



Project H: Salmonid Research and Monitoring

Project N: Other Native Fish

**Glen Canyon Dam Adaptive Management Program –
Technical Working Group:
Budget Ad Hoc Meeting
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New Research Project: Other Native Fish

- **LTEMP Goal:** “Maintain self-sustaining native fish species populations and their habitats in their natural ranges on the Colorado River and its tributaries.”
- Address conservation measures – Razorback sucker
 - LTEMP 2016:

Razorback Sucker

Ongoing actions:

- Reclamation would continue to assist the NPS, FWS, and the GCDAMP in funding larval and small-bodied fish monitoring in order to:
 - Determine the extent of hybridization in flannelmouth and razorback sucker collected in the western Grand Canyon.
 - Determine habitat use and distribution of different life stages of razorback sucker to assist in future management of flows that may help conserve the species. Sensitive habitats to flow fluctuations could be identified and prioritized for monitoring.
 - Assess the effects of TMFs and other dam operations on razorback sucker.



New Research Project: Other Native Fish

- **LTEMP Goal:** “Maintain self-sustaining native fish species populations and their habitats in their natural ranges on the Colorado River and its tributaries.”
- **Projects:**
 - **N.1 Analyze existing data – Bluehead, Flannelmouth, Razorback suckers & Speckled Dace:**
 - Data: size, distribution, capture, and PIT-tag antennas – tributaries and mainstem
 - Estimate native fish demographic rates and understand environmental drivers
 - **N.2 -**
 - Improve predictive modeling – inform management actions (dam ops., barriers?)
 - Value of information and support decision-making
 - **N.3. New technology: acoustic tags with “predation sensors”**
 - Understand fate and predation as source of mortality of released razorback sucker



LTEMP Goal – Rainbow Trout Fishery:

- **“Achieve a healthy high-quality recreational rainbow trout fishery in GCNRA and reduce or eliminate downstream trout migration consistent with NPS fish management and ESA compliance.”**



Changes to Project Elements

H.1: Rainbow Trout Monitoring in Glen Canyon (Arizona Game and Fish Department; AZGFD)

- **Electrofishing (AZGFD CPUE monitoring) – cut 3 trips**
- **Creel survey/Citizen science**

H.2: Experimental Flow Assessment of Trout Recruitment (TRGD Project)

- **Mark-recapture trips – cut 1 trip (combine forces with AZGFD)**
- **Reproductive stats – finalize manuscripts only**

H.3: Brown trout early life stage studies (BTELSS)

H.4: Salmonid Modeling

- **Causal hypotheses (revisit Brown Trout report – Runge, et al. 2018)**
- **Incorporate incentivized harvest into Brown Trout modeling**
- **Trout population dynamics/forecasting**
- **Predictive capabilities for decision-making: recruitment/outmigration**

Continue
Discontinue
Modify

Budget Version 1 and Version 2 comparison

■ Version 1:

- Cut trips from 8 to 4
- Combined AZGFD CPUE effort with TRGD
 - AZGFD increased costs
- Cut BTELLS
- Increased overhead

■ Version 2 (cut N):

- Need to make existing staff whole- transfer from N to H
- Cut 1 vacant position's time
- Cut contractor funding:
 - Techs (replace with GCMRC staff)
 - Ecometric (cut field time)

Project	Project H
FY24 (for reference)	\$ 580,967
FY25	\$ 635,504
Difference	\$ (54,537)

Initial proposed budget

Project H Salmonid Research and Monitoring	Salaries	Travel & Training	Operating Expenses	Logistics Expenses	Cooperative Agreements	To other USGS Centers	AMP Special Burden Rate*	Total	USGS Contributing Funds**
							21.80%		Est Full Rate = 55%
H.1. Rainbow trout fishery monitoring in Glen Canyon	\$6,917	\$0	\$0	\$0	\$113,400	\$0	\$4,910	\$125,227	
H.2. Experimental flow assessment of trout recruitment (TRCD)	\$88,047	\$2,000	\$88,800	\$182,102	\$0	\$0	\$78,687	\$439,635	
H.3. Salmonid modeling	\$51,998	\$0	\$6,000	\$0	\$0	\$0	\$12,644	\$70,641	
Total Project H	\$146,962	\$2,000	\$94,800	\$182,102	\$113,400	\$0	\$96,240	\$635,504	\$ 44,416.85
Fiscal Year 2026									
Project H Salmonid Research and Monitoring	Salaries	Travel & Training	Operating Expenses	Logistics Expenses	Cooperative Agreements	To other USGS Centers	AMP Special Burden Rate*	Total	USGS Contributing Funds**
							22.60%		Est Full Rate = 55.5%
H.1. Rainbow trout fishery monitoring in Glen Canyon	\$7,402	\$0	\$0	\$0	\$113,400	\$0	\$5,075	\$125,876	
H.2. Experimental flow assessment of trout recruitment (TRCD)	\$94,210	\$2,000	\$68,800	\$188,277	\$0	\$0	\$79,843	\$433,130	
H.3. Salmonid modeling	\$55,638	\$0	\$6,000	\$0	\$0	\$0	\$13,930	\$75,568	
Total Project H	\$157,249	\$2,000	\$74,800	\$188,277	\$113,400	\$0	\$98,848	\$634,574	\$ 44,753.27
Fiscal Year 2027									
Project H Salmonid Research and Monitoring	Salaries	Travel & Training	Operating Expenses	Logistics Expenses	Cooperative Agreements	To other USGS Centers	AMP Special Burden Rate*	Total	USGS Contributing Funds**
							23.40%		Est Full Rate = 56%
H.1. Rainbow trout fishery monitoring in Glen Canyon	\$7,920	\$0	\$0	\$0	\$113,400	\$0	\$5,255	\$126,575	
H.2. Experimental flow assessment of trout recruitment (TRCD)	\$100,805	\$2,000	\$68,800	\$194,473	\$0	\$0	\$85,662	\$451,740	
H.3. Salmonid modeling	\$59,532	\$0	\$6,000	\$0	\$0	\$0	\$15,335	\$80,867	
Total Project H	\$168,256	\$2,000	\$74,800	\$194,473	\$113,400	\$0	\$106,252	\$659,181	\$ 47,310.43

Summary

- **Shifts/adjustments:**

- **N Cuts:**

- FY25: -\$393,958 (salary-141k)
 - FY26: -\$339,377 (salary-173k)
 - FY27: -\$356,609 (salary-186k)

- **New Project H:**

- FY25 (example): \$635,504 + \$44,468
 - FY26 – FY27: recalculations in progress

Revised proposed budget

Project H Salmonid Research and Monitoring	Salaries	Travel & Training	Operating Expenses	Logistics Expenses	Cooperative Agreements	To other USGS Centers	AMP Special Burden Rate*	Total	USGS Contributing Funds**
							21.80%		Est Full Rate = 55%
H.1. Rainbow trout fishery monitoring in Glen Canyon	\$6,917	\$0	\$0	\$0	\$113,400	\$0	\$4,910	\$125,227	
H.2. Experimental flow assessment of trout recruitment (TRGD)	\$148,776	\$4,000	\$73,800	\$124,759	\$0	\$0	\$76,591	\$427,926	
H.3. Salmonid modeling	\$98,121	\$0	\$6,000	\$0	\$0	\$0	\$22,698	\$126,819	
Total Project H	\$253,814	\$4,000	\$79,800	\$124,759	\$113,400	\$0	\$104,199	\$679,972	\$ 48,224.72