

Brown Trout - Incentivized Harvest Program Lees Ferry Reach Glen Canyon National Recreation Area



Jeff Arnold – Fisheries Biologist GLCA



Background

There are increasing threats to native fish populations in the Colorado River downstream of Lees Ferry and potential threat to rainbow trout fishery in Lees Ferry.

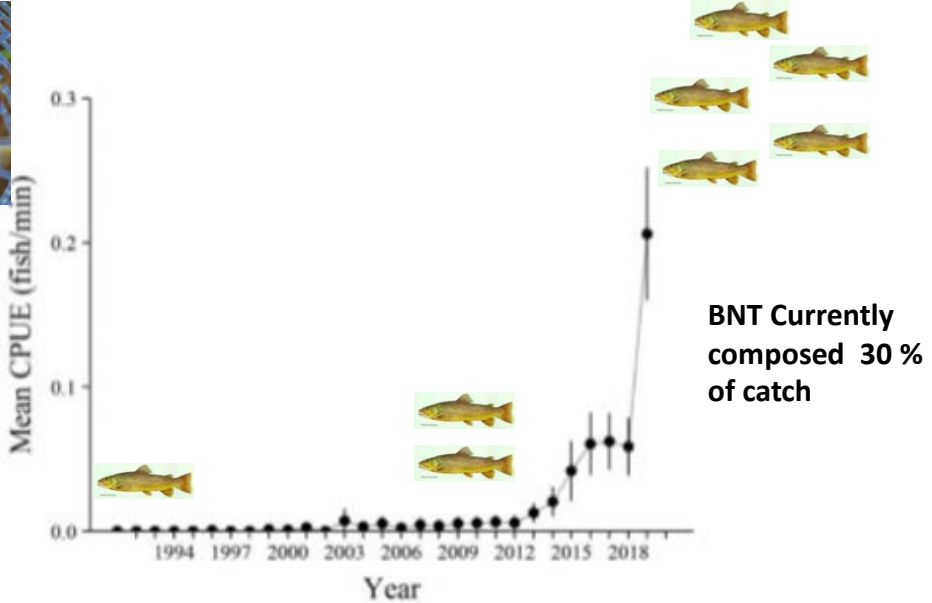
Brown Trout

Can successfully spawn in Lees Ferry Reach and numbers have been increasing since 2014

Brown Trout Population is Growing



BNT Historically composed 2% of catch



BNT Currently composed 30% of catch

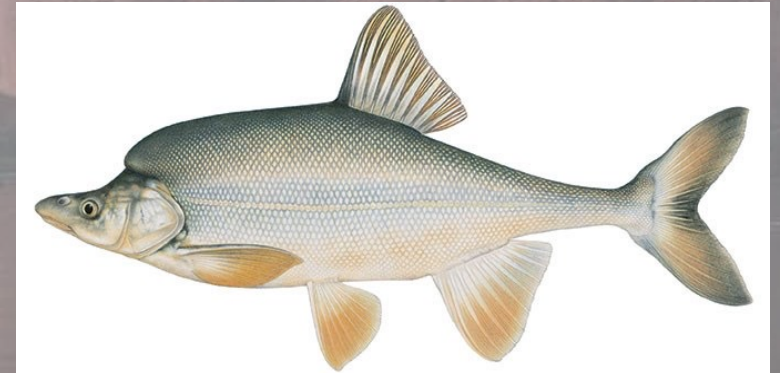
Figure 10. Annual Brown Trout CPUE (95% confidence intervals) from AGFD standardized monitoring (electrofishing) at Lees Ferry, Colorado River by year from 1991-2019.

NPS Legal Mandates

Grand Canyon has a legal responsibility to protect native fish/wildlife

- Biggest concern is a threat to the downstream population of the endangered humpback chub.
- Brown trout are 17 X more likely to prey on other fish species than rainbow trout.
- Brown trout can tolerate warmer downstream water temperatures.
- Brown trout can tolerate higher turbidities

Glen Canyon manages for a rainbow trout fishery below Glen Canyon Dam.



*Humpback Chub – Status Endangered
Illustration by Joe Tomelleri*

Why Incentivized Harvest?

A tool within the EA that utilizes a tiered management approach to control non-native fish and other aquatic organisms to protect native fish in Grand Canyon and recreational rainbow trout fishery in Glen Canyon Reach.

