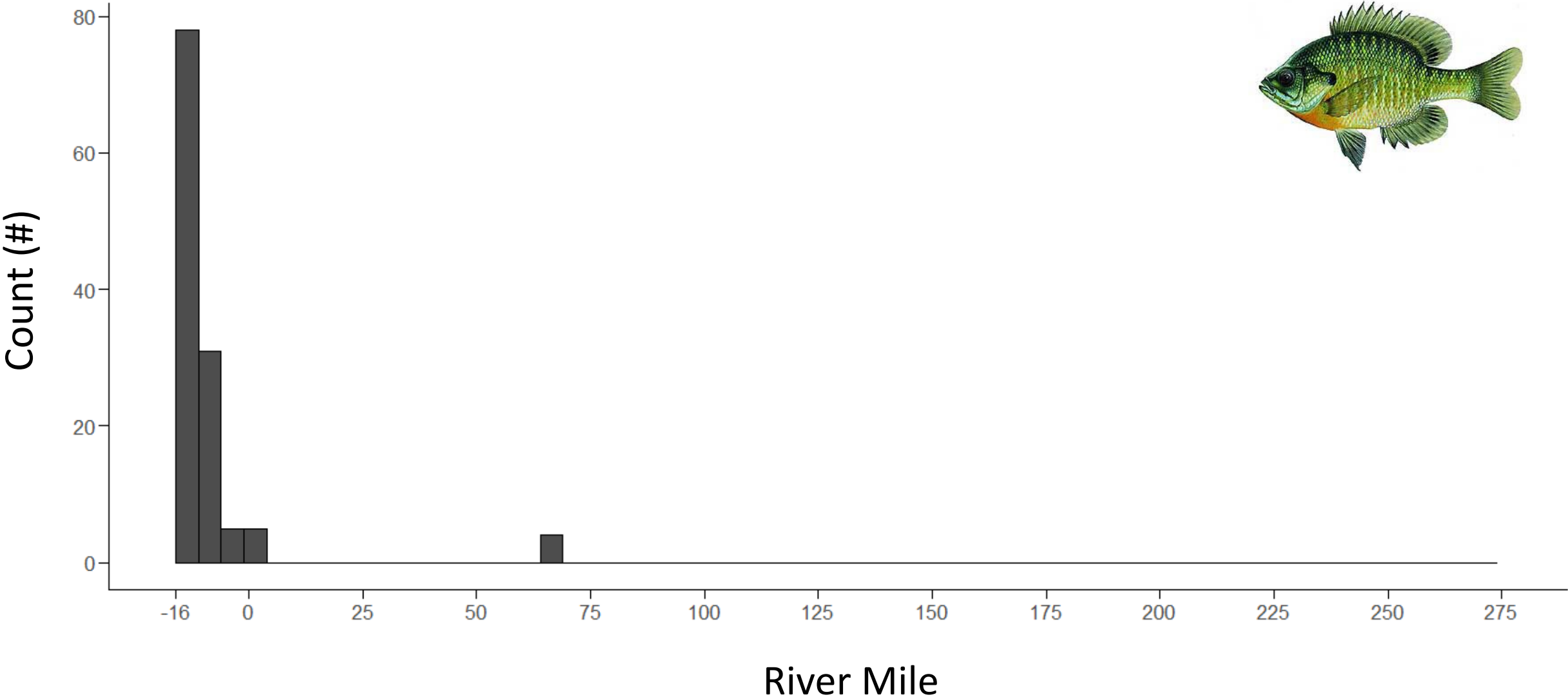
2025 Green Sunfish Captures: Location

2,702 total



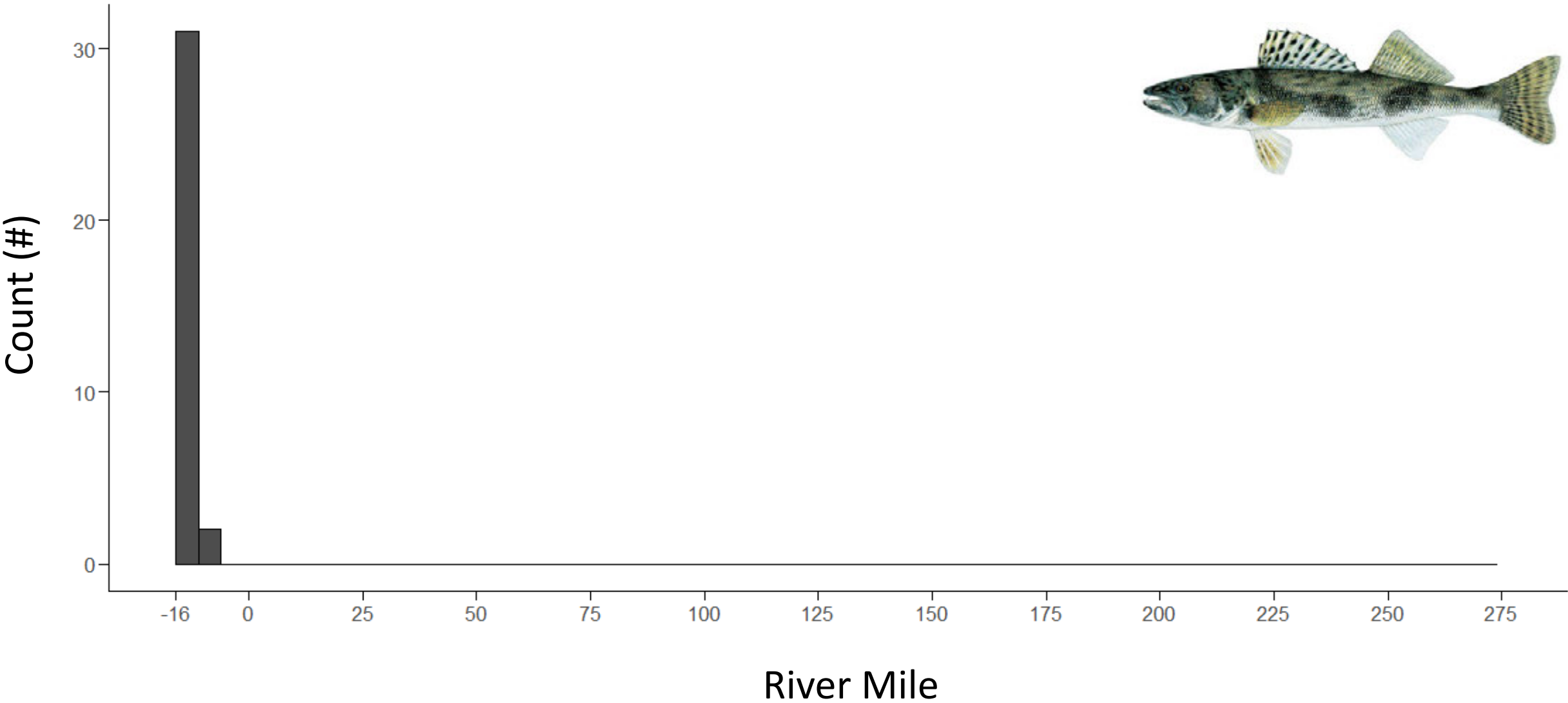
2025 Bluegill Captures: Location

123 total



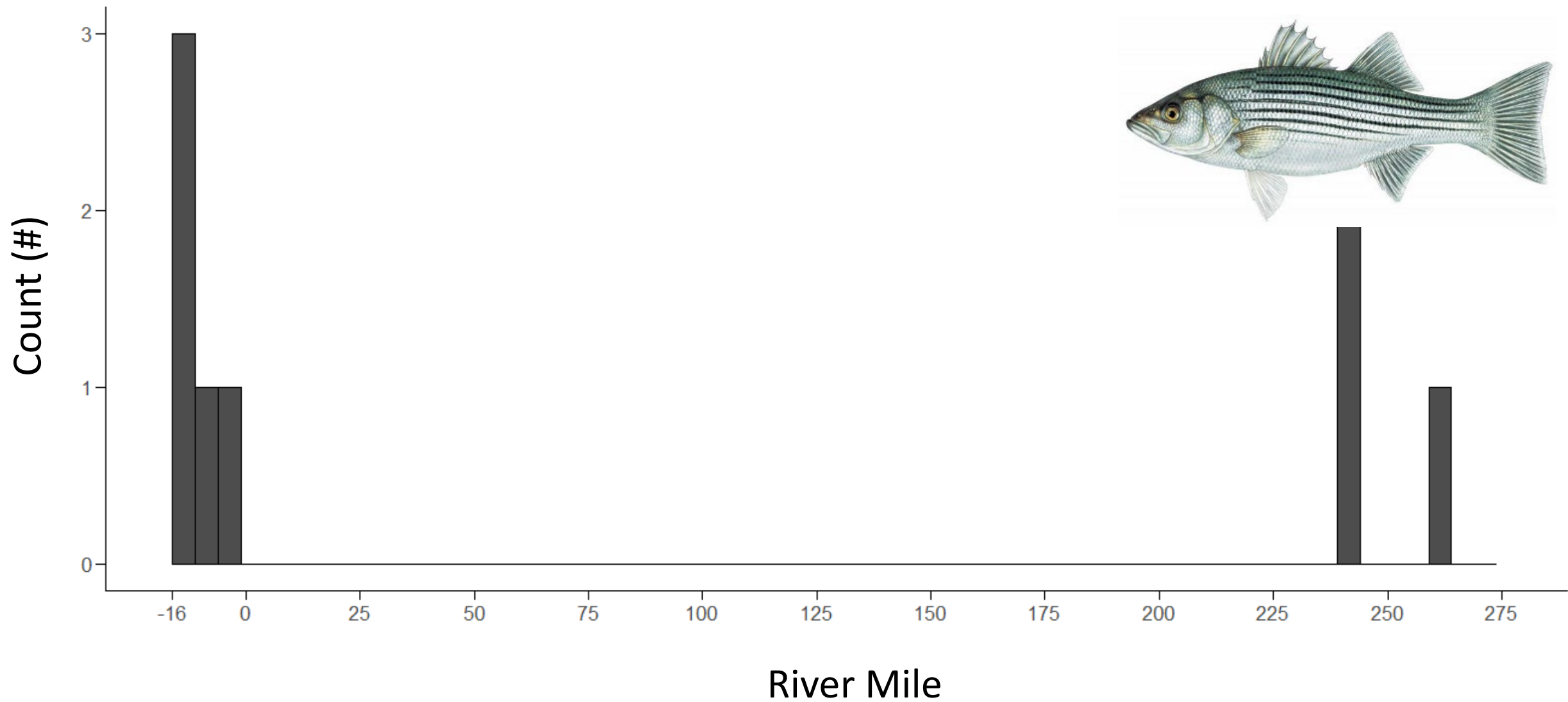
2025 Walleye Captures: Location

33 total

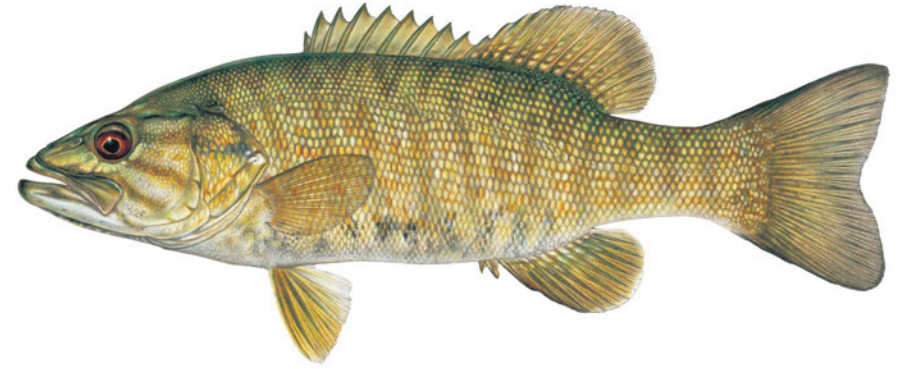


2025 Striped Bass Captures: Location

8 total

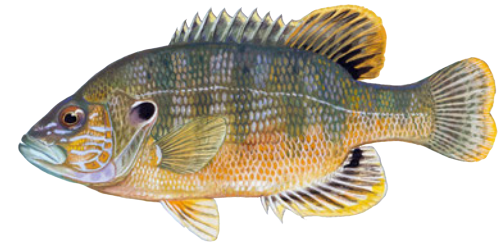
