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National Park Service
U.S. Department of Interior

Status of Smallmouth Bass and Other Non-Native Fish

Current Results and 2026 Plans



Glen Canyon NRA, Nicki Gibney, NPS

Acknowledgements



Many thanks to the biologists, boat operators, support staff, and others who contribute to our understanding of nonnative fish population dynamics in Glen Canyon and Grand Canyon.

With help from Kim Dibble, Maria Dzul, Brian Healy, Lindsay Hansen, Ben Miller, Kate Behn, Kiona Allen, Shonie Hardeen, Svea Conrad, Tom Gushue, Ann-Marie Bringham, Lucien Bucci, Daniela Tirado, Tommy Franklin, Conor Clancy, Laura Tennant, Sue Wood, Ryan Green, Pilar Rinker, Mike Pillow, Tiffany Love-Chezem, Dale Fonken, Trenton Schipper, and many others.



Current Mainstem Temperatures



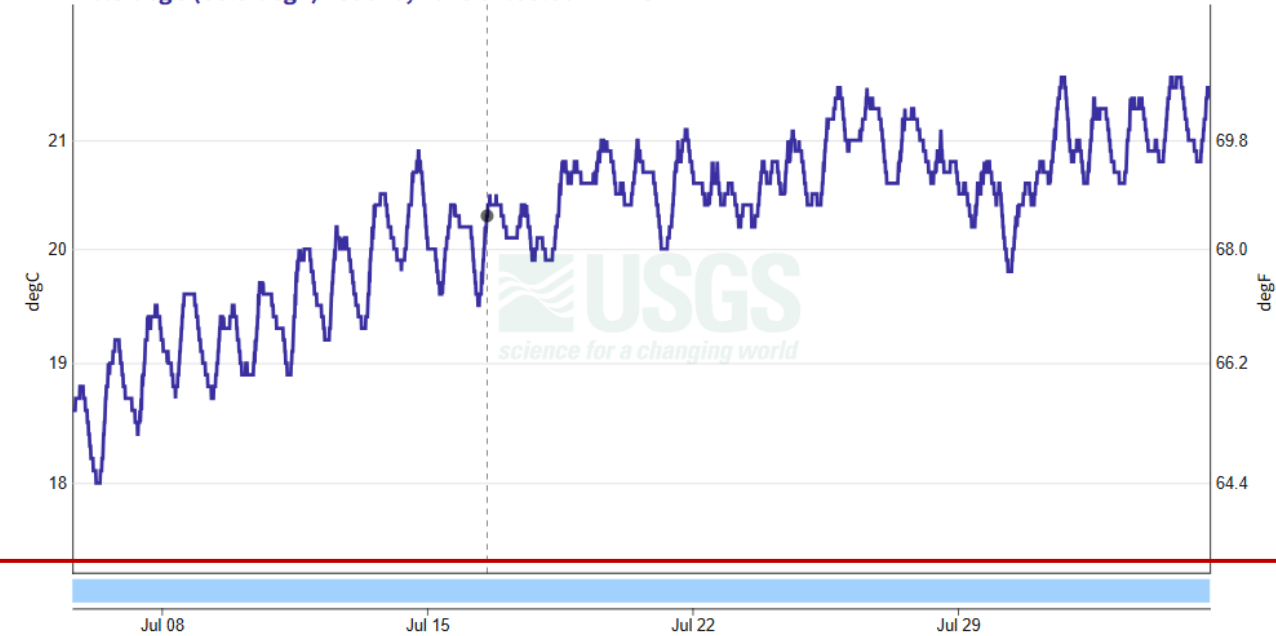
Powell Elevation (8/11/26): 3520.6 ft

Colorado River Near River Mile 30 - USGS-09383050

[Subscribe to WaterAlert](#)

July 5, 2026 - August 4, 2026
Temperature, water, degrees Celsius GCMRC Section

20.3 degC (68.5 degF) - Jul 16, 2026 02:00:00 PM MST

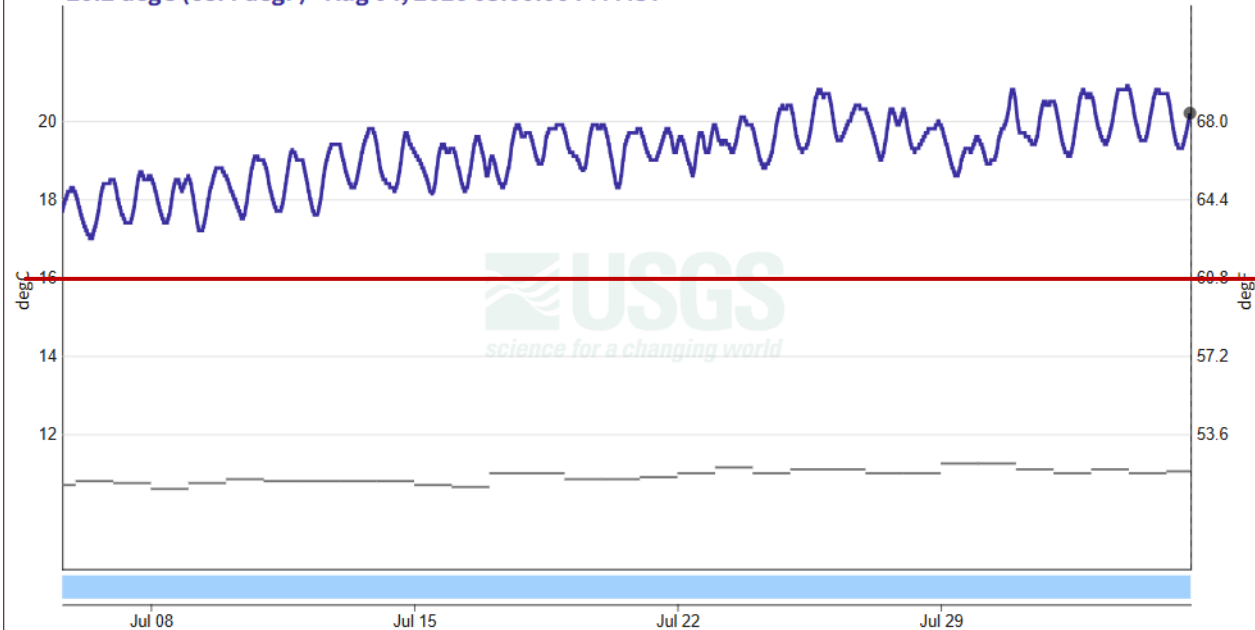


Colorado River at Lees Ferry, AZ - USGS-09380000

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July 5, 2026 - August 4, 2026
Temperature, water, degrees Celsius

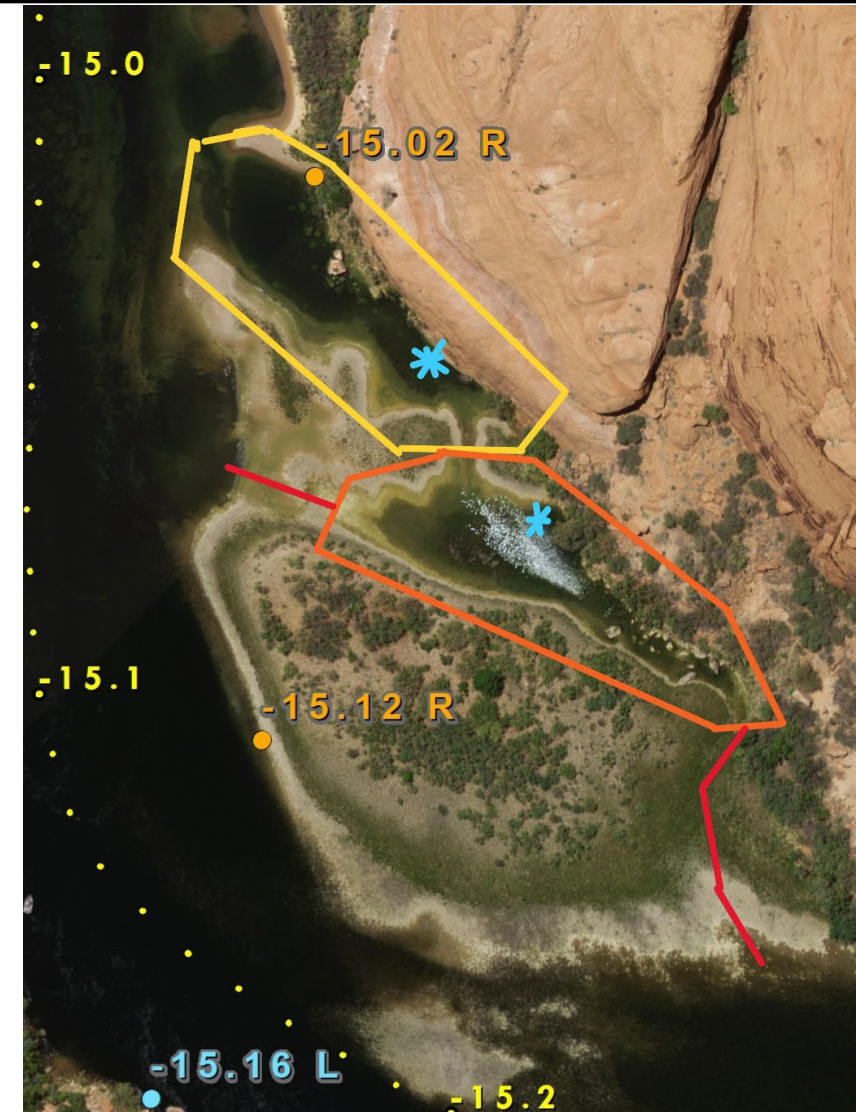
20.2 degC (68.4 degF) - Aug 04, 2026 03:00:00 PM MST