- 1. Tier 1 - Incentivized Harvest**
 - most socially acceptable
 - least intrusive
- 2. Tier 2 - Mechanical disruption of early life stages**
- 3. Tier 3 - Mechanical Removal**

ENVIRONMENTAL ASSESSMENT

**EXPANDED NON-NATIVE AQUATIC SPECIES MANAGEMENT
PLAN IN GLEN CANYON NATIONAL RECREATION AREA AND
GRAND CANYON NATIONAL PARK BELOW GLEN CANYON DAM**

National Park Service

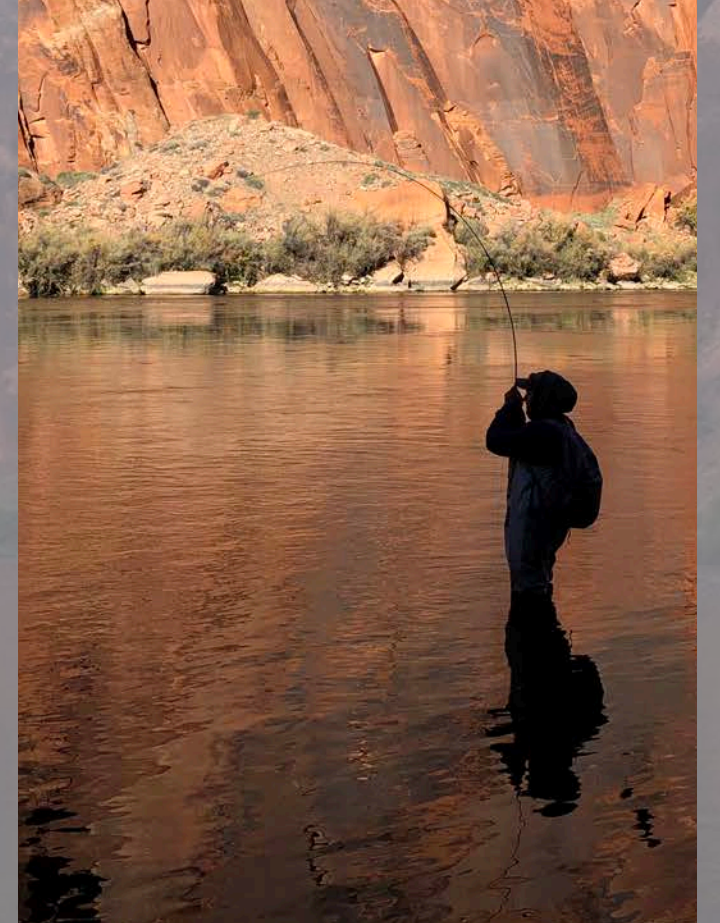
Intermountain Regic
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Grand Canyon Natior



September 2018 (October 2019)

Incentivized Harvest Components

- **Reward for each harvested brown trout > 6 inches**
 - **Begin with \$25.00 with a small increase during summer months when fish are harder to catch**
- **Sponsored fishing tournaments (cancelled)**
- **Tribal youth sponsored fishing trips (spring/summer 2023?)**



Funding

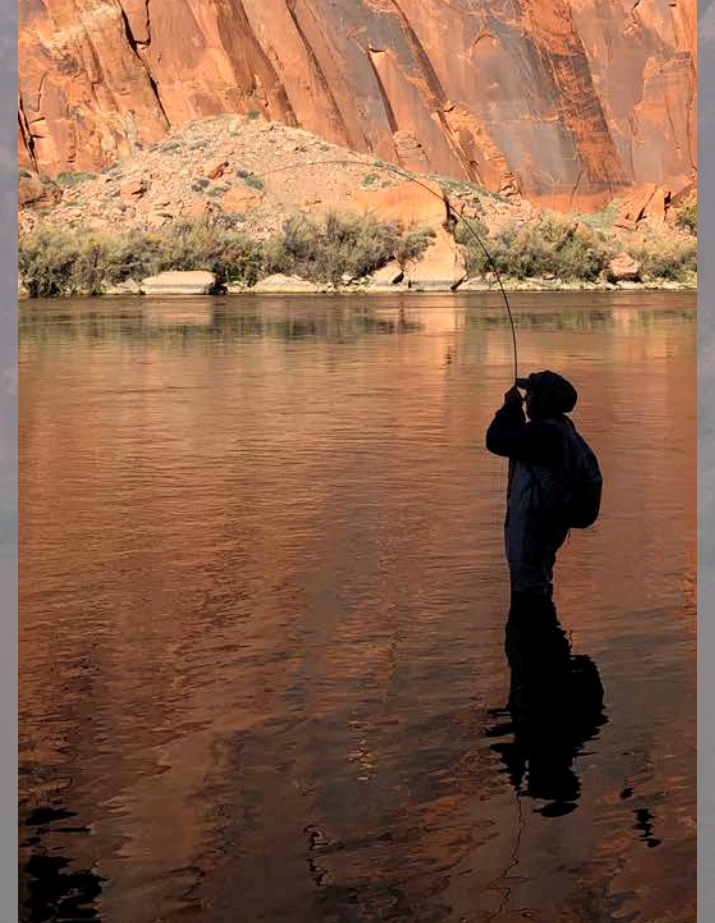
- 2020-2021: NPS funds = \$160,000 including \$30K specifically for Tribal Youth Program
- 2021-2022: BOR funds = \$100,000
- 2022: NPS funds = \$96,000
- 2023: NPS funds = \$100,000