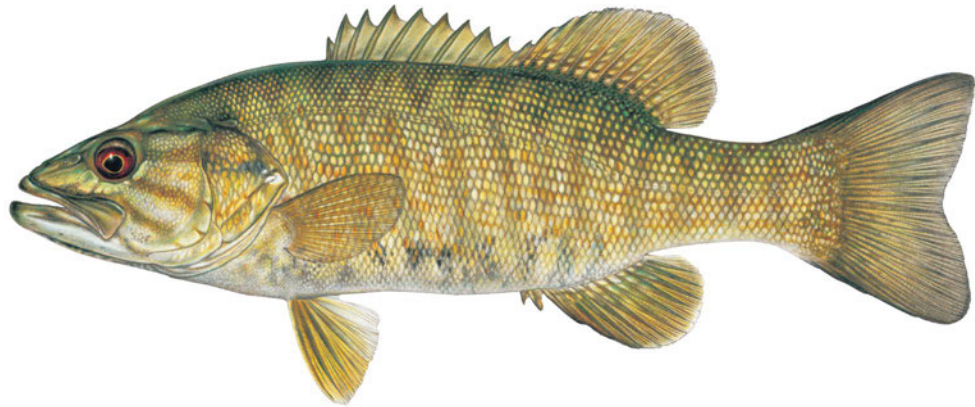


Summary



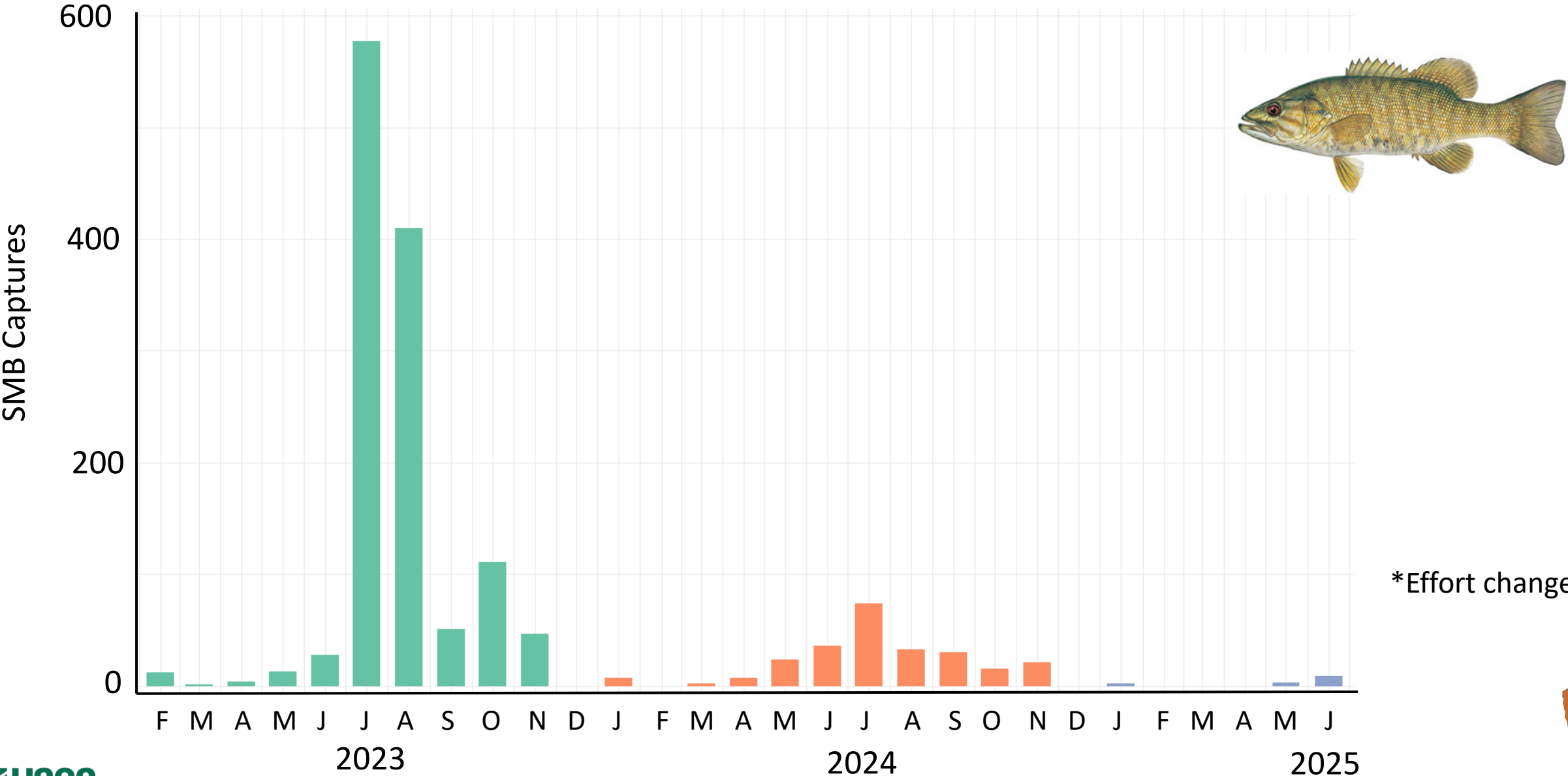
- SMB catch is lower in 2025 compared to 2024
- No evidence of recruitment in 2024 or 2025
- Catch of other nonnatives of concern is lower in 2025 compared to 2024, except for Striped Bass

Questions?



Extra Slides

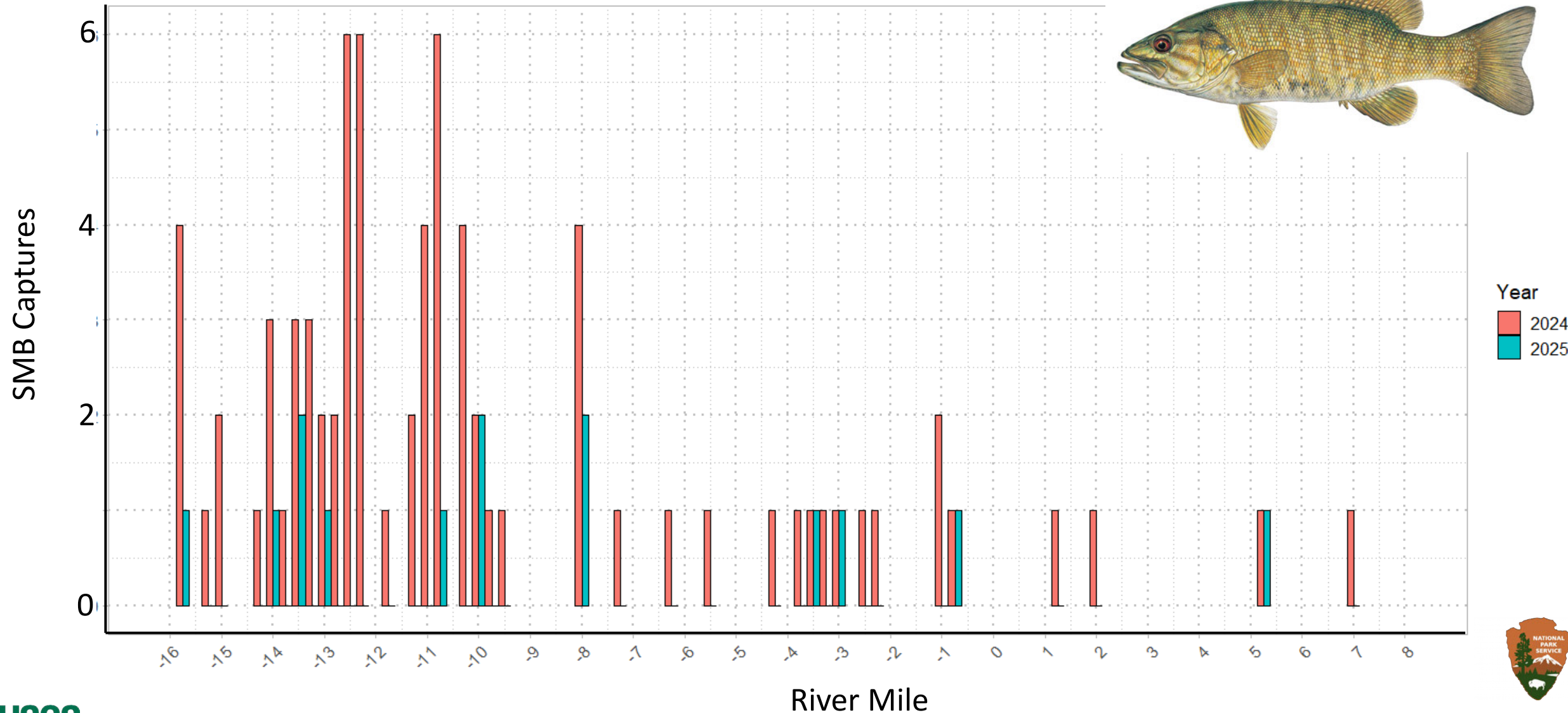
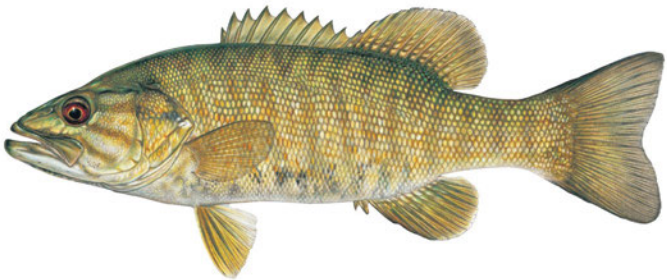
SMB Captures: Glen Canyon Dam to RM 8