Areas of Concern

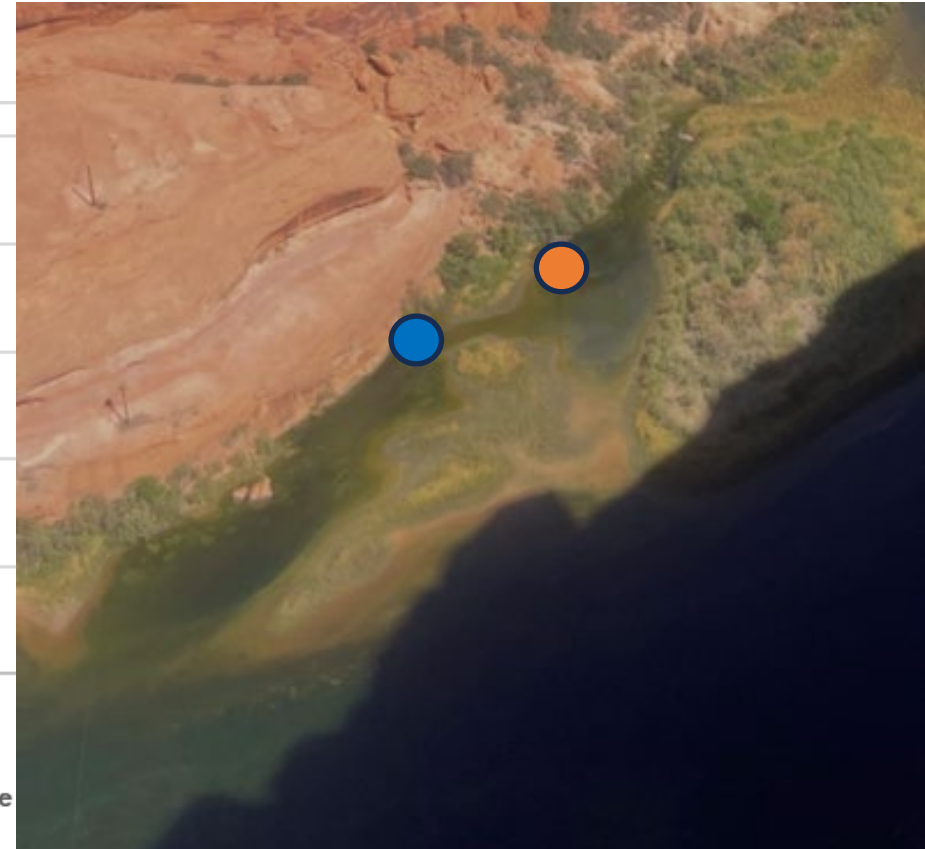
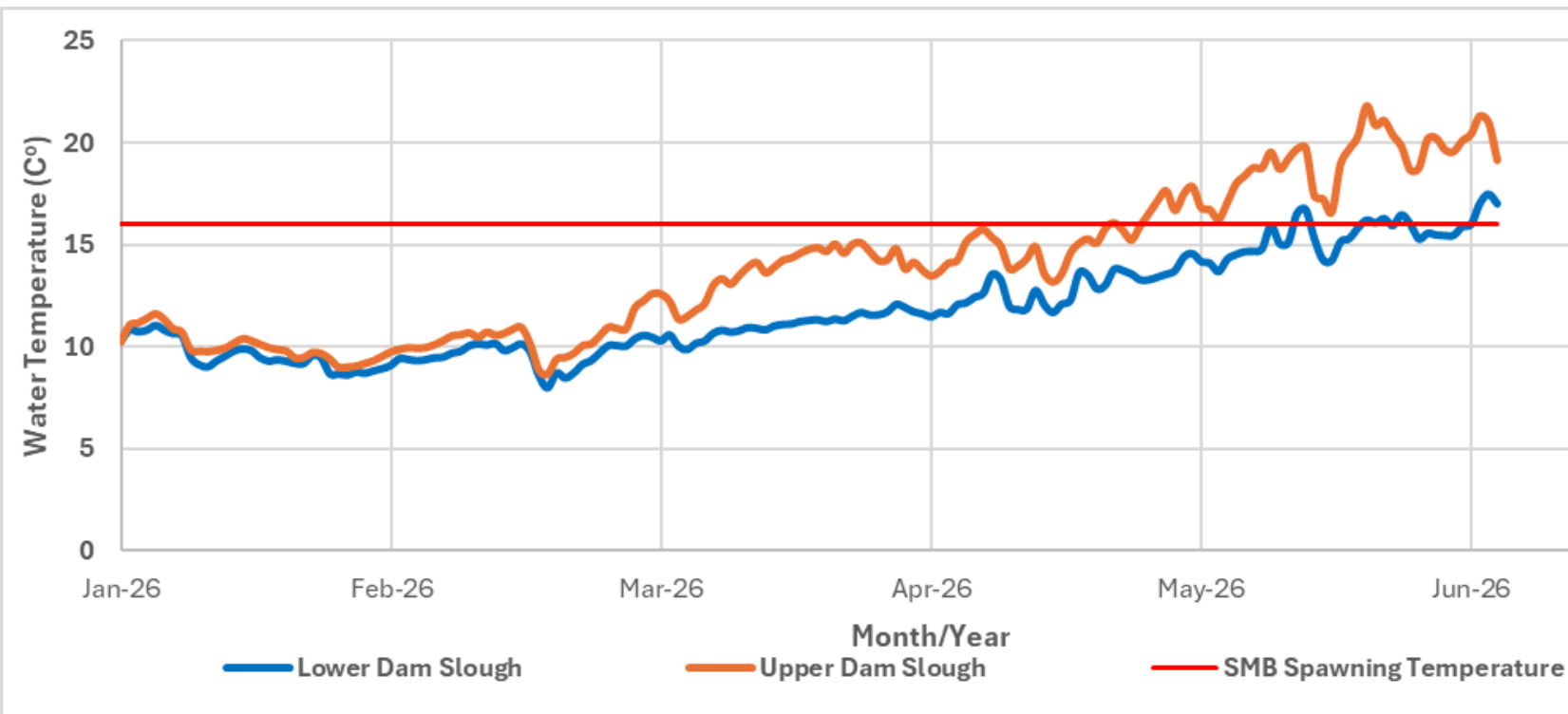
- Upper Dam Slough (orange polygon)
- Lower Dam Slough (yellow polygon)
- Above Dam Slough near (RM-15.3R)
- Near Frogwater (RM -11.82R)
- RM-12 Reconstructed Slough
- Lunch Beach Slough



Current Backwater Water Temperatures



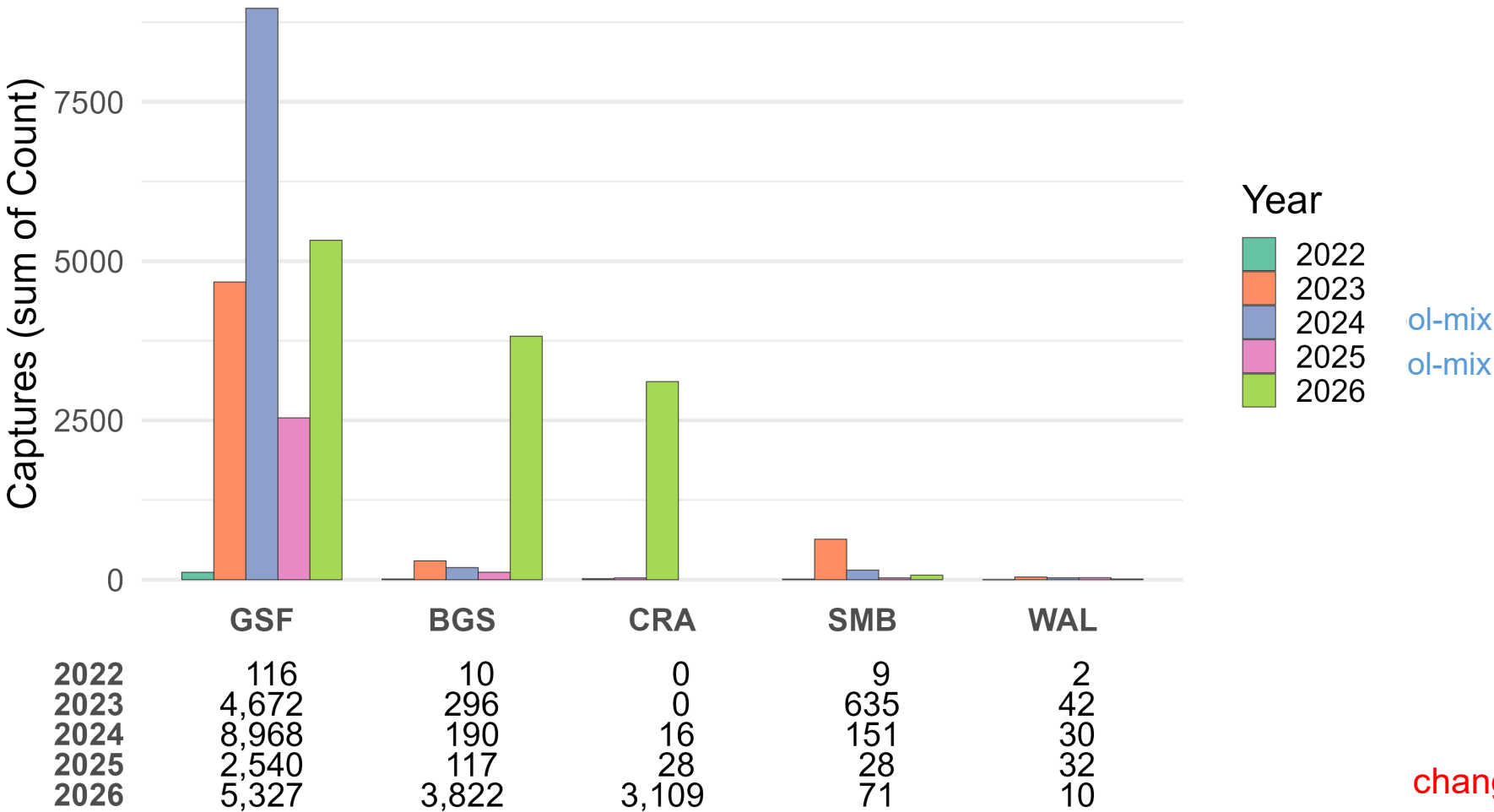
Dam Slough (RM -15.0 R)