- Administered through Glen Canyon Conservancy (20% overhead).

Program Duration and Goal

- Funding has been procured for 3-years
- Not intended totally eliminate the brown trout fishery
- Reduce the brown trout population to 2013 levels (2% of catch)
- Through the incentivized harvest program, if brown trout population can be reduced, it should eliminate the need for more intensive fish management tools.



Media Outreach

02/12/2020 Incentivized Harvest of Brown Trout Begins Nov 11 - Glen Canyon National Recreation Area (U.S. National Park Service)
NEWS RELEASE

Incentivized Harvest of Brown Trout Begins Nov. 11



Brown Trout

NPS

News Release Date: October 28, 2020

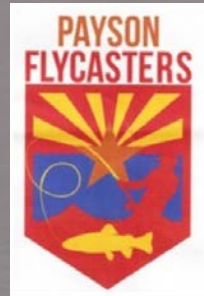
Contact: National Park Service: Mary Plumb, Office of Communications, Public Affairs, 928-640-3478

Contact: Arizona Game and Fish Department: Tom Cadden, Public Information Officer, 602-928-7000

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To protect native fish, agencies put a bounty on brown trout in the Colorado River

Anton L. Delgado Arizona Republic

Published 8:00 a.m. MT Nov. 20, 2020 | Updated 9:24 a.m. MT Nov. 20, 2020

View Comments



15 Photos

VIEW FULL GALLERY

Agencies put a bounty on brown trout to help native fish

Wildlife agencies launched a program to cull brown trout, paying anglers to catch the fish as a way of protecting native fish downstream.

Opening Week Nov 11, 2020



Fish Processing Areas

Data Card (front)

_____ state _____ phone number _____

_____ address/PO box _____

_____ city, state, zip code _____

Can we contact you for future research? **y / n**

Please describe each brown trout caught:

Bag #	Fork length (inches)	River Reach (map on back)	Tackle
1	_____	_____	Fly <input type="checkbox"/> Lure <input type="checkbox"/>
2	_____	_____	Fly <input type="checkbox"/> Lure <input type="checkbox"/>
3	_____	_____	Fly <input type="checkbox"/> Lure <input type="checkbox"/>
4	_____	_____	Fly <input type="checkbox"/> Lure <input type="checkbox"/>

(please use another card for additional brown trout)

Fork lengths based on (circle one)? **guess/ tape/ fishboard**

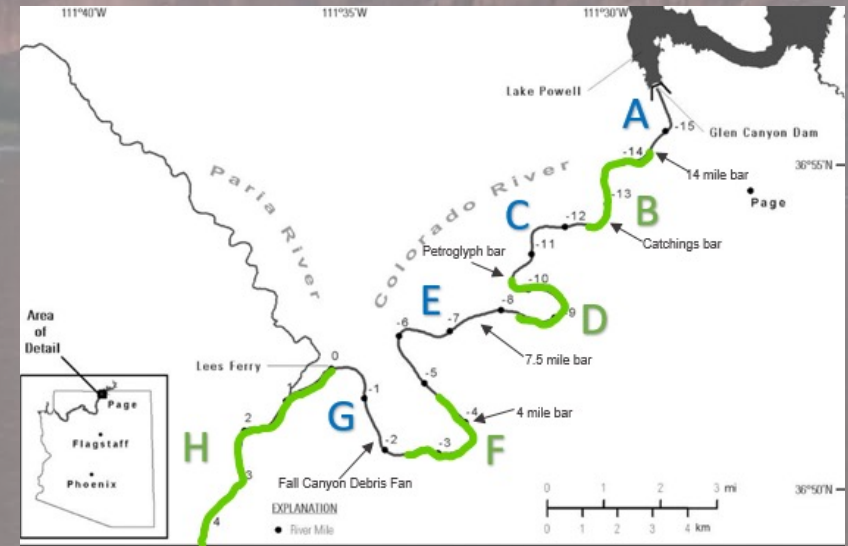
Date: _____ Hours fished: _____

Did you hire a guide? **y / n**

age: _____ gender: **m / f**

annual gross household income

<input type="checkbox"/> Less than \$50,000	<input type="checkbox"/> \$150,000 - \$199,999
<input type="checkbox"/> \$50,000 - \$99,999	<input type="checkbox"/> \$200,000 - \$250,000
<input type="checkbox"/> \$100,000 - \$149,999	<input type="checkbox"/> Greater than \$250,000



