



— BUREAU OF —
RECLAMATION

Glen Canyon Dam Adaptive Management Program Budget Priorities

TWG meeting November 7, 2023

Glen Canyon Dam Adaptive Management Program Triennial Budget and Work Plan Fiscal Years 2021-2023



Prepared by
Bureau of Reclamation
Upper Colorado Regional Office
and
U.S. Geological Survey
Grand Canyon Monitoring and
Research Center

Approved by the
Secretary of the Interior
December 2, 2020

U.S. Department of the Interior
U.S. Geological Survey

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Budget and Workplan Background

The budget and work plan for fiscal years (FY) 2021–2023 was largely developed in consideration of the Record of Decision for the Glen Canyon Dam Long-Term Experimental and Management Plan Environmental Impact Statement (LTEMP EIS) and on the basis of outcomes from previous work plans. Additional consideration was given to meeting commitments outlined in: (1) the 2007 USFWS Biological Opinion for the Proposed Adoption of Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (2007 Opinion); (2) the 2016 USFWS Biological Opinion for the Long-Term Experimental and Management Plan Environmental Impact Statement (LTEMP EIS) (2016 Opinion); and (3) Section 106 of the National Historic Preservation Act (NHPA), the 2017 Programmatic Agreement for the Glen Canyon Dam Long-Term Experimental and Management Plan, and the 2018 Historic Preservation Plan for the Glen Canyon Dam Long-Term Experimental and Management Plan.



Program Funding

- Pre-2018: Power Revenue
- 2019: Appropriations
- 2020-2021: Power Revenue
- 2022+: Appropriations

“Due to uncertainties in future funding levels, prioritization of projects outlined in the FY2021-2023 TWP is necessary and will be undertaken by the GCDAMP during FY2021. Project priorities may change over time based on hydrology, resource conditions, evolving scientific understanding and uncertainties, administration objectives and other factors.”



- **Grand Canyon Protection Act**
 - **NEPA**
 - LTEMP ROD
 - **ESA**
 - 2007 BO for Interim Guidelines
 - 2016 BO for LTEMP
 - **NHPA**
- **Administrative**



LTEMP NEPA

- 6.1 Glen Canyon Dam Adaptive Management Program
- 6.2 Protection, Mitigation, and Monitoring of Cultural Resources
- 6.3 Endangered Species Act Compliance
- 6.4 Experimental Vegetation Treatment and Mitigation
- 6.5 Commitment to Tribes



U.S. Department of the Interior

**Record of Decision
for the
Glen Canyon Dam Long-Term
Experimental and Management Plan
Final Environmental Impact
Statement**

December 2016

U.S. Department of the Interior

Bureau of Reclamation
Upper Colorado Region
Salt Lake City, Utah

National Park Service
Intermountain Region
Lakewood, Colorado



LTEMP Biological Opinion

RESOURCE PROTECTED	CONSERVATION MEASURE	DETAILS	TWP PROJECT or OTHER FUNDING	AGENCY CONDUCTING WORK
Humpback Chub	Support translocations of humpback chub into tributaries and monitoring the translocations	Translocation above Chute falls	GCMRC G7	FWS
		Annual monitoring to determine survivability, population status in Havasu Creek	Reclamation	NPS
	Conduct spring & fall population estimates annually using a mark-recapture based model for the LCR		GCMRC G2	FWS/GCMRC
	Control or removal of non-native fishes in tributaries prior to translocations		Reclamation	NPS
	Support FWS maintenance of humpback chub population at federal refuge (SNARRC)		Reclamation	FWS
	Ensure a stable or upward trend of HBC mainstem aggregations	Annual monitoring of the LCR aggregation	GCMRC G1, G2, G3	GCMRC/FWS
		Annual monitoring of mainstem CO River	GCMRC G5	FWS/GCMRC
		Conduct periodic surveys to identify additional aggregations & individual HBC	GCMRC G5	FWS/GCMRC
		Evaluate existing aggregations & determine drivers of aggregations	GCMRC G1	GCMRC
		Explore means of expanding population outside of LCR (mainstem augmentation)		
	Conduct disease & parasite monitoring in mainstem & LCR		GCMRC G2, Project I	FWS/GCMRC
	Conduct preliminary surveys for translocation into Upper Havasu		Reclamation	NPS/FWS
	Explore other tributaries for potential translocation			