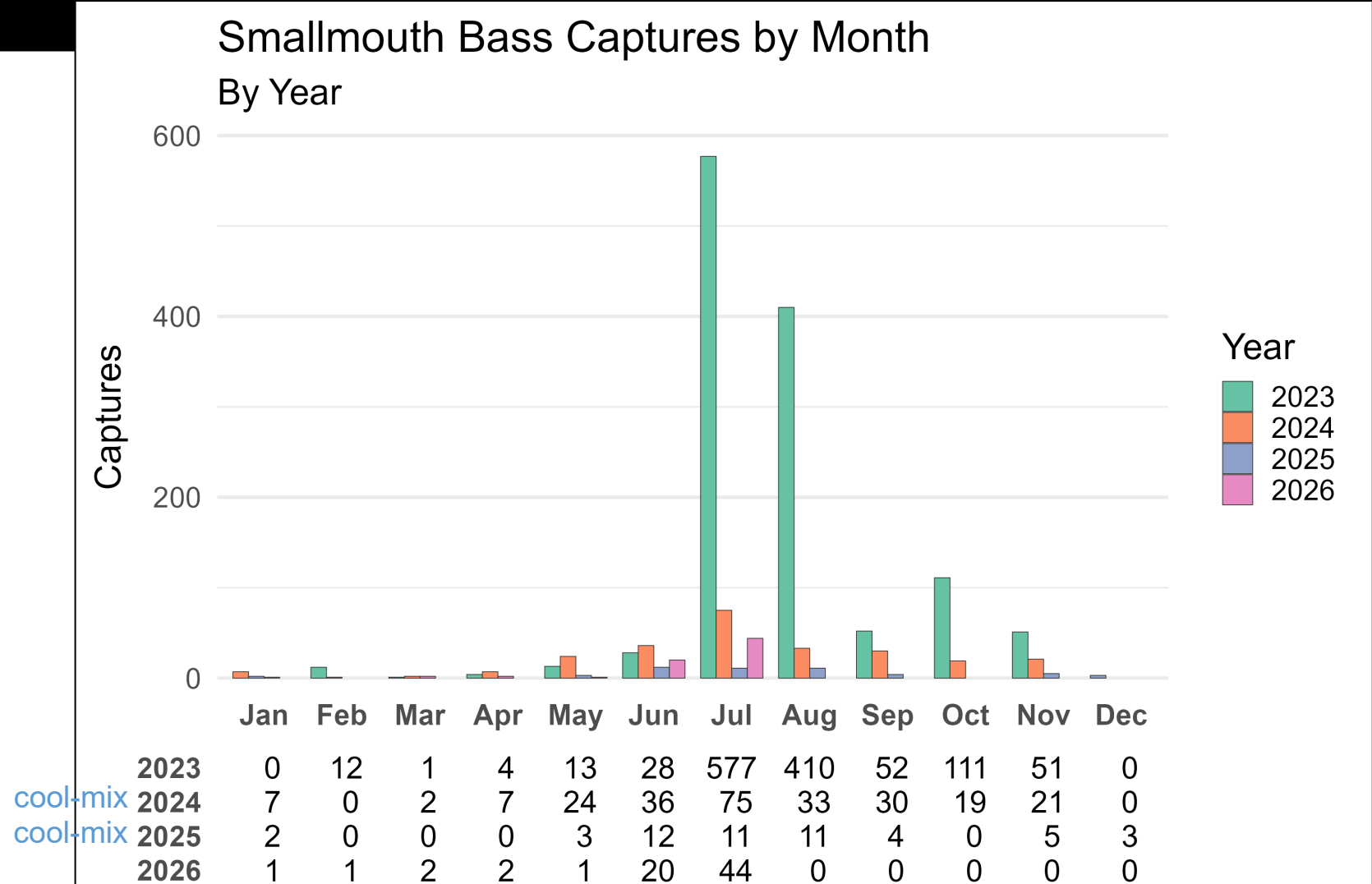
Non-Native Captures



Total Captures by Species
Grouped by year (Jan 1 – Jul 31 each year)



2026 Smallmouth Bass Findings



- 71 total SMB caught so far in 2026
- 65 through electrofishing
 - 6 through netting