Data Card (back)

Harvest Registration Site



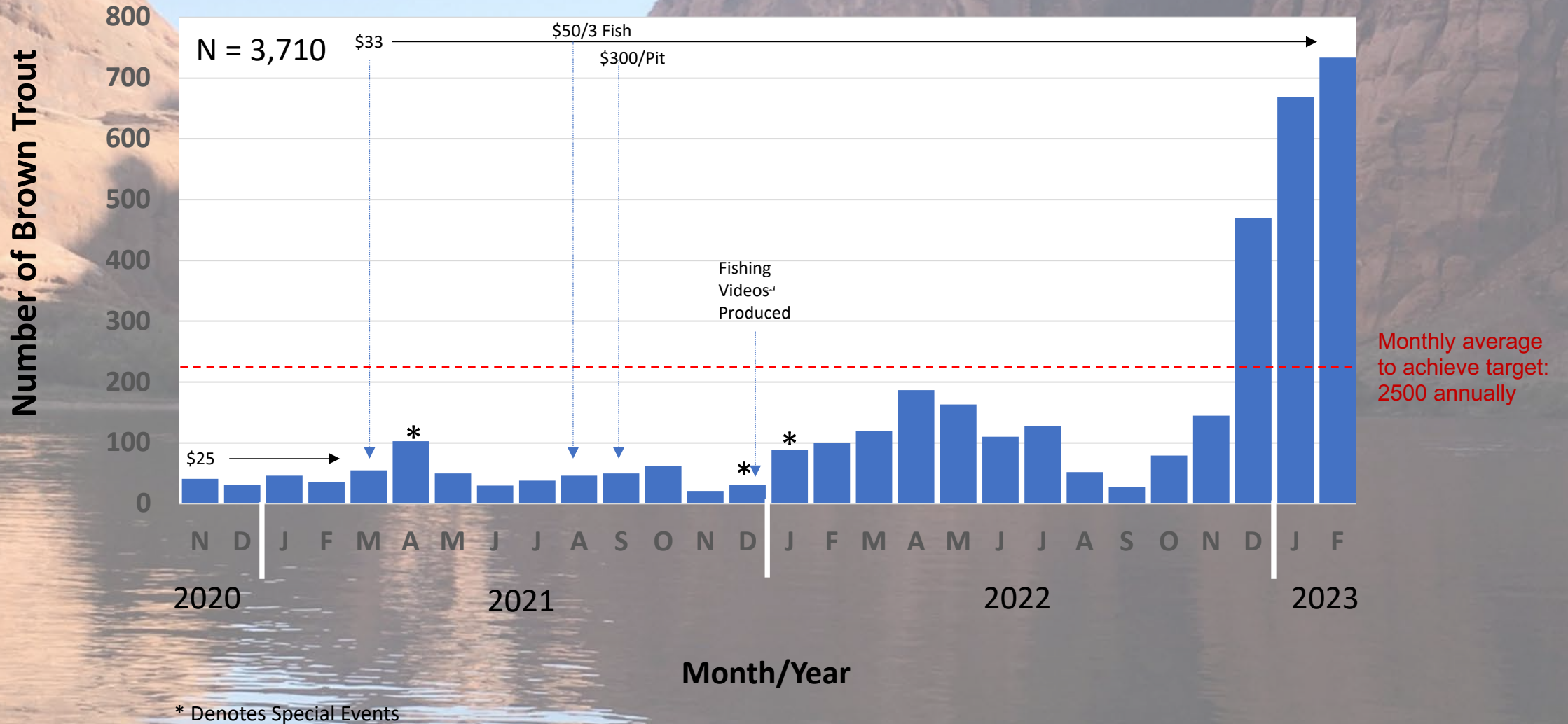
**Brown Trout Registration Site
Navajo Bridge Visitor Center**