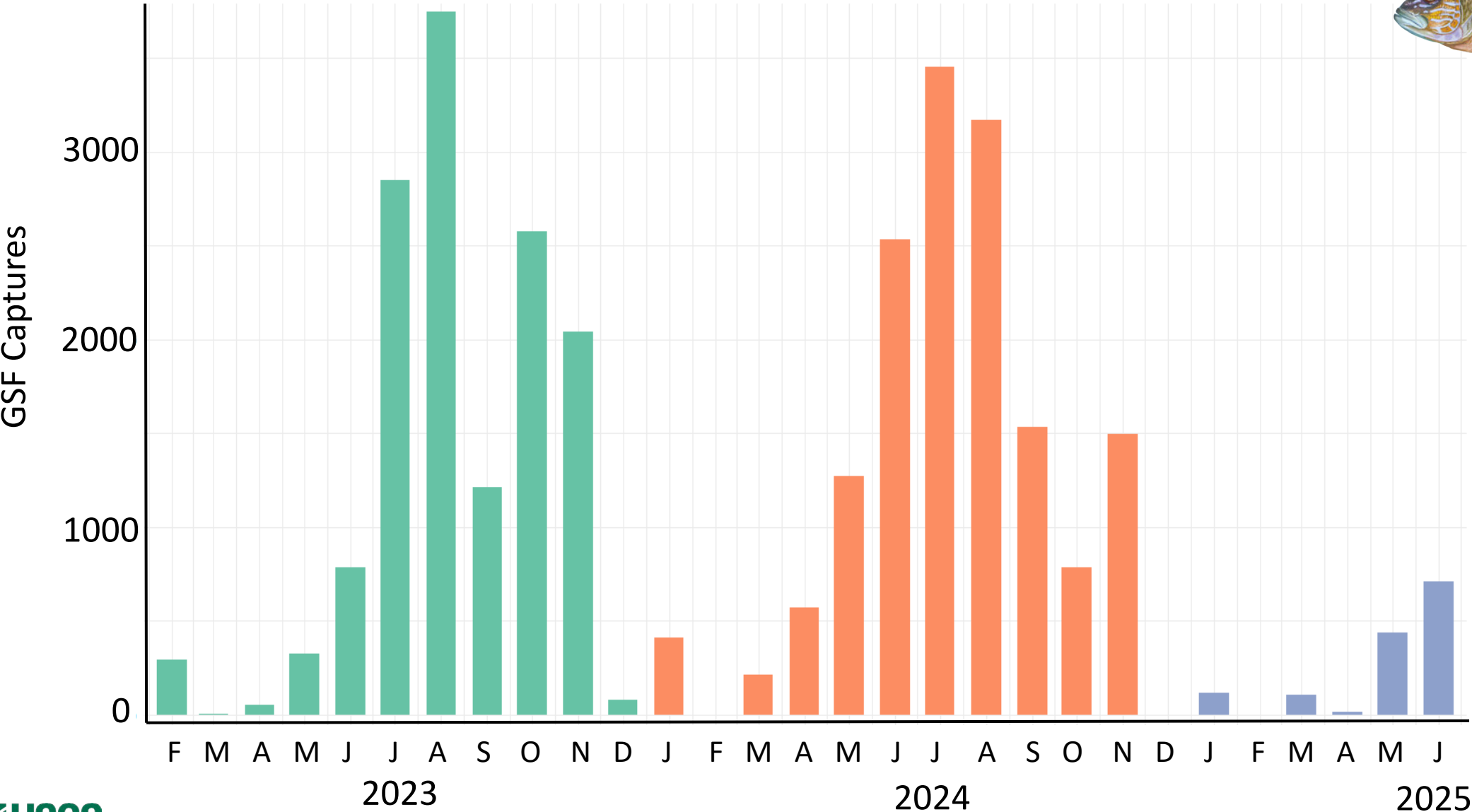
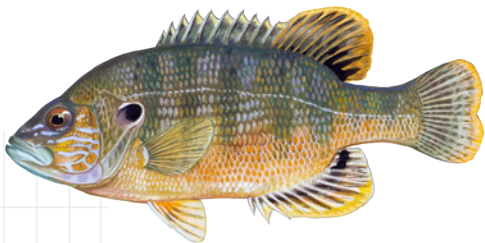
*Effort changes

SMB Captures: Glen Canyon Dam to RM 8

Captures until July 1st for each year



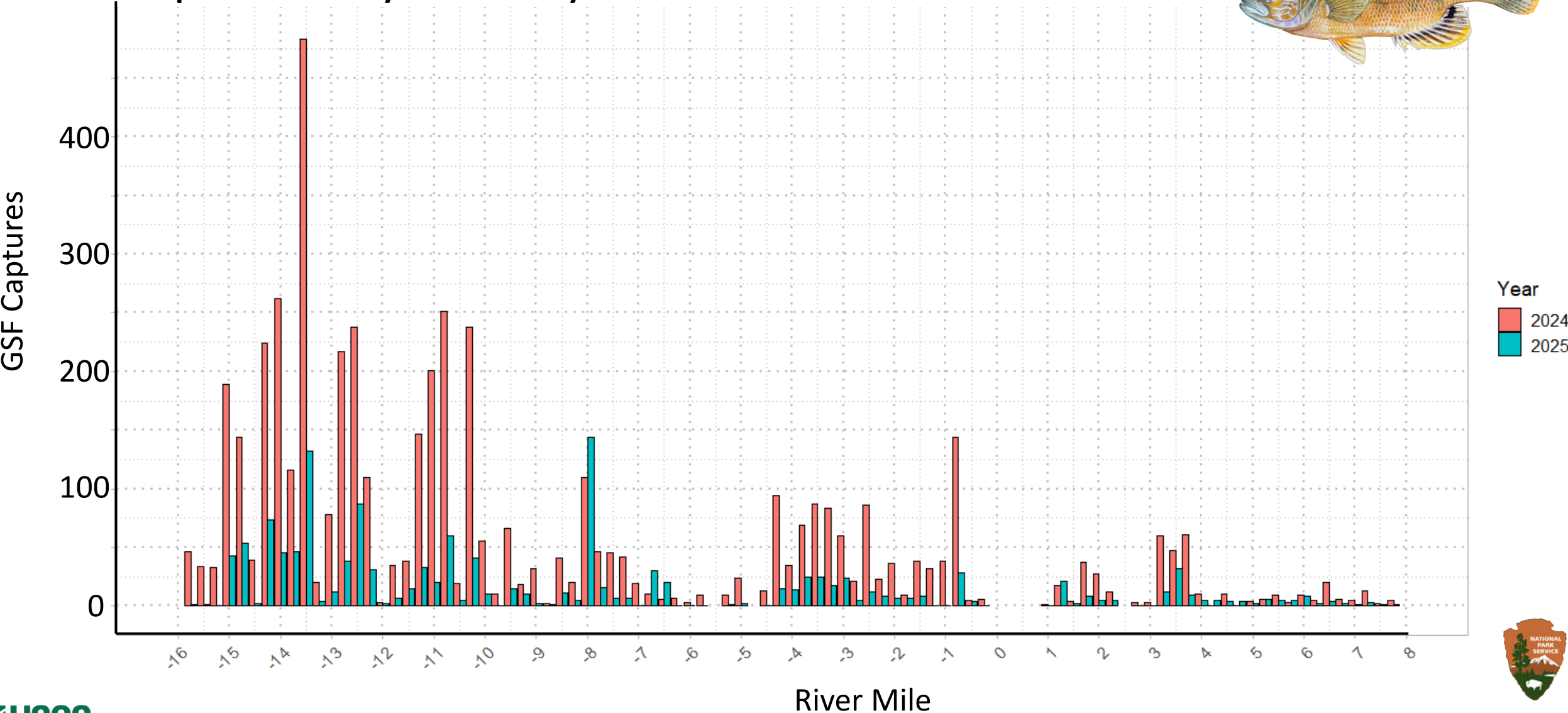
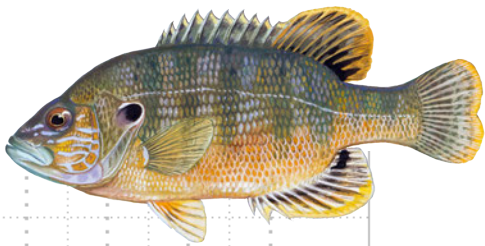
GSF Captures: Glen Canyon Dam to RM 8