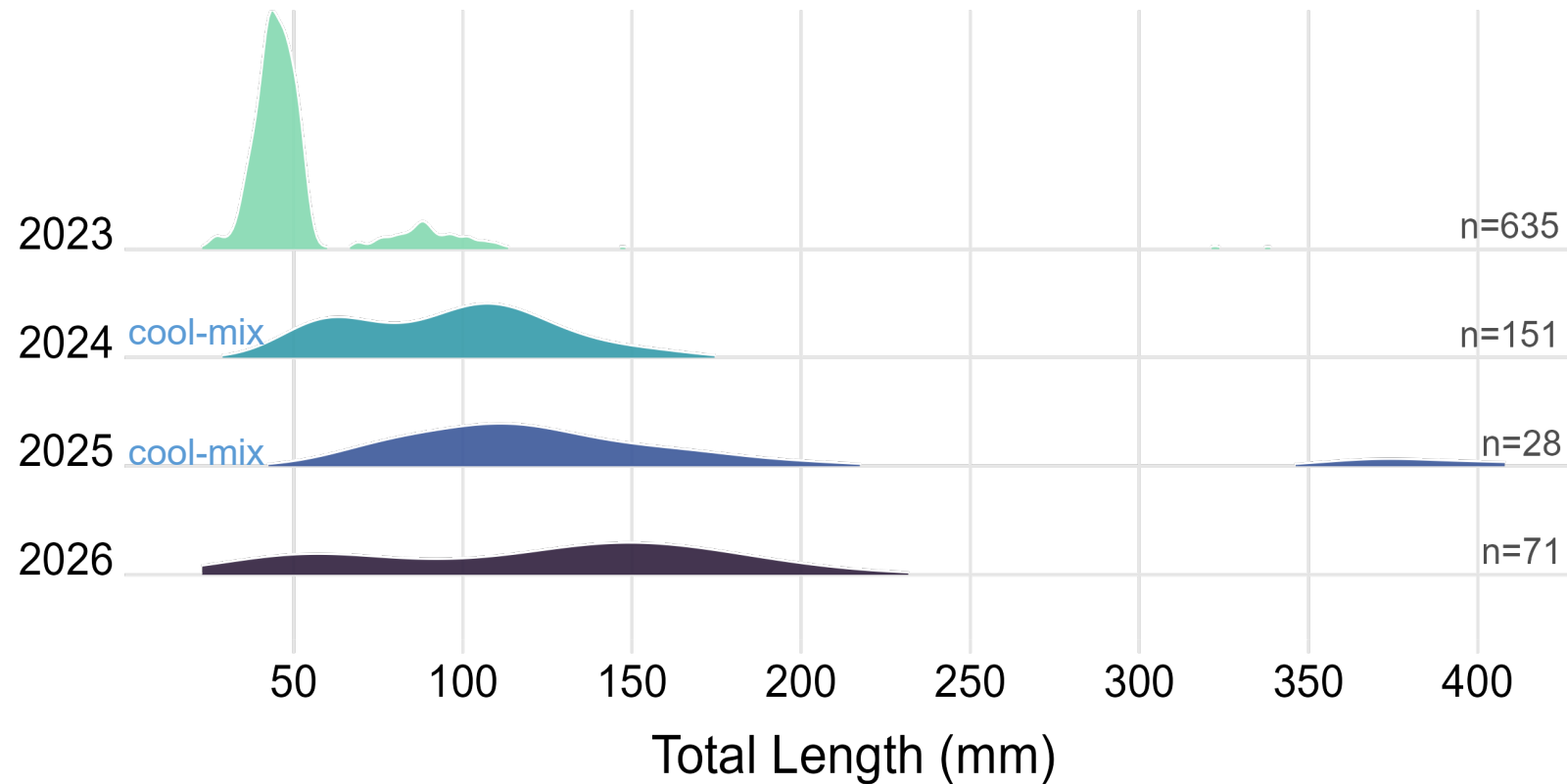
*effort has changed over time

2026 Smallmouth Bass Findings



Length Frequency – SMB

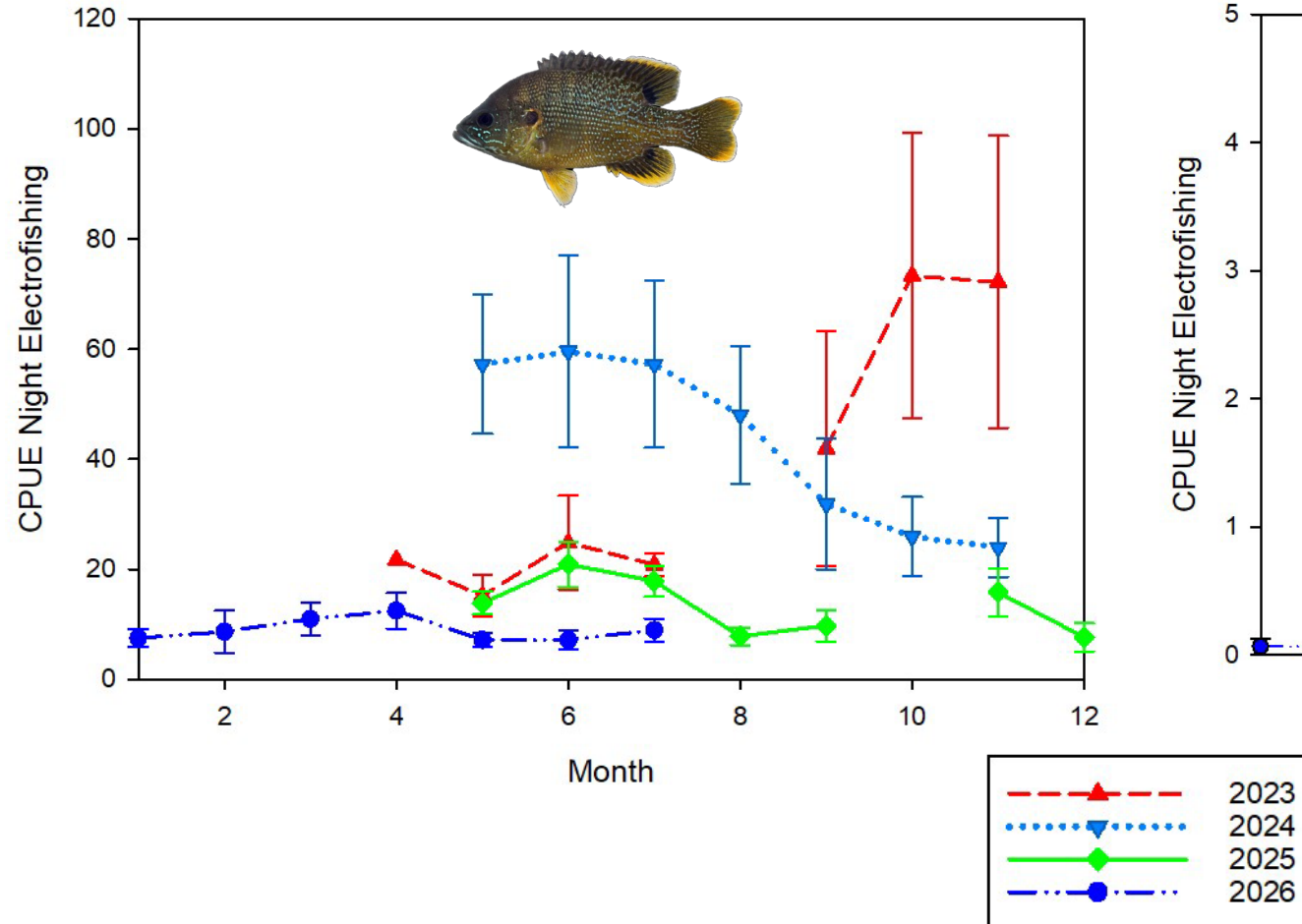
Density by year · TL, Jan 1 – Jul 31



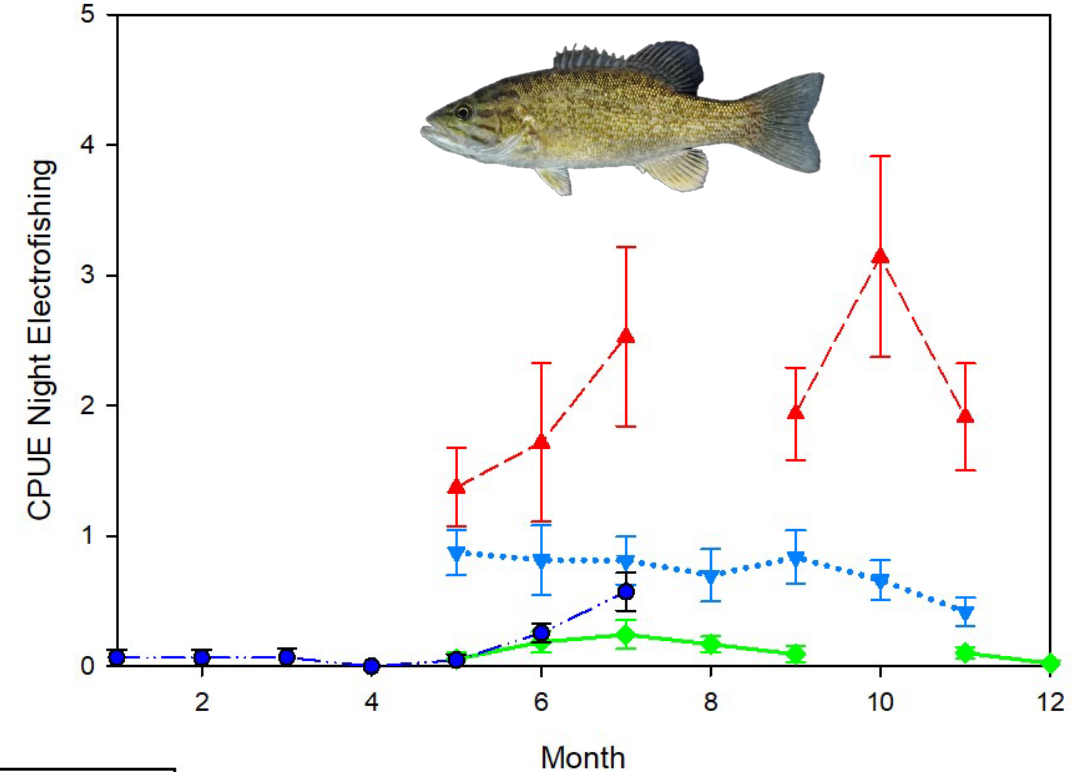


Electrofishing Catch Per Unit Effort (CPUE)