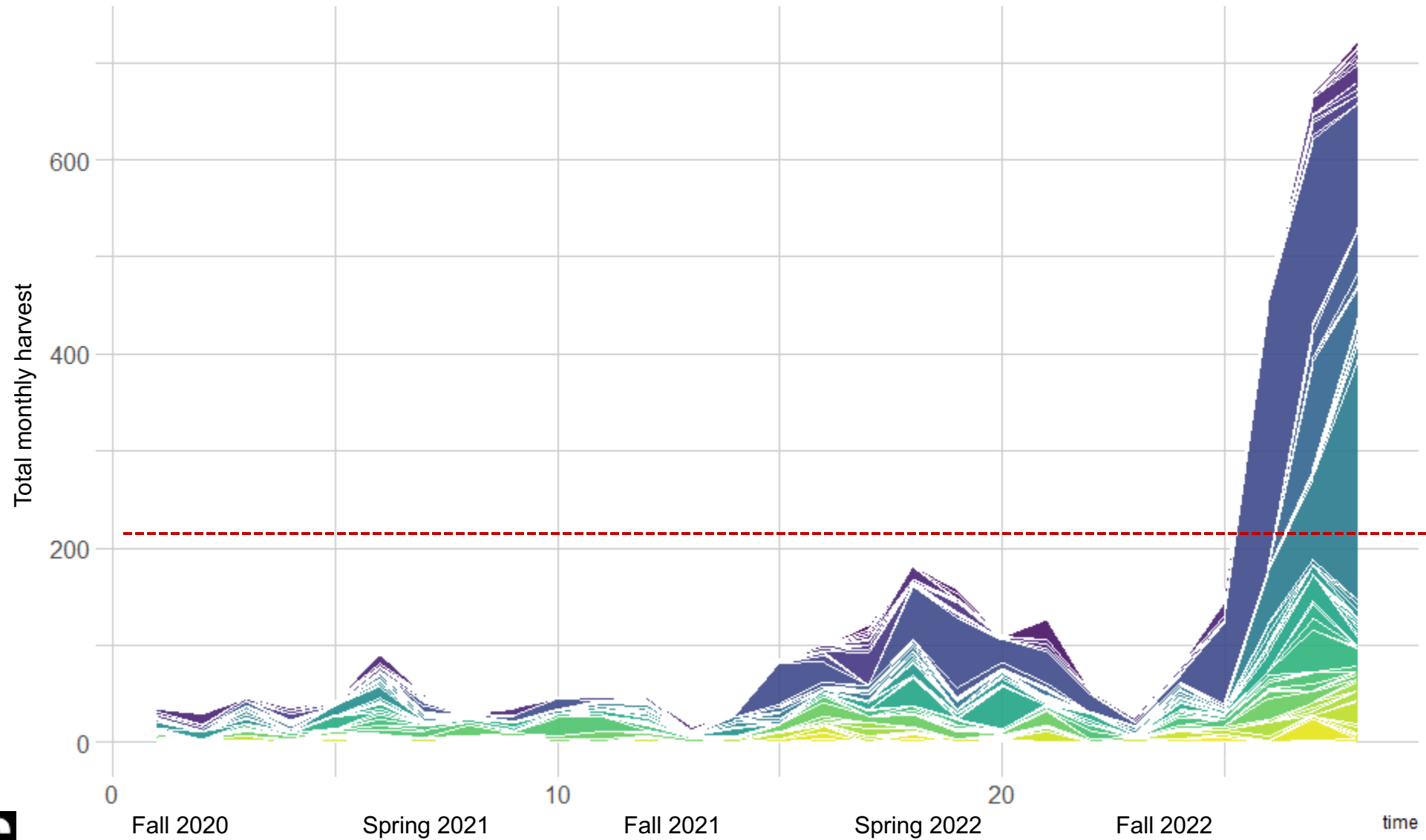
Courtyard and Freezer for Fish Deposit



Total Number of Brown Trout Harvested/Month