*Effort changes

GSF Captures: Glen Canyon Dam to RM 8

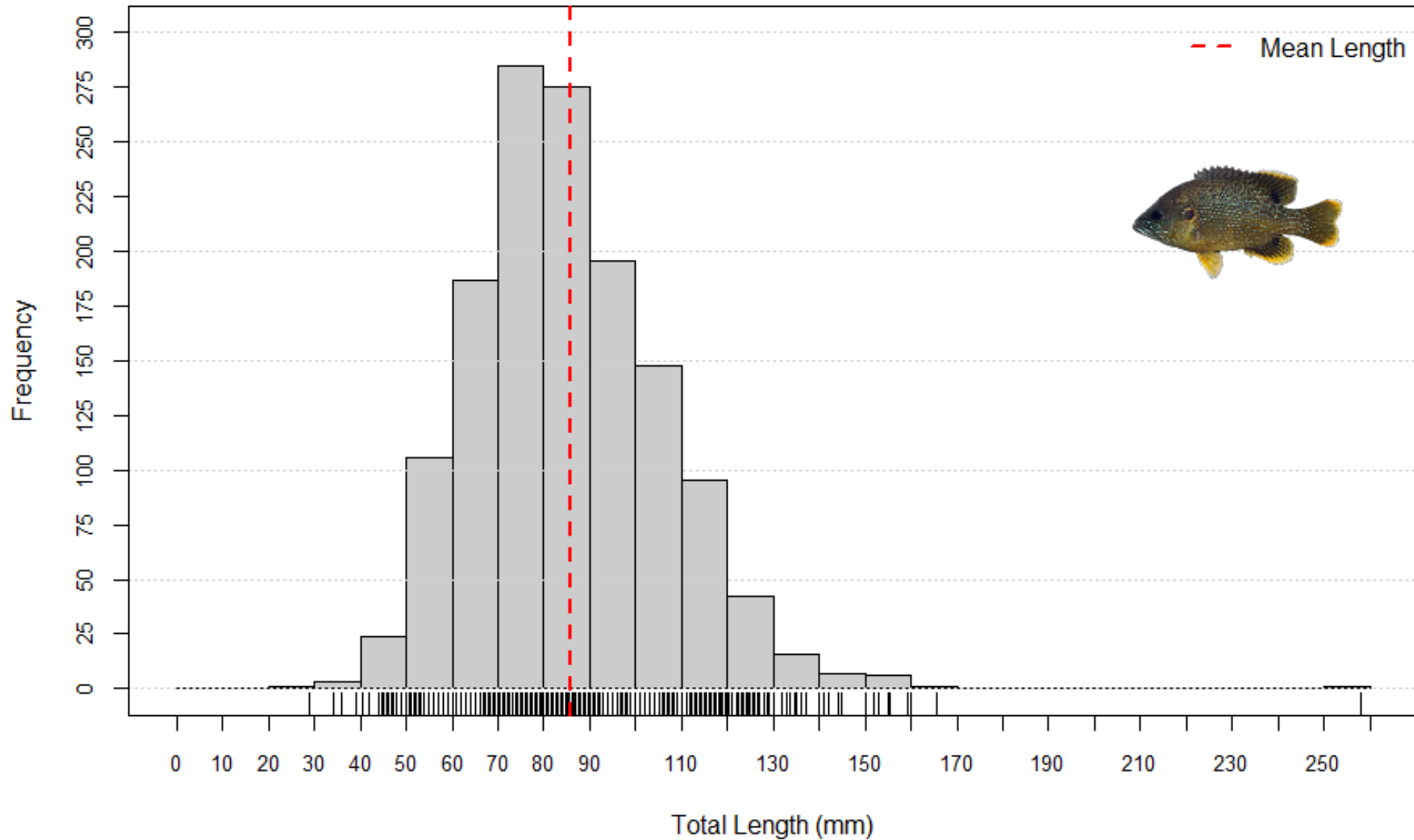
Captures until July 1st for each year



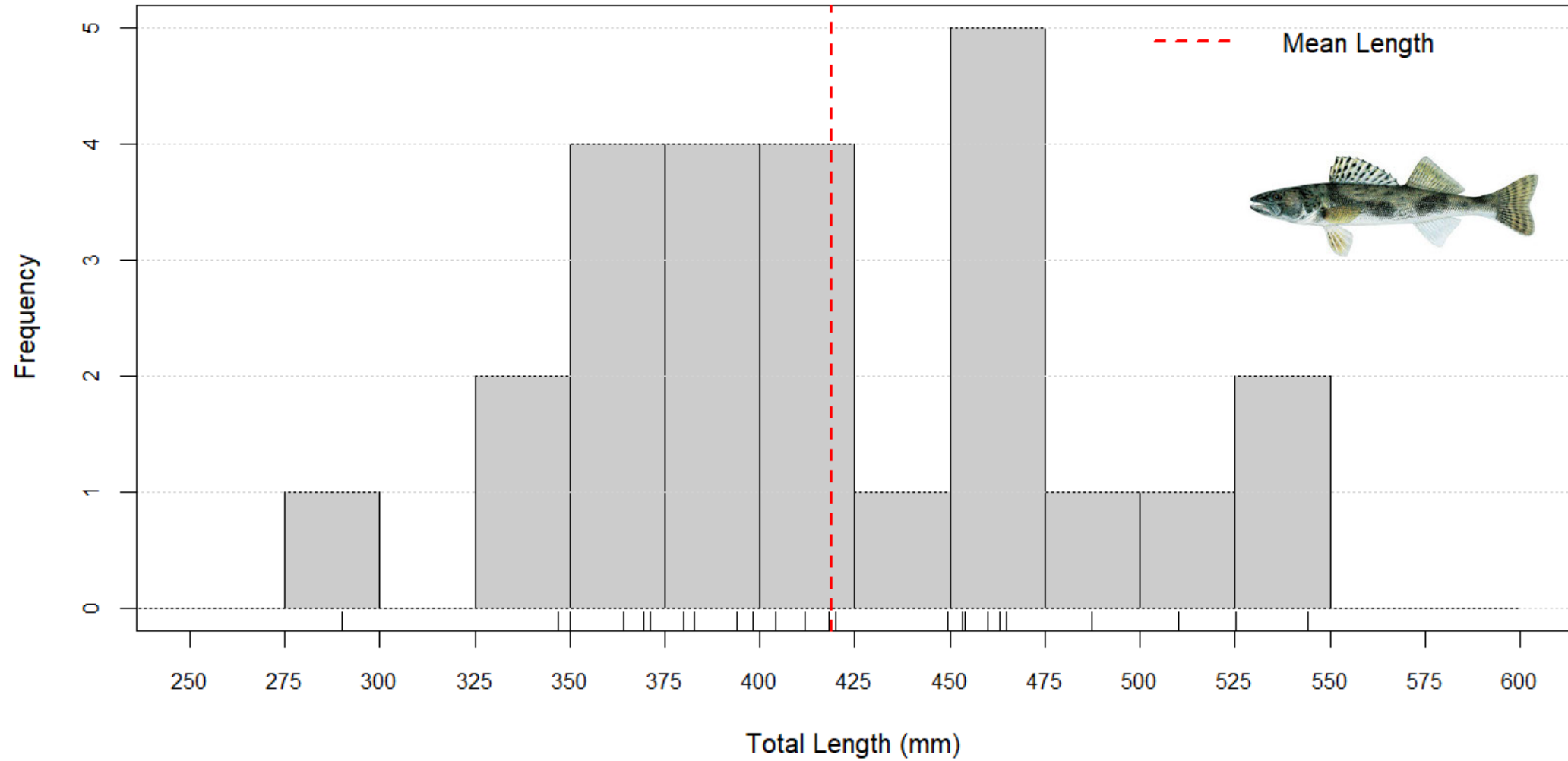
Preliminary data, subject to change, do not cite