Green Sunfish



Smallmouth Bass

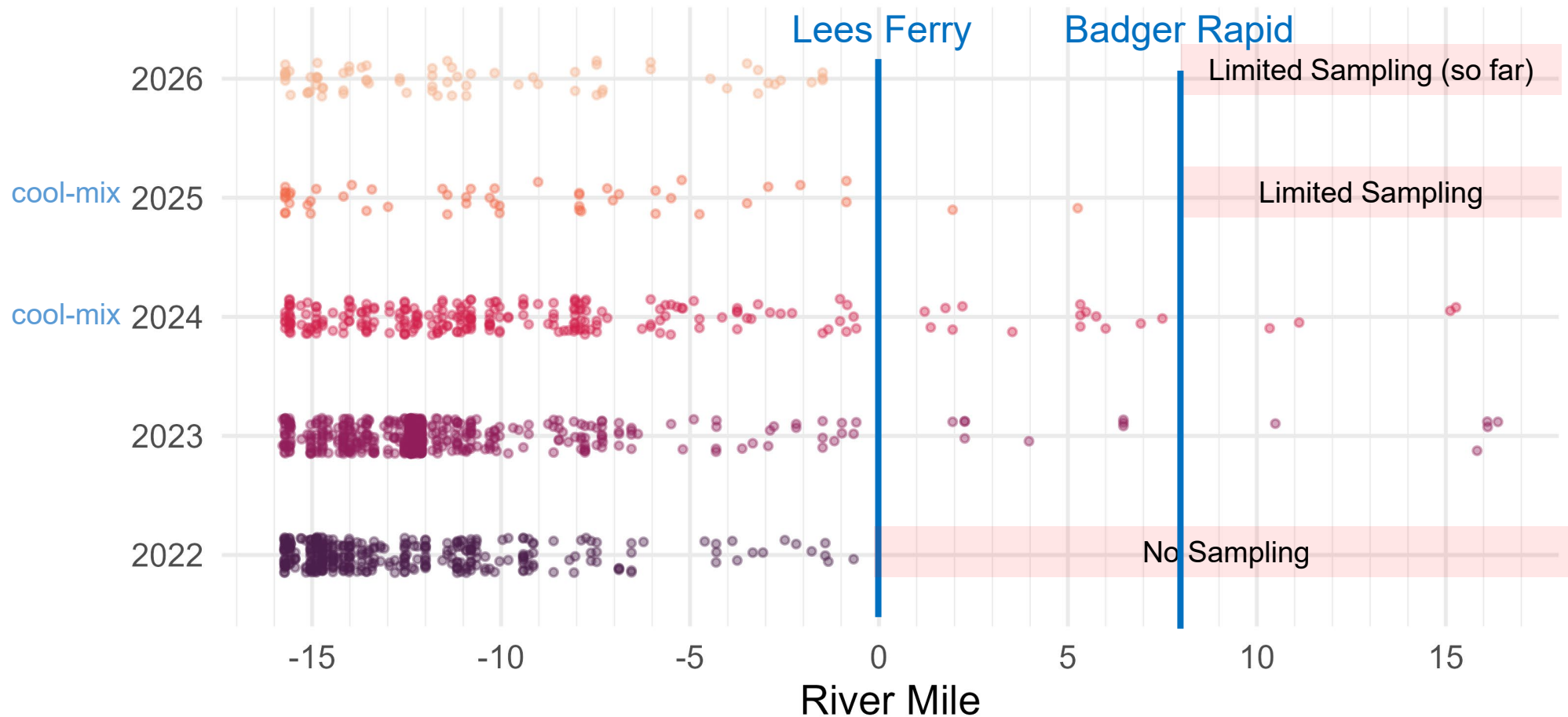


Smallmouth Bass Distribution

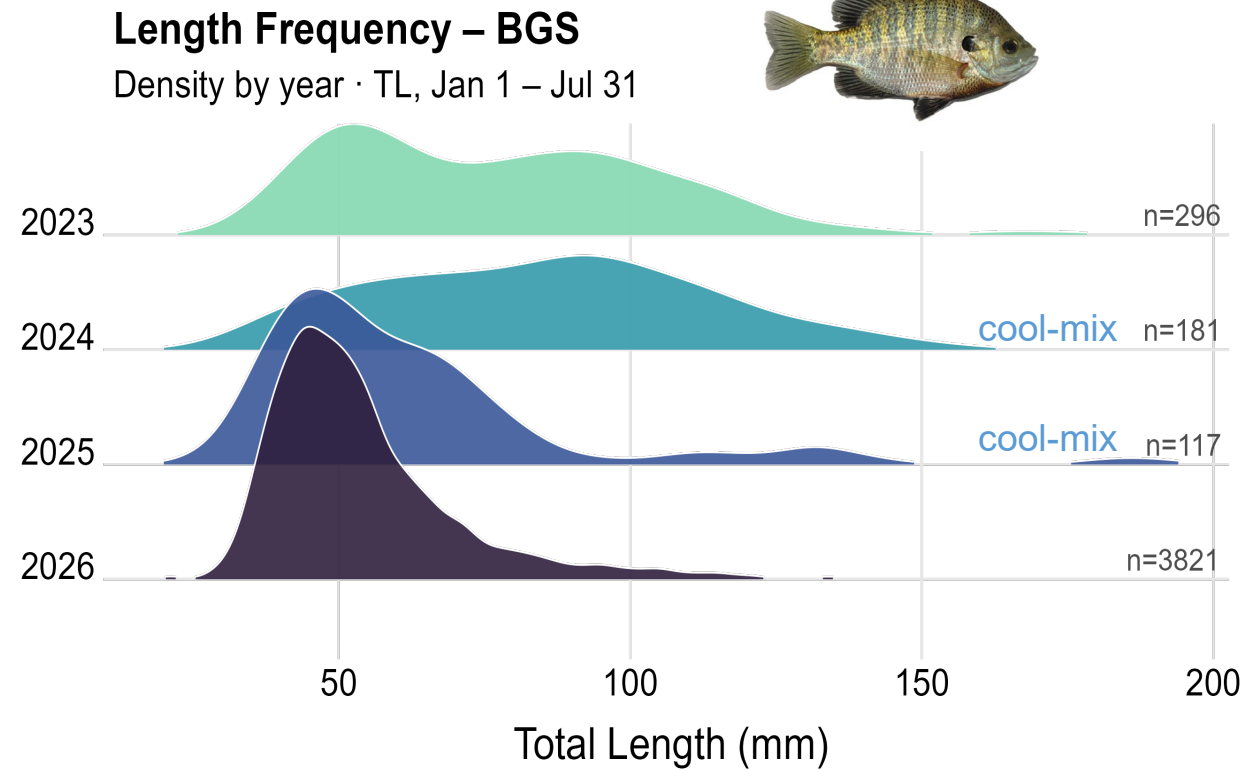
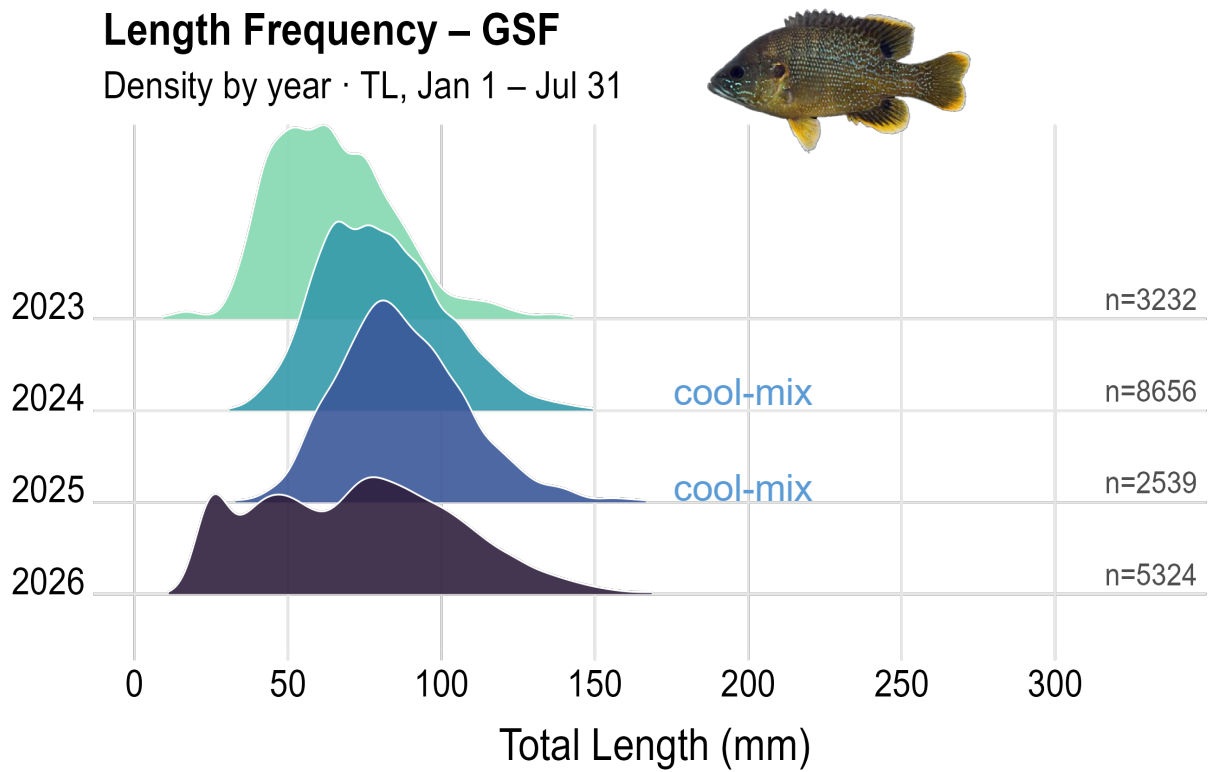


SMB Capture Locations – COR mainstem

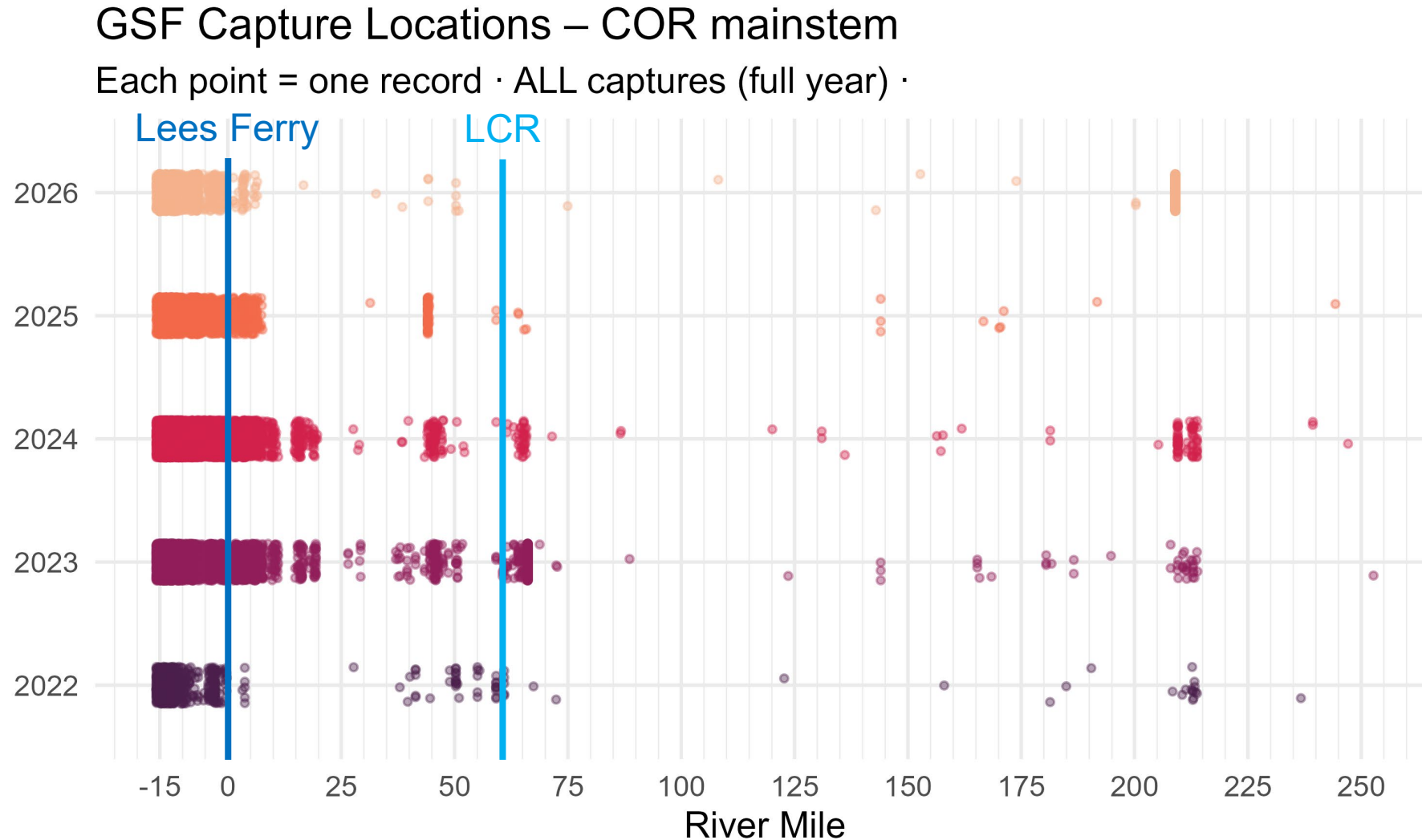
Each point = one record · ALL captures (full year)