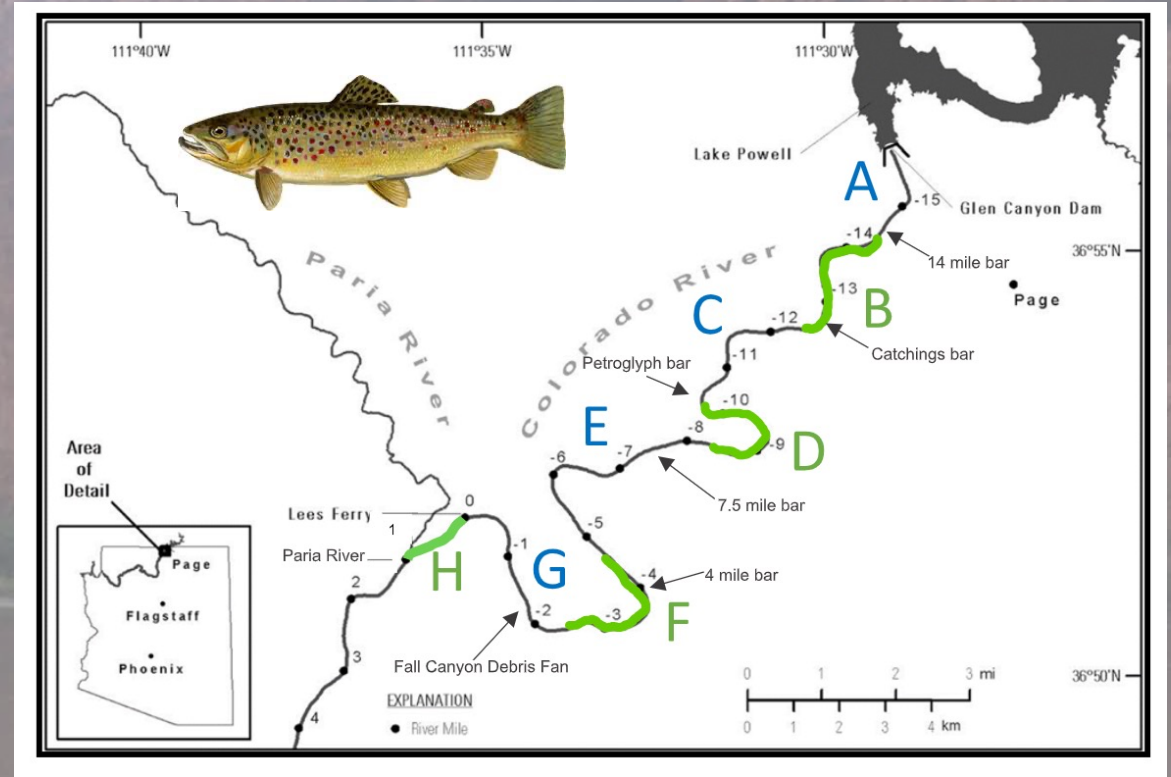
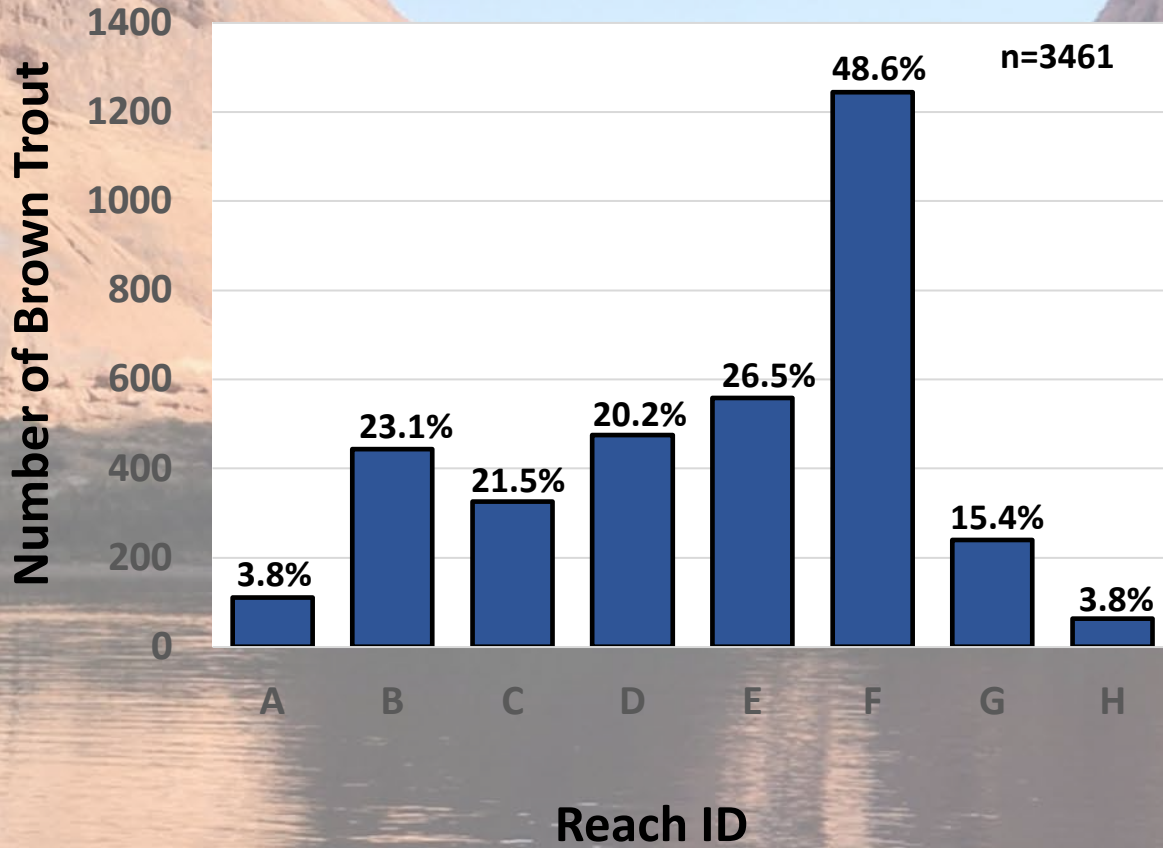
Program Monthly Brown Trout Harvest