Figure: K. Shollenberger, NPS

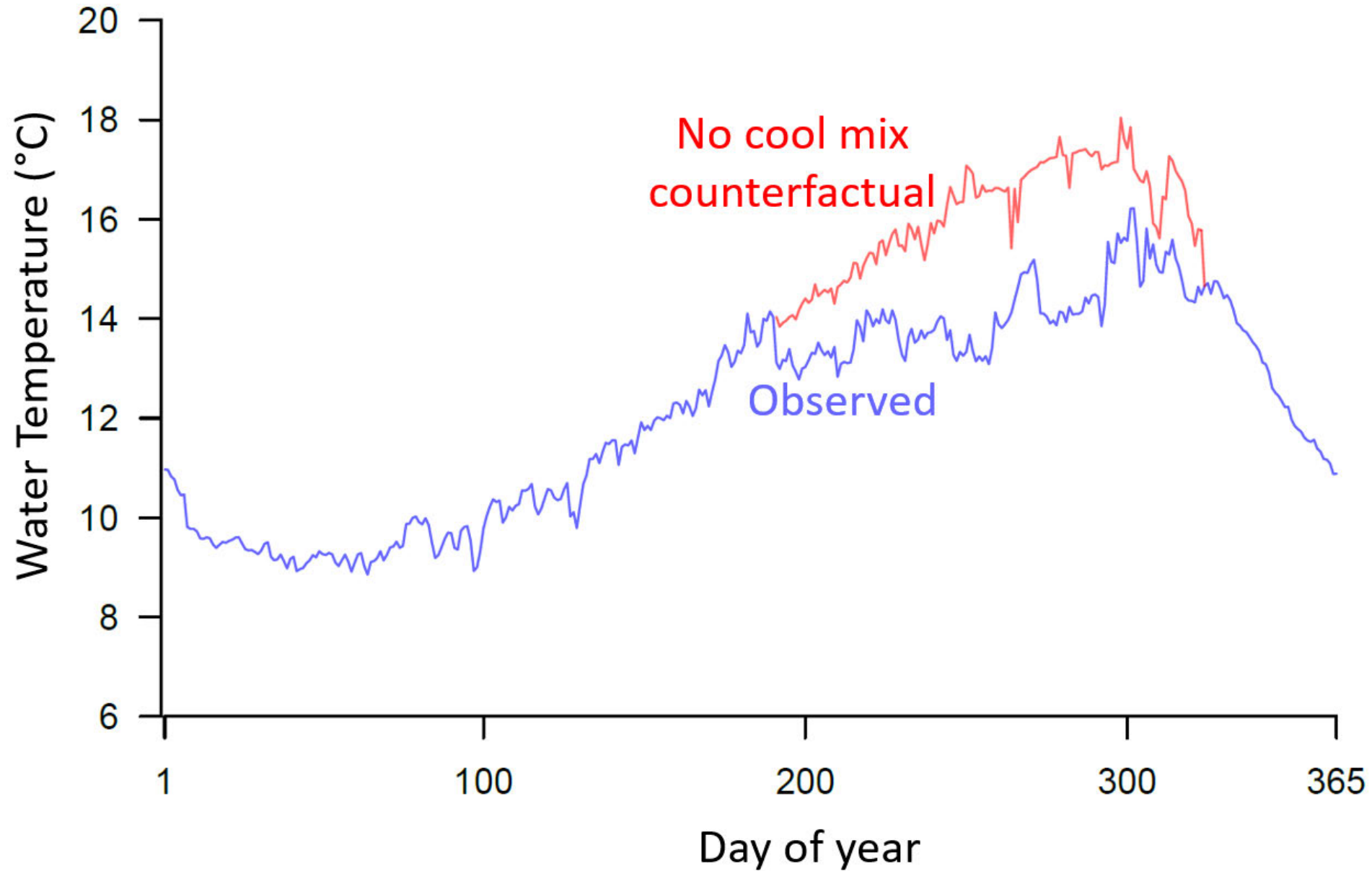
Length Frequency Distribution of Green Sunfish (GSF)



Length Frequency Distribution of Walleye (WAL)



2024: Lees Ferry

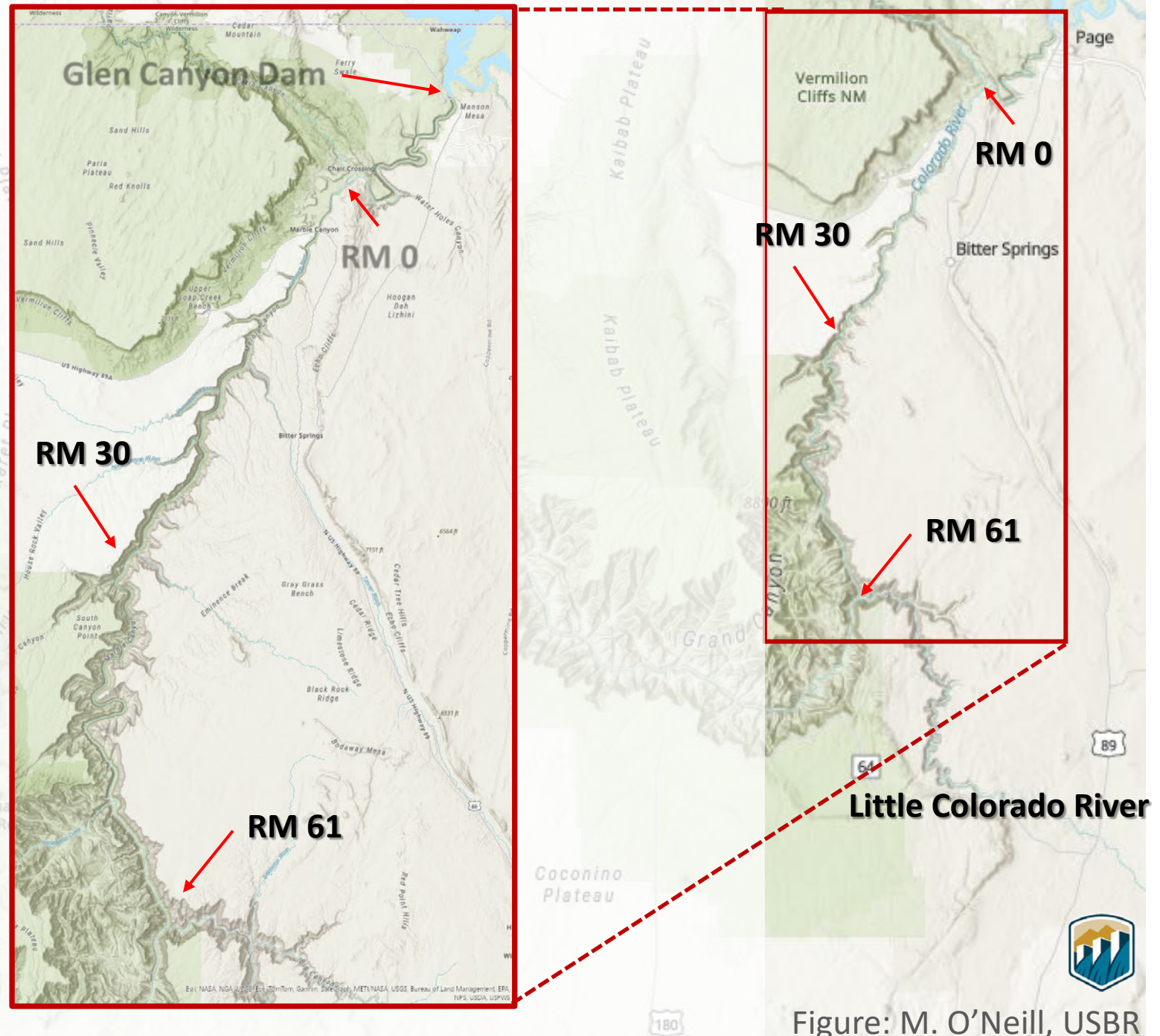






Lees Ferry Tailwater Nonnative Monitoring/Removal

- 19 electrofishing trips
 - 4-day duration with changing reaches



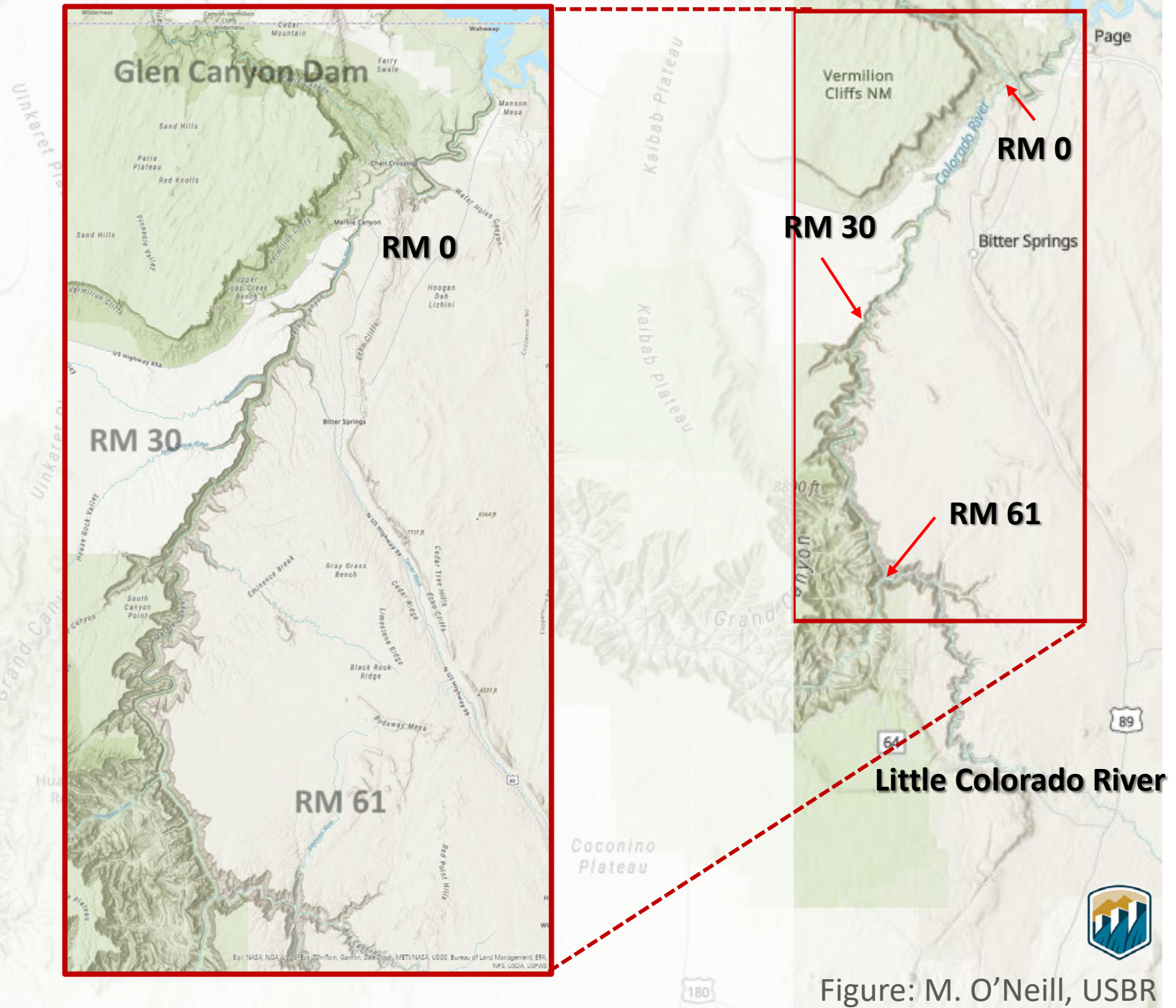
GCMRC AZGFD

TRGD



Lees Ferry Tailwater Trout Monitoring near RM -13 and RM -4

- 4 electrofishing trips
- 6-day duration





Paria to Badger Rapid Nonnative Monitoring/Removal

- 11 electrofishing trips
 - 5-day duration
- 4 seining and hoop-netting trips
 - 3-day duration