Other Non-Natives



Green Sunfish Distribution





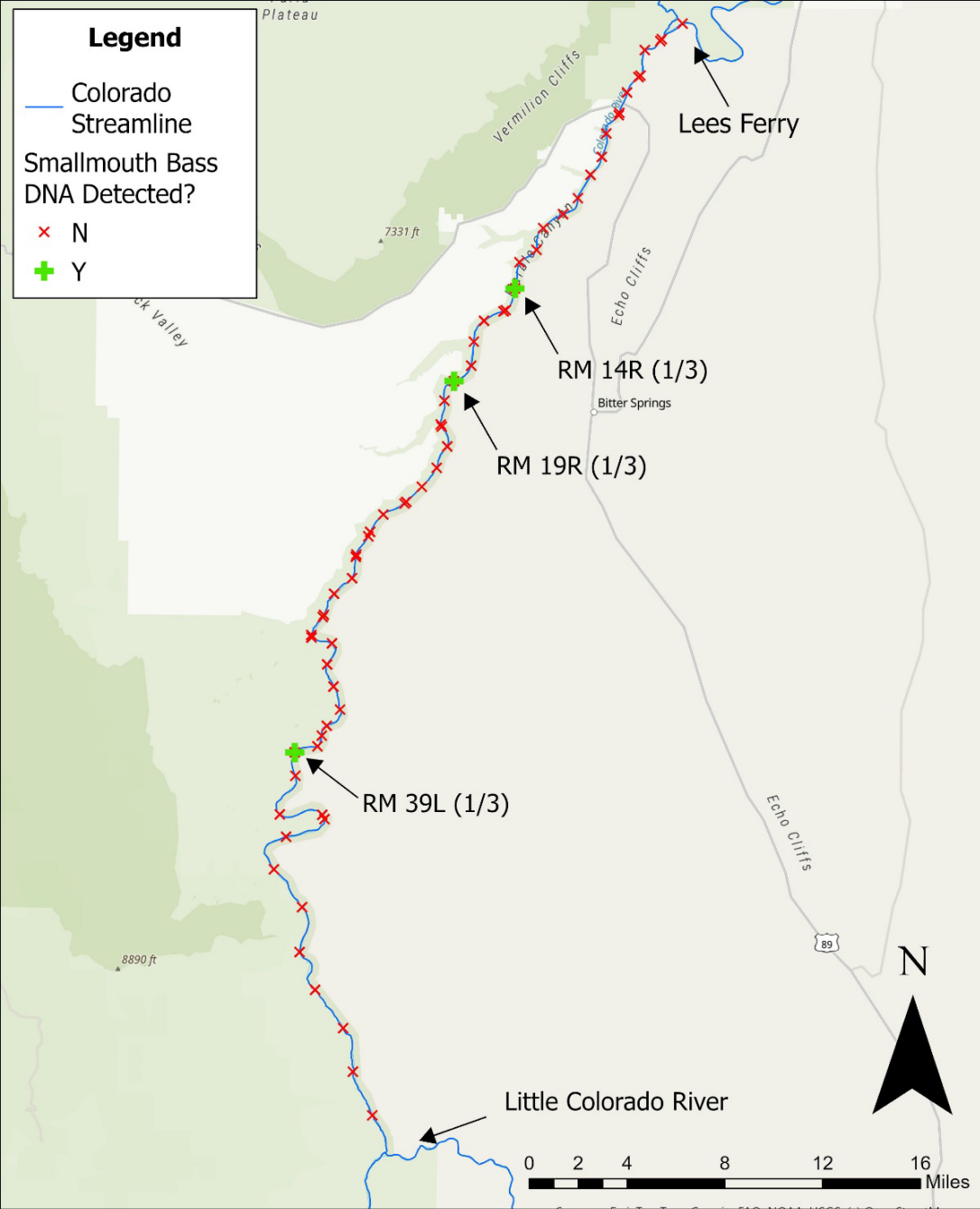
	Year	BGS	GSF	SMB	WAL
NPS Rapid Response (GRCA & GLCA)	2023	433	13743	1174	31
	2024	325	14311	227	29
	2025	438	4869	45	33
	2026*	3720	5057	64	9
RR Total		4916	37980	1510	102
All Other Monitoring (AZGFD, USGS, USFWS, BioWest, ASIR)	2023	86	2334	85	29
	2024	36	1891	27	23
	2025	17	374	6	10
	2026*	102	270	7	1
AOM Total		241	4869	125	63

*As of 7/31/26

NPS SMB eDNA results

eDNA samples collected on both sides of river every mile from Lees Ferry (RM 0) to RM 40, every 2 miles from RM 42 to RM 60

Site	Replicate	Date	SMB DNA Detected?	Positive Wells (#/3)	eDNA copies/L
14.0 R	1 of 3	9/23/2025	Y	1	1.38
19.0 R	1 of 3	9/23/2025	Y	1	2.79
39.0 L	1 of 3	9/25/2025	Y	1	2.78



2026 Electrofishing



Upstream of Lees Ferry

- Boat: 96 sites every two weeks (add extra nights, as needed)

Downstream of Lees Ferry

- Boat:
 - Paria to Badger Rapid (PBR) trip once a month
 - 2 additional downstream trips below Badger Rapid in October and November

Rainbow Trout

- Target slow moving backwater areas, not riffles
- Turn off current when RBT enter field
- If shocked, RBT go into buckets with oxygen and released after they have recovered

2026 Netting



Upstream of Lees Ferry

- Hoop nets: 30 nets deployed for a week once a month across the entire reach
- Fyke Nets: set every week at same 7 backwater locations: RM's -6.87L, -11.82R, -15.06R, -15.07R, -15.09R, -15.11R, and -15.13R
- This effort is roughly double of last year in the backwaters
- Seining: Dam Slough (RM-15) every two weeks

Downstream of Lees Ferry

- Hoop and Fyke Nets: Paria to Badger Rapid trip once a month (focus on RM3.21 backwater and any other hotspots identified during electrofishing trip)
- Seining: all backwaters during netting trip

*all fish are being kept for beneficial use including research and food for wildlife



2026 eDNA



June collection

- Targeted fine-scale eDNA sampling near the most downstream detections from the previous two years (Awaiting Results)

GLCA collection

- one trip to sample at electrofishing sites to compare with physical captures

Riverwide collection

- September trip from Lees Ferry to the LCR, collecting samples every mile to RM45, then every 2 miles.

2026 Potential Chemical Treatment



Four backwater areas identified for potential chemical treatment.

Prepared to carry out within two weeks of a trigger.

Monitoring high risk areas weekly for triggers, specifically YOY clouds or the presence of adults on nests.

All native fish and rainbow trout would be removed from the sites prior to treatment.

Options include rotenone or sodium sulfite. Working with partners on experimental use of sodium sulfite which is safer and more environmentally friendly.

Turbidity curtain will be used to contain chemicals within the small backwater area.



Rainbow Trout monitoring

With all removal efforts, additional precautions are being taken for Rainbow Trout

- Mechanical removal: targeting shallow warm backwaters and avoiding riffle habitat, additional electrofishing precautions
- Chemical removal: sentinel fish, pre-treatment electrofishing to remove prior to treatment

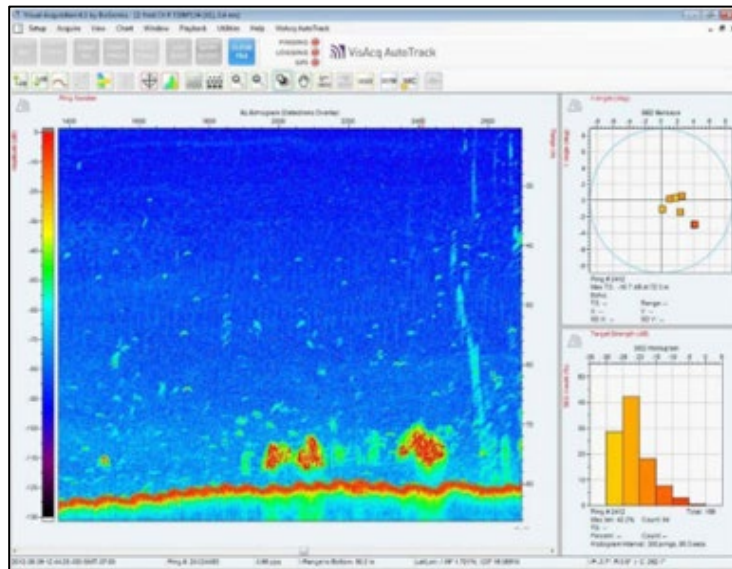
Rapid Response efforts also supporting TAHG strategy proposal:

- Continue mechanical removal of warm water nonnatives, while considering sampling limits on current cultural concerns, environmental conditions, timing, practices, and location removal regularity (smallmouth bass, green sunfish, brown trout, etc.).

Primary Concern: High water temperatures and lower dissolved oxygen levels cause fatal respiratory stress.