Monthly average to achieve target: 2500 annually



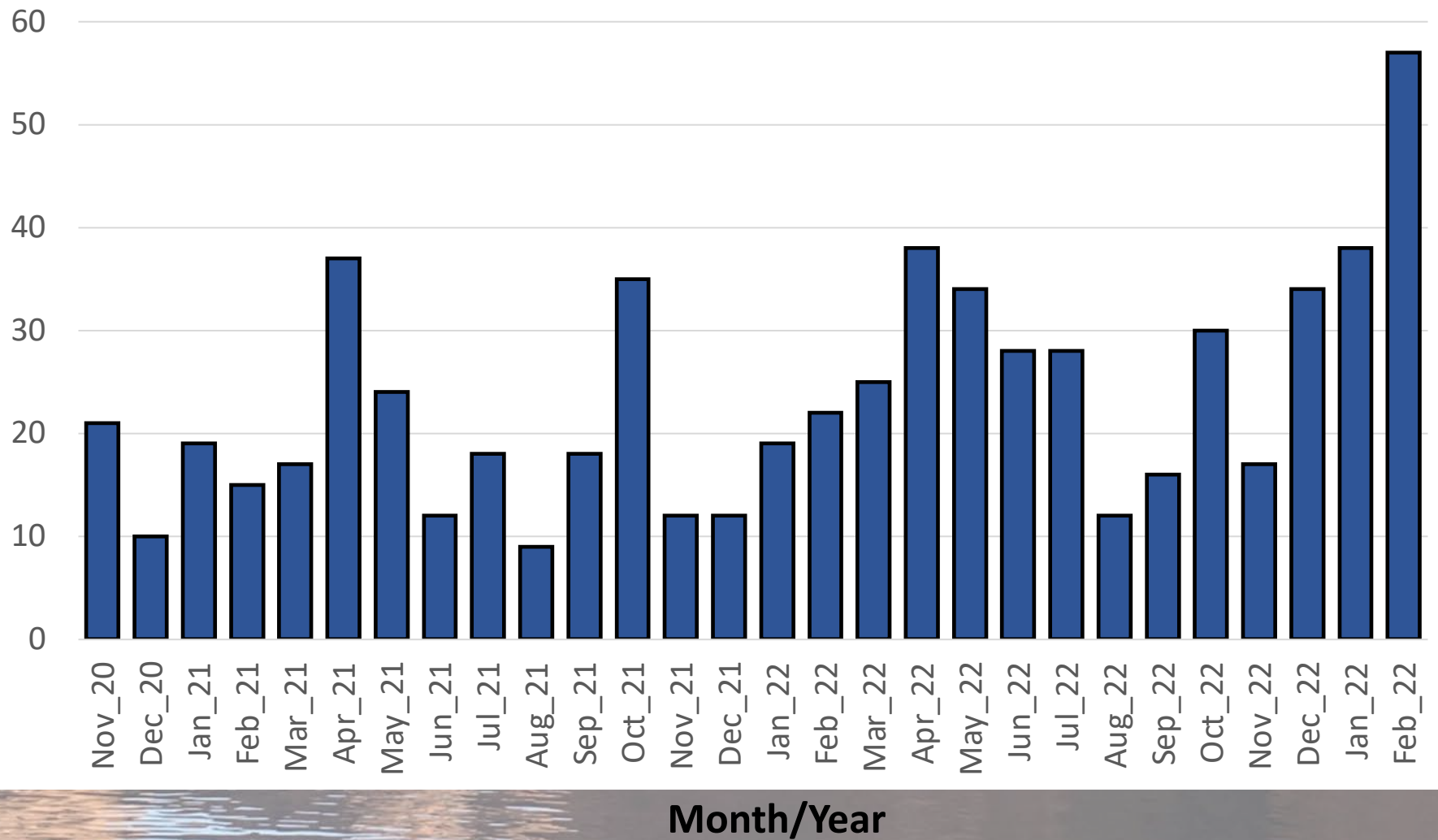
River Reach of Harvested Brown Trout