LTEMP Biological Opinion

Razorback Sucker	Determine extent of hybridization with flannelmouth suckers	Reclamation	AGFD
	Determine habitat use & distribution of different life stages of RBS	Reclamation	Bio-West
	Assess effects of TMFs & other dam operations	Reclamation	
Benefit Native Aquatic Species	Evaluate use of piscicide or other tools to renovate Bright Angel and Shinumo	Reclamation	NPS
	Remove brown trout from Bright Angel, inflow & and other new areas	Reclamation	GCMRC/NPS
	Explore efficacy of a temperature control device	Reclamation C10	Reclamation
	Pursue means of preventing passage of non-native fish through dam	Reclamation C9	Reclamation
	Complete planning and compliance to alter the backwater slough	Reclamation Technical Report #SRH 2018-17 completed in 2018	Reclamation/NPS
	Complete planning and compliance of a plan for implementing rapid response control efforts	GCMRC I1, I2, I3	AGFD/GCMRC/NPS
	Consider the experimental use of TMFs to inhibit brown trout spawning & recruitment	GCMRC H2	GCMRC
Yuma Ridgway's Rail	Partially assist in funding surveys every 3 years	Reclamation C11	NPS



NHPA (Programmatic Agreement)

- 19 Stipulations in the programmatic agreement
 - Examples
 - III. Permits and Additional Compliance (Ex. D.12)
 - VI. Archeological and Tribal Monitoring (Ex. D.3, D.4, D.14)

Fiscal Year 2023						
	Project Description	Reclamation Salaries	Travel	Operations / Supplies	Contracts / Cooperators	Total
D	Cultural Resources					\$ 635,000
D.1	Cultural Resources Program Management (BOR)	\$ 120,000				\$ 120,000
D.2	External Support for cultural resources compliance				\$ 40,000	\$ 40,000
D.3	Cultural Resources Monitoring - Grand Canyon				\$ 50,000	\$ 50,000
D.4	Cultural Resources Monitoring - Glen Canyon				\$ 30,000	\$ 30,000
D.5	Traditional Cultural Property Documentation					\$ -
D.6	Zuni and NPS Data Recovery and Community Outreach Pilot				\$ 100,000	\$ 100,000
D.7	Monitoring Palute Places on the Colorado: An Educational					\$ -
D.8	Hualapai Agricultural and Gardening Practices along the					\$ -
D.9	Hopi Grand Canyon (Öngtupqa) Oral History Project				\$ 45,000	\$ 45,000
D.10	Southern Palute Participation in the Glen Canyon AMP: 25 Years of Monitoring and Education, 1996-2021					\$ -
D.11	Hualapai Shared Histories Along the Colorado River in Grand					\$ -
D.12	Cultural sensitivity training development				\$ 50,000	\$ 50,000
D.13	Contingency fund for NHPA section 106 compliance				\$ 25,000	\$ 25,000
D.14	Tribal resources monitoring				\$ 175,000	\$ 175,000
D.15	Tribal participation in AMP (not funded by power revenues)				\$ 475,000	\$ 475,000
D	Total	\$ 120,000	\$ -	\$ -	\$ 515,000	\$ 635,000



Risk Assessment

Score	Impact	Likelihood
5	Jeopardy determination, reconsultation, or legal claim against the Department could potentially result.	80-100% chance of impact occurring within 1 to 3-year time frame.
4		60-80% chance of impact occurring within 1 to 3-year time frame.
3	May result in a formal complaint, letter of reprimand by regulatory agency, or public criticism.	40-60% chance of impact occurring within 1 to 3-year time frame.
2		20-40% chance of impact occurring within 1 to 3-year time frame.
1	No impact to compliance anticipated.	0-20% chance of impact occurring within 1 to 3-year time frame.



Questions?



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