2027 Research Projects – Utah State University



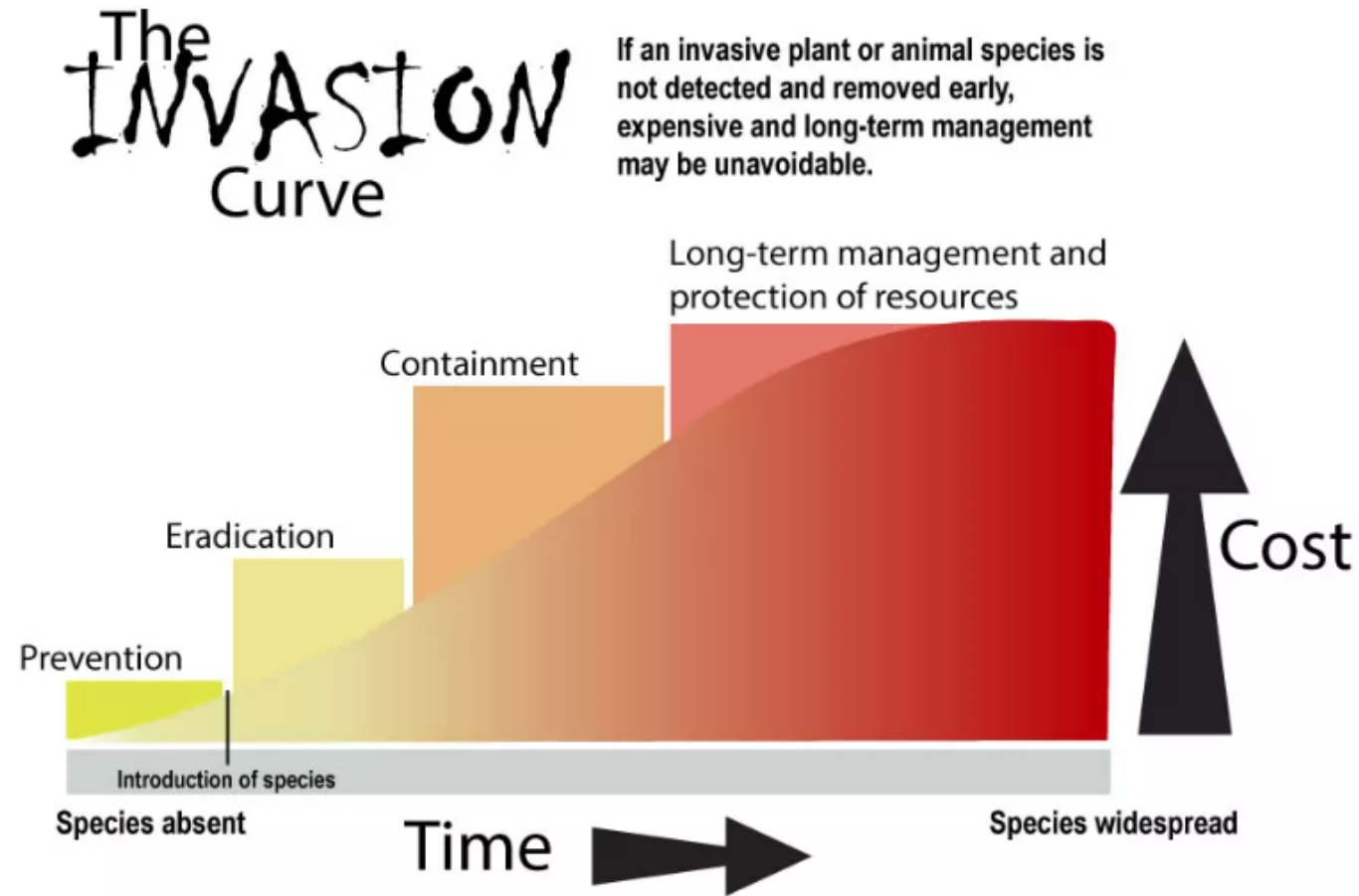
Biosonics



Biotactic – McKenzie River

- Conduct a pilot study using underwater video with AI (Biotactic) and hydroacoustics to identify effective methods for measuring actual entrainment and entrainment risk in the forebay and penstocks.
- Measure fish density and abundance near Glen Canyon Dam intakes to understand environmental factors influencing fish presence and entrainment risk.
- Build a probabilistic entrainment-risk model based on observed data, incorporating depth, season, lake elevation, stratification, fish size, and species, calibrated with actual entrainment observations.
- Conduct a pilot study entrainment study to assess capture probability downstream

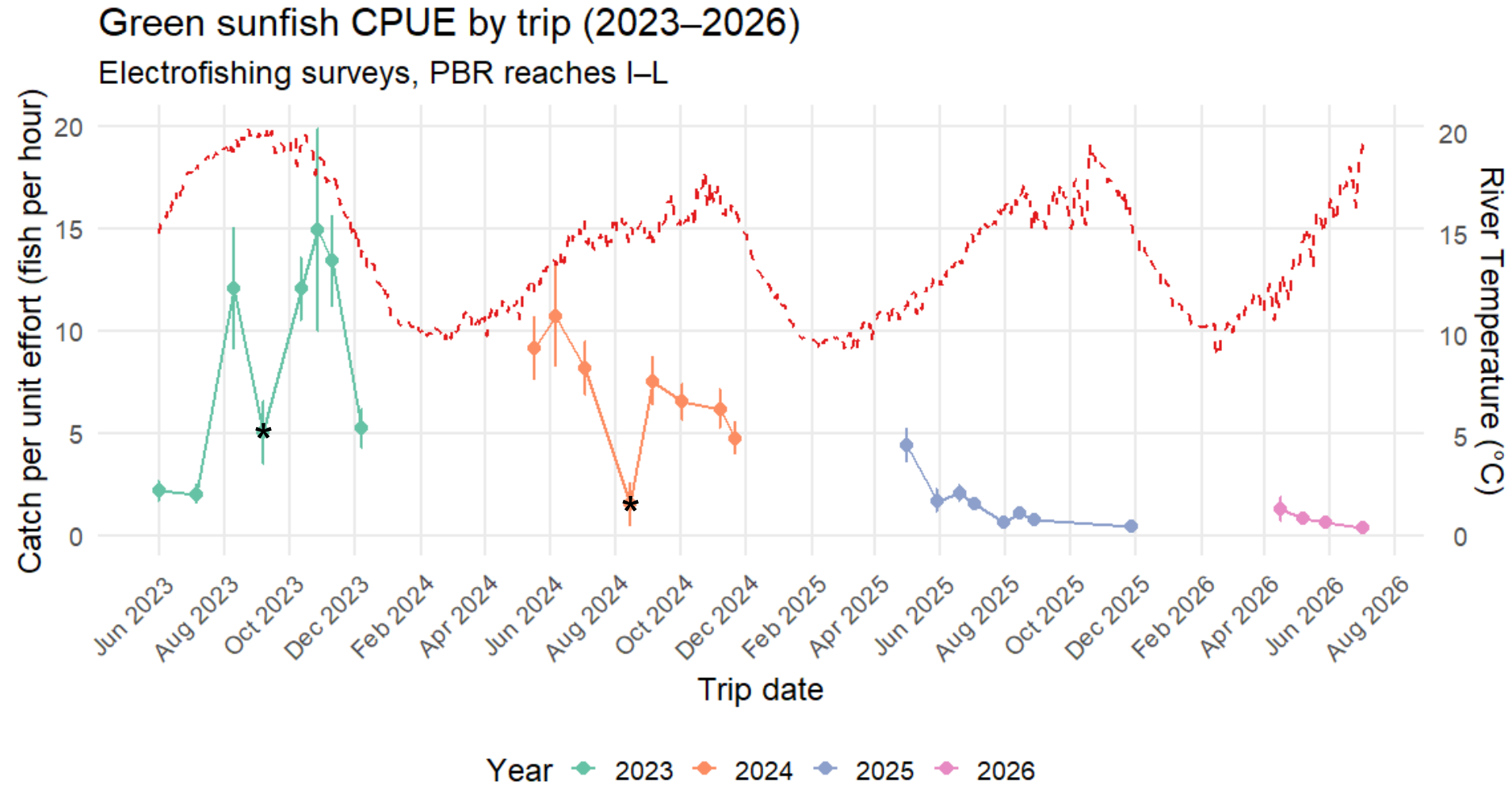
Invasion Curve



Questions?