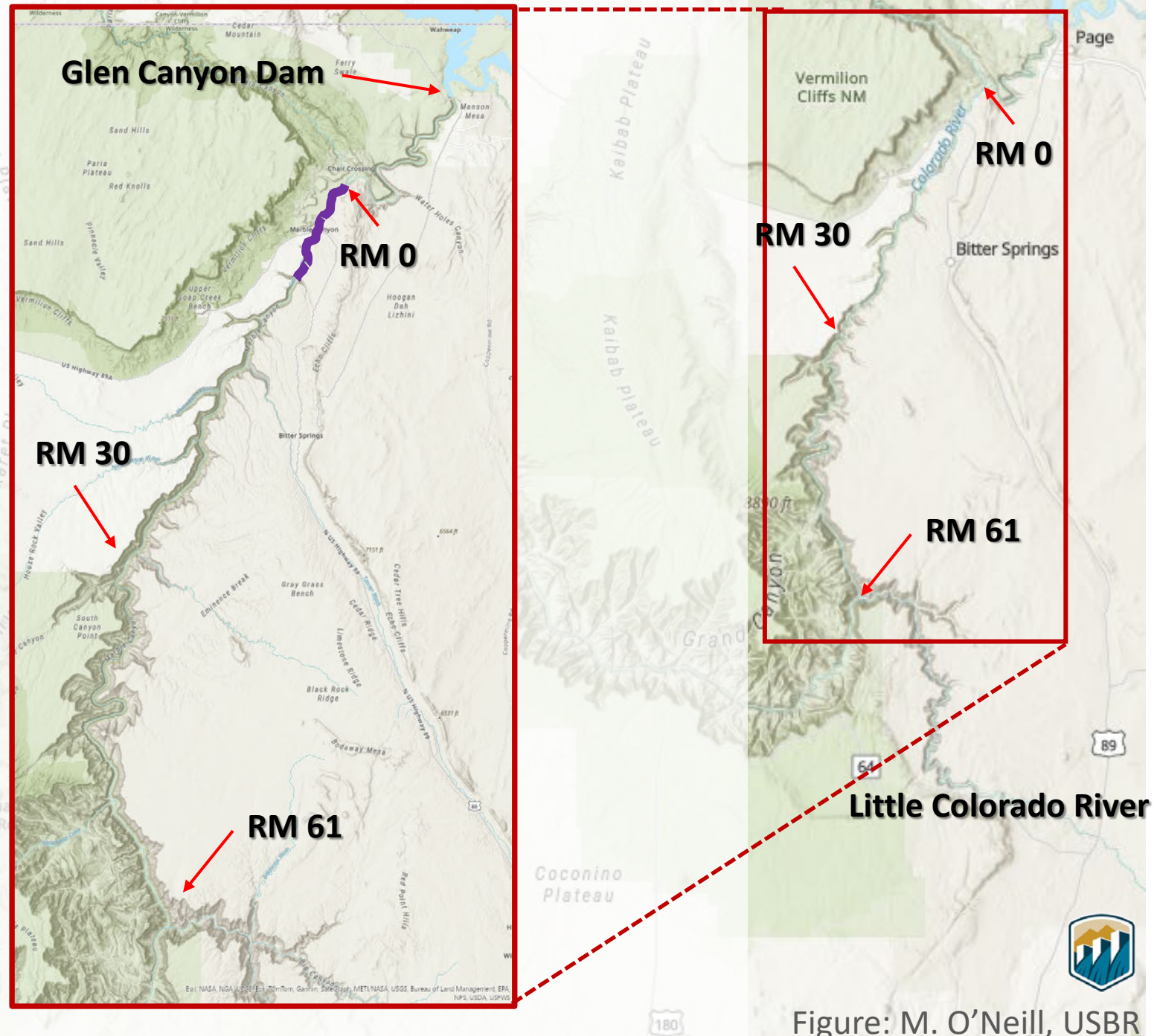


Figure: M. O'Neill, USBR

Juvenile Chub Monitoring

- 3 electrofishing and hoop-netting trips
 - 13-day duration
- ★ 1 night electrofishing at House Rock

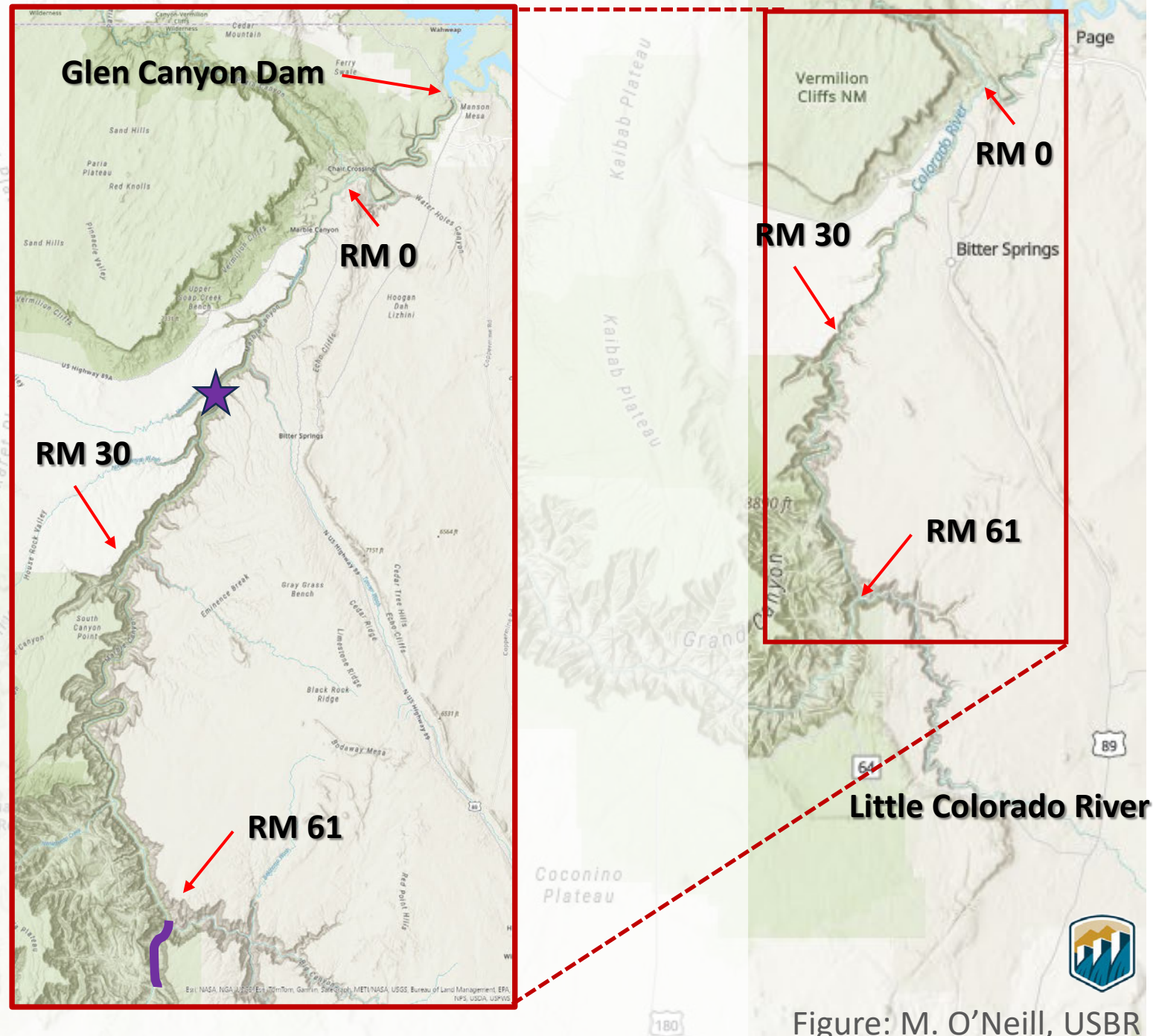
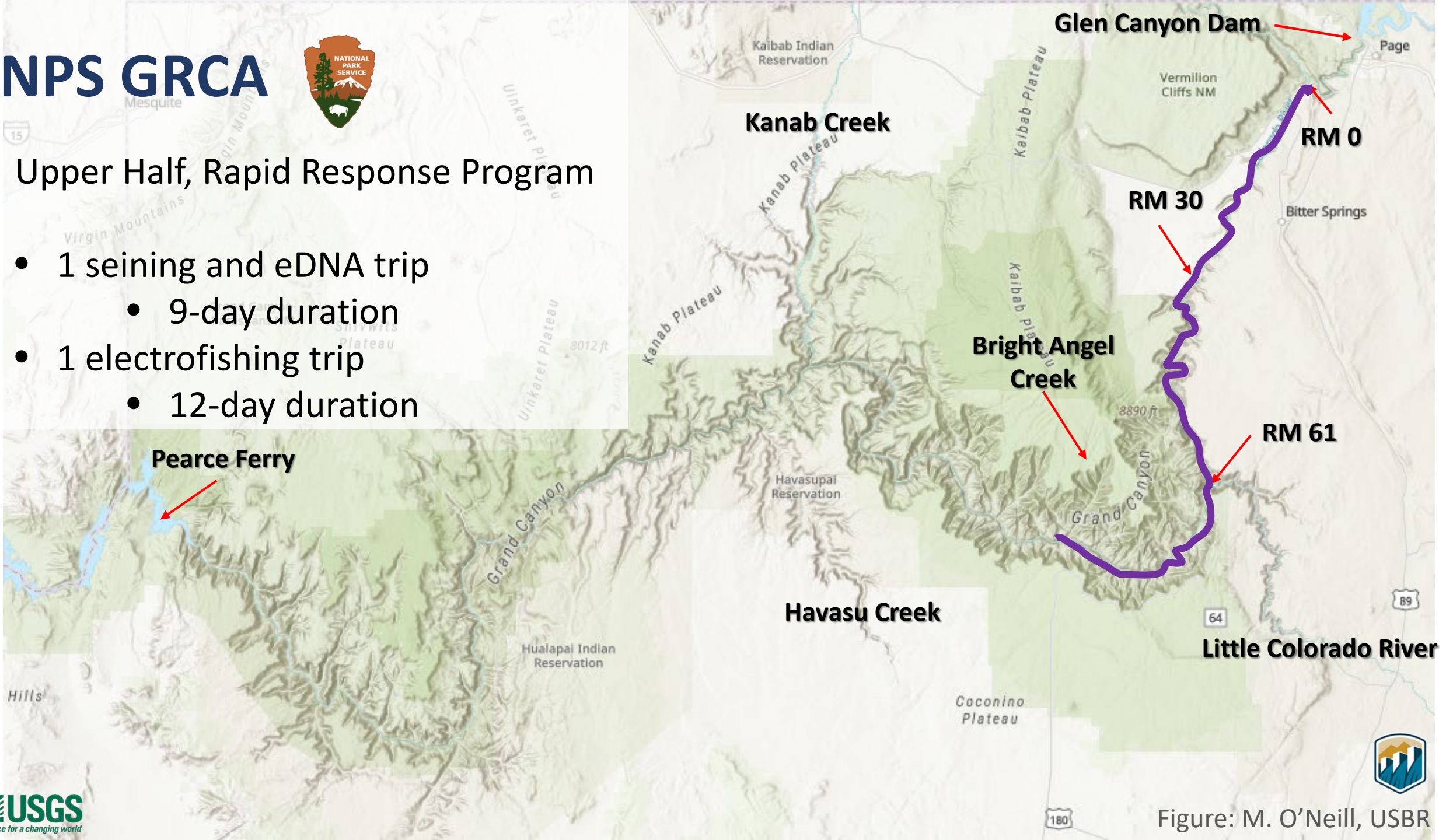