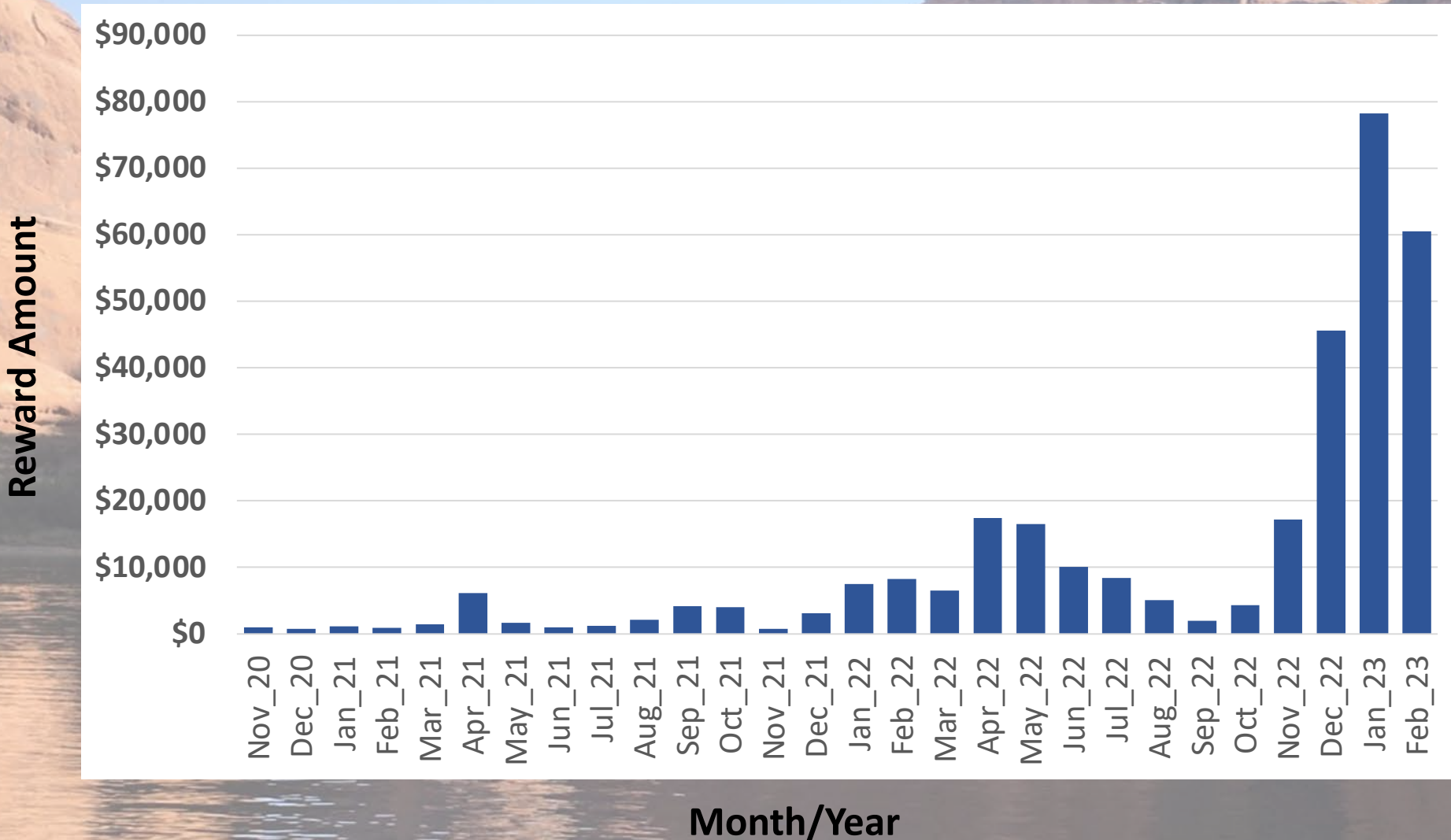
Brown Trout Data Card Map

Number of Successful Anglers Per Month

Number Successful Anglers



Monthly Payout





Questions?