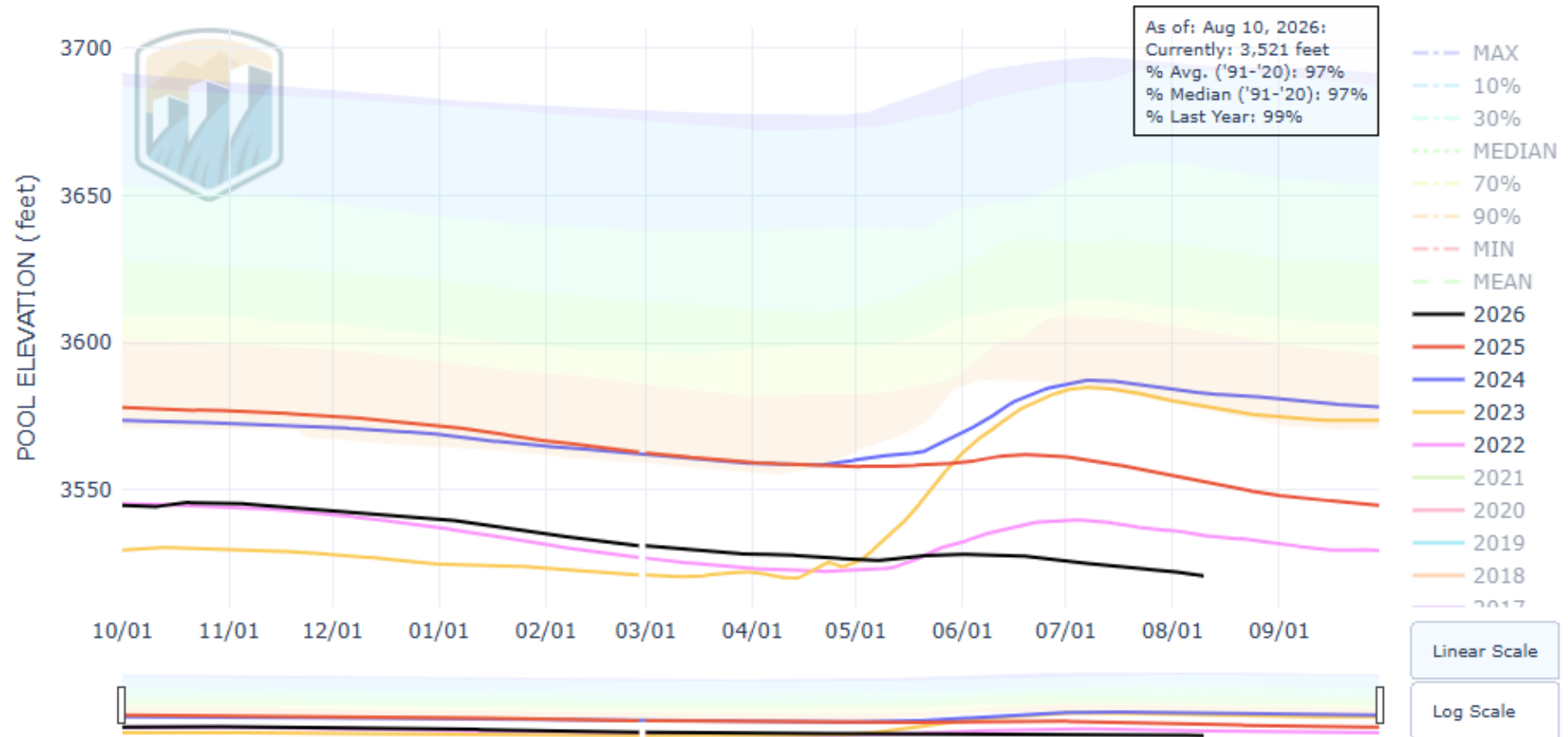




Points show mean CPUE by trip $\pm$ SE; dashed red line shows river temperature. * Trips with High Turbidity



LAKE POWELL - POOL ELEVATION (feet)



Created: 08/11/26 04:34 PM UTC

All data considered provisional and subject to revision.

Farthest Downstream SMB Captures

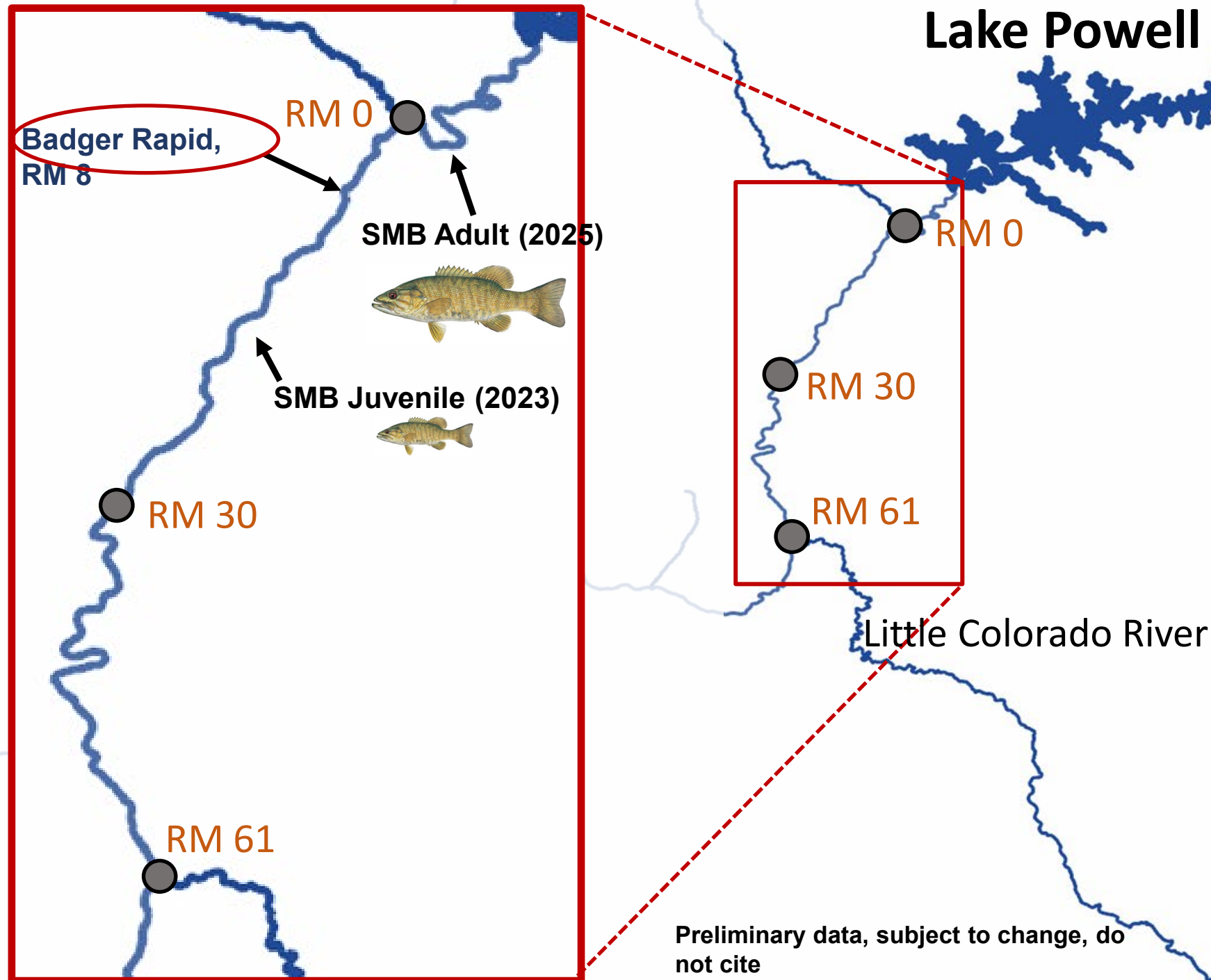
2022 – present

Juvenile: RM 16.38
(2023)

Adult: RM -3.49 (2025)

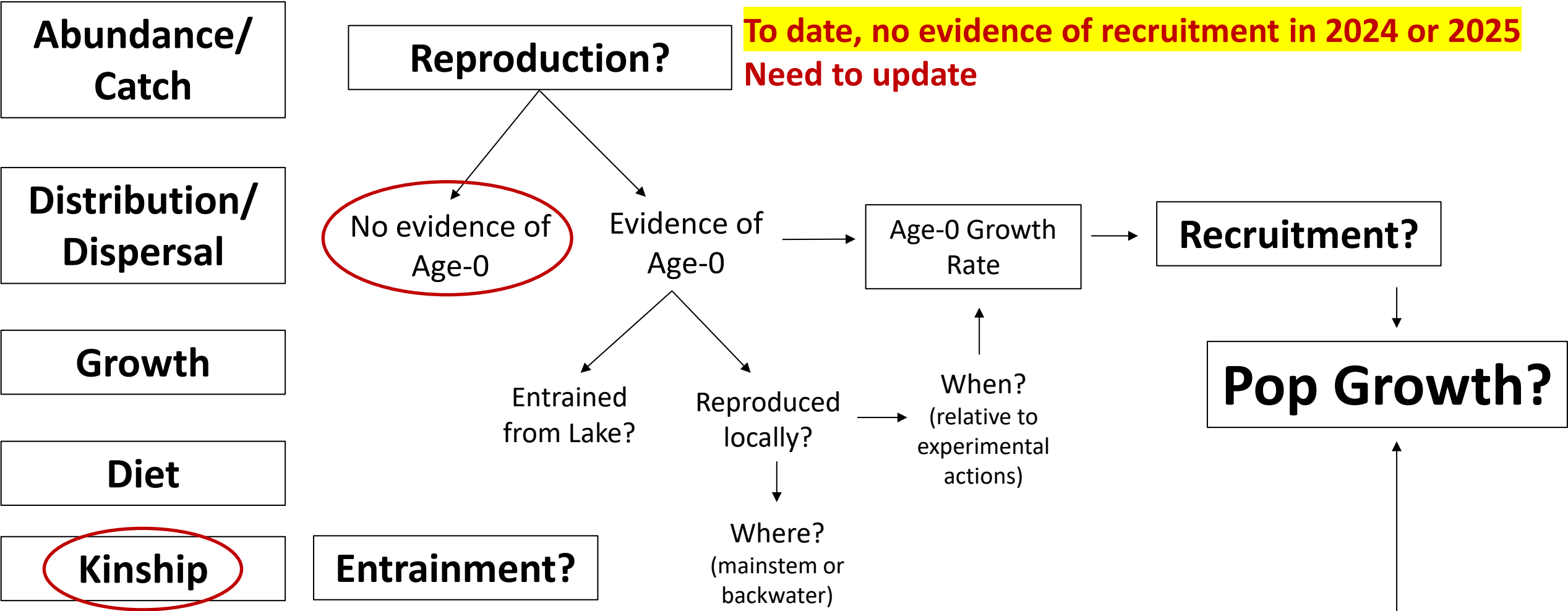


*sampling effort changes



SMB Research and Monitoring

Determining the effectiveness of removals & flow experiments



To date, no evidence of recruitment in 2024 or 2025
Need to update

Reproduction?

No evidence of Age-0

Evidence of Age-0

Age-0 Growth Rate

Recruitment?

Pop Growth?

Entrained from Lake?

Reproduced locally?

When?
(relative to experimental actions)

Where?
(mainstem or backwater)

Entrainment?

Genetic samples

Kinship