Figure: M. O'Neill, USBR



Upper Half, Rapid Response Program

- 1 seining and eDNA trip
 - 9-day duration
- 1 electrofishing trip
 - 12-day duration





Nonnative Surveillance, HBC Aggregations

- 1 seining and hoop-netting trip
 - 12-day duration



Figure: M. O'Neill, USBR

AZGFD



System Wide Monitoring

- 2 electrofishing and hoop-netting trips
 - 16-day duration



Figure: M. O'Neill, USBR

USFWS



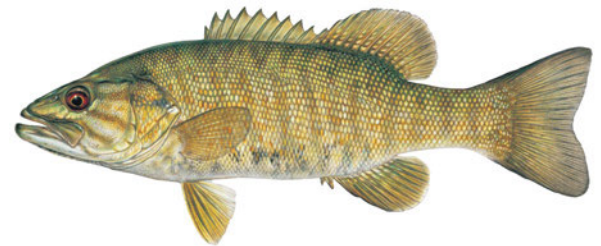
HBC Aggregations

- 1 hoop-netting and opportunistic seining trip
 - 19-day duration



Figure: M. O'Neill, USBR

SMB History



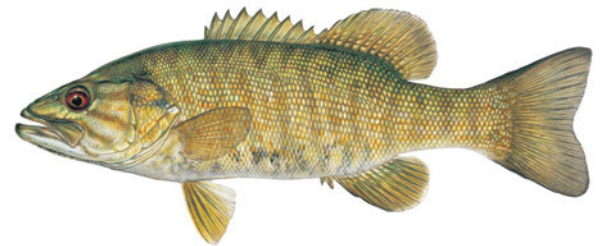
Lake Powell

Lake Mead

Colorado River



SMB History



Lake Mead

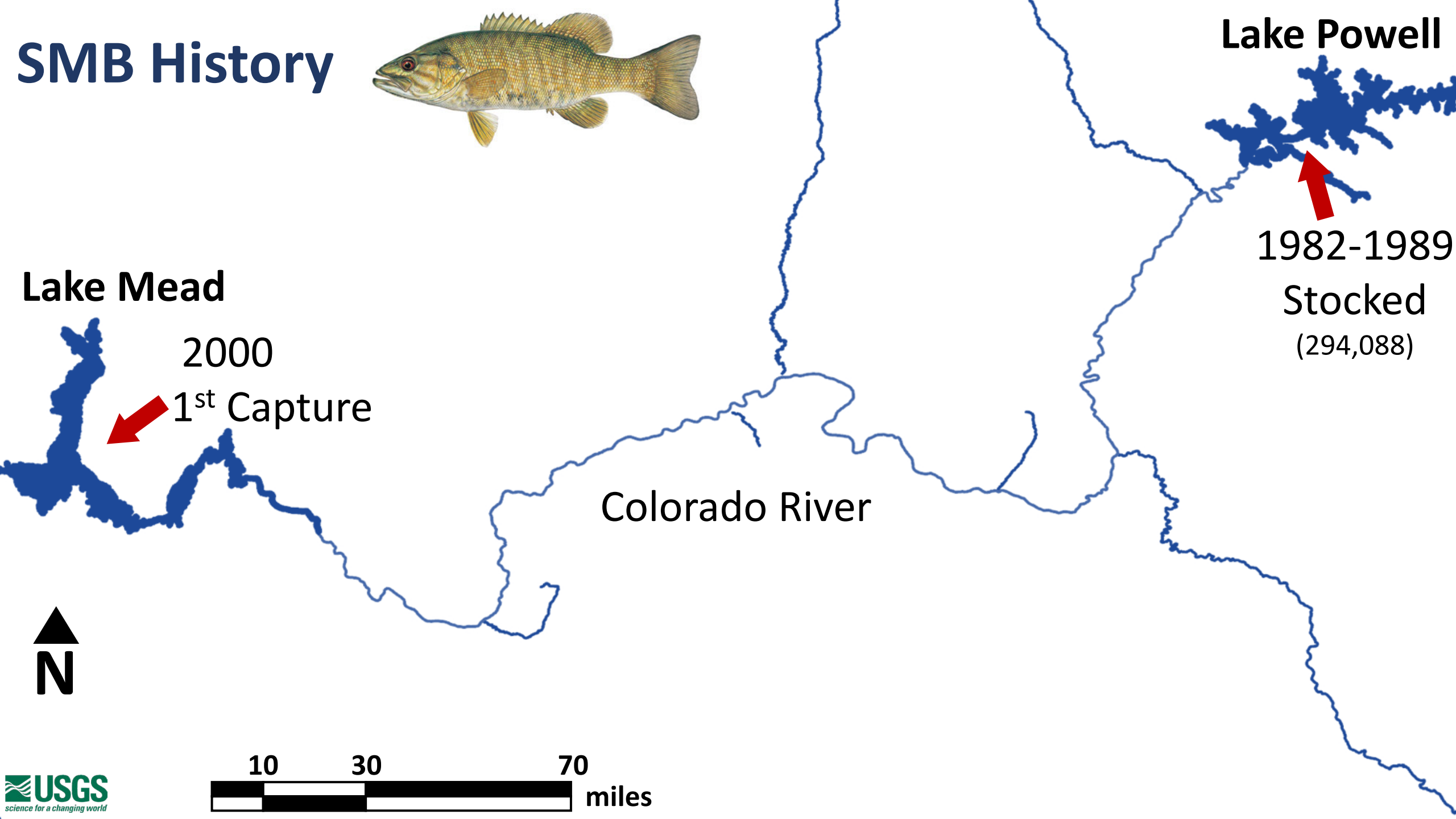
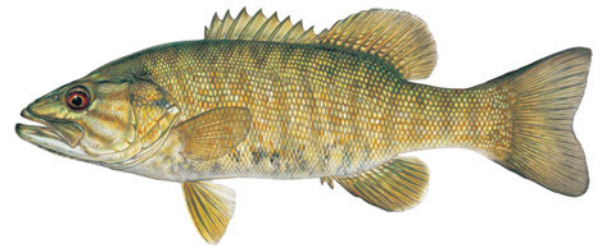
Lake Powell

1982-1989
Stocked
(294,088)

Colorado River



SMB History



Lake Mead

2000

1st Capture

Lake Powell

1982-1989

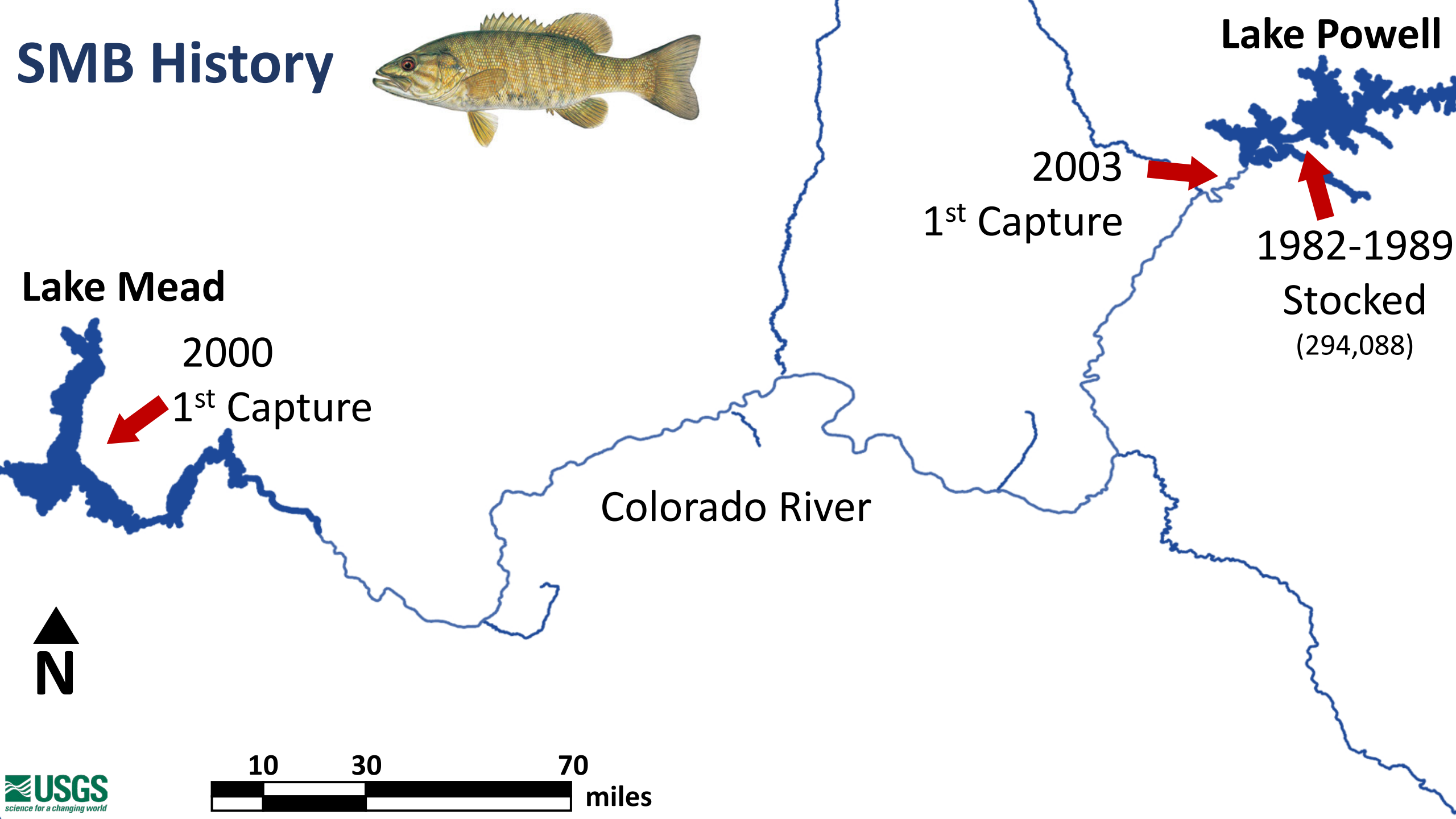
Stocked

(294,088)

Colorado River



SMB History



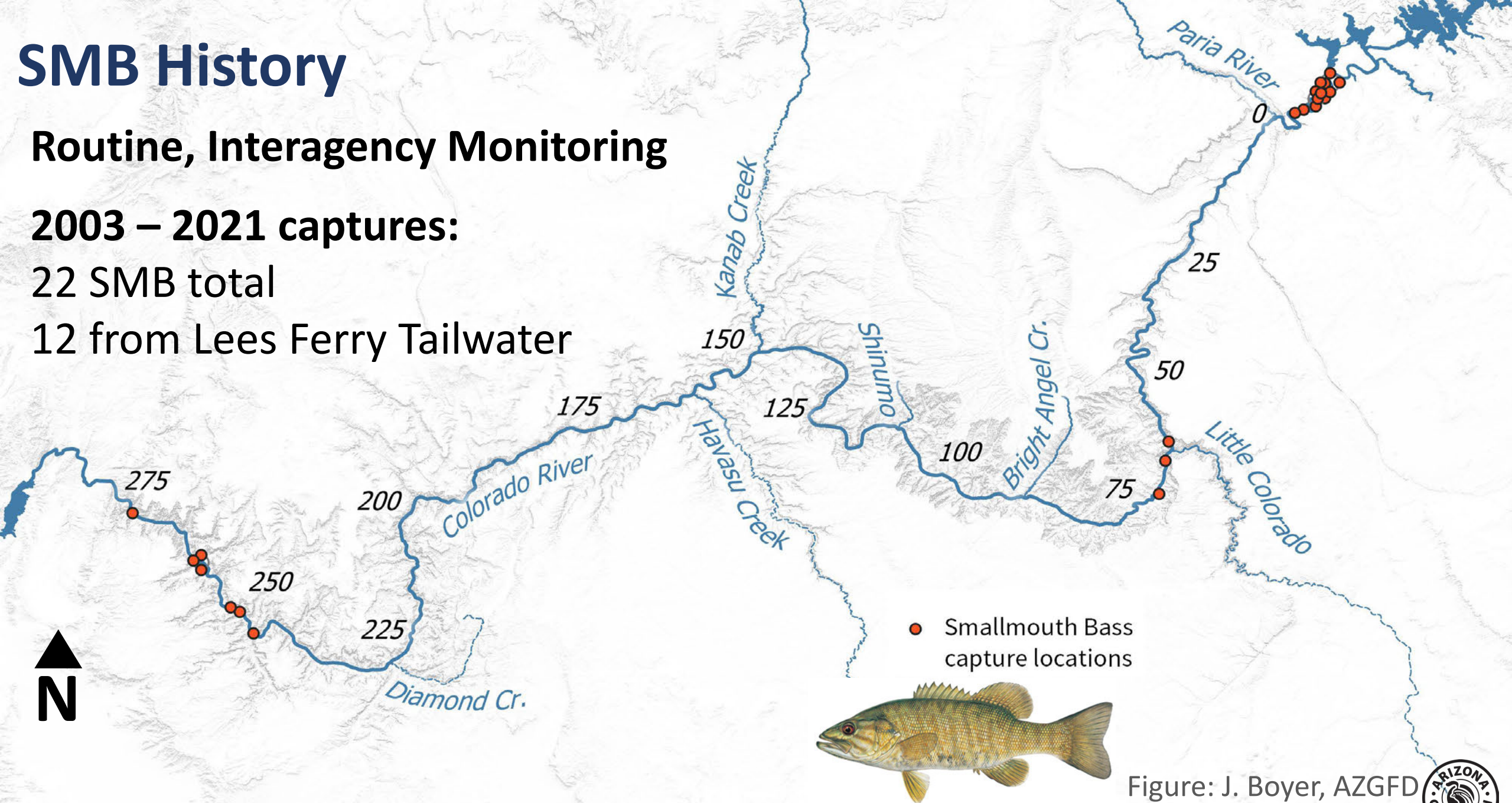
SMB History

Routine, Interagency Monitoring

2003 – 2021 captures:

22 SMB total

12 from Lees Ferry Tailwater



*Spatial distribution of effort differs through time

Figure: J. Boyer, AZGFD
D. Rogowski, AZGFD

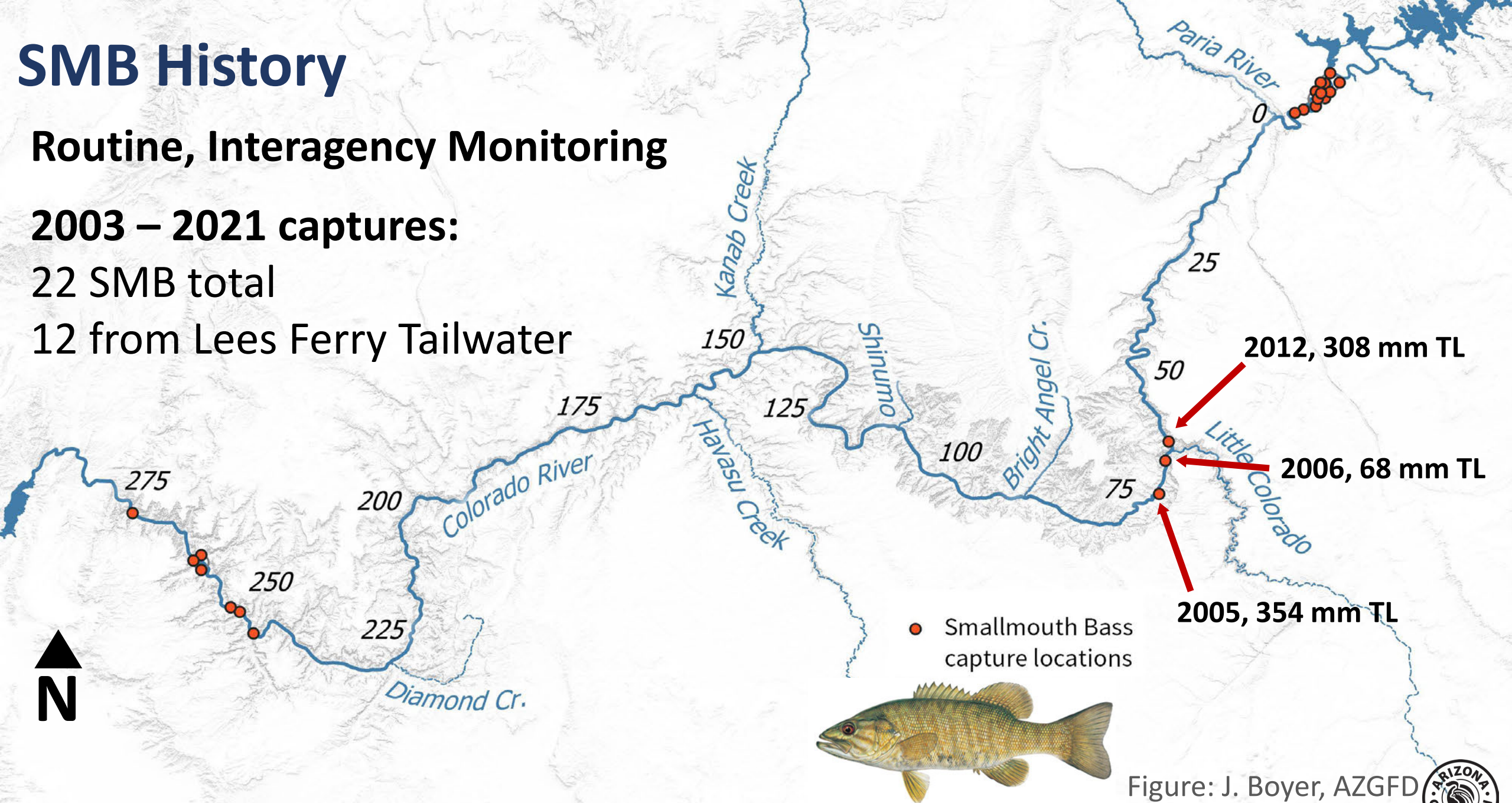
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Figure: J. Boyer, AZGFD
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