



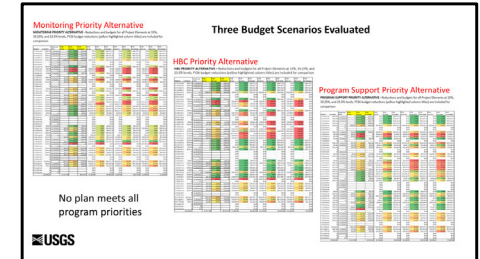
FY27 Glen Canyon Dam Adaptive Management Program Science Budget Reduction Planning

Glen Canyon Dam Adaptive Management Program
Adaptive Management Work Group Meeting
August 12-13, 2026

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FY27 Adaptive Management Program (AMP) Science Budget Reduction Background



FY27 AMP Science Budget Reduction – Budget Ad Hoc Group (BAHG) Process

- FY27 budget planning reductions: 15%, 19.25%, or 23.5% from Triennial Work Plan (TWP)
- Stakeholder surveys prioritized project elements
 - Combined Department of the Interior (DOI) and BAHG scores guided proportional reductions
- Three priority-based scenarios evaluated; none could meet all priorities
 - Monitoring all resources, Planned Humpback Chub work, and Program support
- Trade-offs required—no plan met all priorities

GCMRC leadership and staff worked to develop a “middle-of-the-road” approach that maximally protects priority interests in consideration of staffing realities (takes time)

Proposed Scenario

FY27 GCMRC Budget Scenario →

- Document presents the reduction scenario, savings strategies, and impacts to science
- Brief discussion included for each Project
- Aims to balance priority needs and monitoring of changing resource conditions without compromising long-term capabilities
- Continued hiring freeze and Chief SBSC ‘detail’ is assumed
- Encourages savings and increased efficiency through staff sharing, combined fieldwork, alternative funding, and reassessment of data needs

Glen Canyon Dam Adaptive Management Program FY27 Proposed Grand Canyon Monitoring and Research Center Science Activities Budget Reductions – 02 July 2026

The Bureau of Reclamation has indicated that a reduced Glen Canyon Dam Adaptive Management Program (GCDAMP) budget for FY27 is anticipated. The extent of the reduction is currently unknown but is expected to be at least 15% lower than the \$10 million funding amount anticipated in the FY25-27 Triennial Work Plan (TWP) in FY27. To accommodate a timely recommendation from the Adaptive Management Work Group, new budgets have been developed by the Bureau of Reclamation and the USGS Grand Canyon Monitoring and Research Center (GCMRC) projecting budgets at reduced levels.

The GCMRC budget plan presented here (Plan 4) was developed among GCMRC leadership and staff and seeks to maintain high-priority research and monitoring needs identified by Department of the Interior (DOI) and the Budget Ad Hoc Group (BAHG) at funding levels comparable to the original TWP while maintaining only a basic level of monitoring across other resources goals that were lower priority. We present budget reduction scenarios at the 15, 19.25, and 23.5% (19.25% and 23.5% represent an additional 5% and 10% reduction from the minimum 15% reduction; total reduction amounts at each level are \$1,500,000 at 15%, \$1,925,000 at 19.25%, and \$2,350,000 at 23.5%).

This planning assumes the federal hiring freeze will continue, and therefore any staff lost will not be replaced; cooperators may be limited in the ability to replace staff as well. Loss of staff during the hiring freeze would create a lasting impact on GCMRC and GCDAMP science capabilities that would extend into the next TWP.

For background, the GCDAMP BAHG was presented with three draft reduction plans from May 26-June 10th. The first draft reduction plan by GCMRC was distributed on May 26, 2026 (Plan 1); it preserved, fully intact, field monitoring efforts for each resource goal, which was identified as a priority in the BAHG. Evaluation of the plan produced written comments from 8 member organizations, and it was found to be lacking, particularly in the effort to support monitoring concerns regarding Humpback Chub.

Plan 2 was considered by the BAHG on June 5th. Plan 2 fully protected the priorities planned in the TWP regarding threatened Humpback Chub; however, the required budget reductions resulted in the complete elimination of effort on several Long Term Experimental and Management Plan (LTEMP) resources.

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FY27 GCMRC Budget Scenario →

- Incorporates capacity limitations; capacity limits now rival funding limits
- Refrains from reductions that would further reduce capacity
- Reductions were based on DOI/BAHG Scores only; no additional adjustment for relative funding levels
- No Elements are fully paused in this scenario
- All Elements received target reductions
- Adjustments could create reductions in capacity as planning continues; Element

Project	Project Description	FY27 Capacity Limited Total	Capacity Percent Reduction from FY25-27 TWP	GRAND AVE RANK	15% Reduction	15% Reduction from capacity limit	15% Reduced Budget	19.25% Reduction	19.25% Reduction from capacity limit	19.25% Reduced Budget	23.5% Reduction	23.5% Reduction from capacity limit	23.5% Reduced Budget
A.1	Stream gaging and hydrologic analyses	\$443,415	0.30%	3.2	\$2,818	0.64%	\$440,597	\$13,612	3.07%	\$429,803	\$34,389	7.76%	\$409,026
A.2	Continuous water quality parameters	\$228,735	5.34%	8.7	\$3,979	1.74%	\$224,756	\$19,217	8.40%	\$209,518	\$37,679	16.47%	\$191,056
A.3	Sediment transport and budgeting	\$709,490	-2.06%	9.3	\$13,291	1.87%	\$696,199	\$64,192	9.05%	\$645,298	\$68,605	9.67%	\$640,885
B.1	Sandbar and campsite monitoring with t	\$366,309	6.88%	14.0	\$10,293	2.81%	\$356,016	\$49,713	13.57%	\$316,596	\$58,850	16.07%	\$307,459
B.2	Bathymetric and topographic mapping f	\$484,356	12.97%	30.5	\$22,344	4.61%	\$462,012	\$22,344	4.61%	\$462,012	\$22,344	4.61%	\$462,012
B.3	Control network and survey support	\$0			\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
B.4	Streamflow, sediment, and sandbar model	\$0			\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
C.1	Ground-based riparian vegetation monit	\$300,593	1.22%	15.2	\$9,150	3.04%	\$291,443	\$44,194	14.70%	\$256,399	\$99,032	32.95%	\$201,561
C.2	Determining hydrological tolerances and	\$0		42.7	\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
C.3	Predictive models and synthesis	\$25,911	34.08%	39.5	\$0	0.00%	\$25,911	\$0	0.00%	\$25,911	\$0	0.00%	\$25,911
C.4	Biogeomorphic Linkages between streamf	\$51,613	3.85%	35.7	\$0	0.00%	\$51,613	\$0	0.00%	\$51,613	\$0	0.00%	\$51,613
C.5	Vegetation management decision support	\$0			\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
D.1	Monitoring the effects of dam operation	\$345,133	9.21%	16.3	\$11,315	3.28%	\$333,818	\$54,646	15.83%	\$290,487	\$56,521	16.38%	\$288,612
D.2	Monitoring landscape-scale ecosystem cl	\$74,914	6.29%	38.7	\$2,940	3.92%	\$71,974	\$2,940	3.92%	\$71,974	\$2,940	3.92%	\$71,974
D.3	Evaluating effects of LTEMP non-flow acti	\$101,134	10.76%	33.0	\$6,699	6.62%	\$94,435	\$9,800	9.69%	\$91,334	\$9,800	9.69%	\$91,334
D.4	Pilot study to evaluate potential to extract	\$0			\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
D.5	Monitoring petroglyphs and pictographs w	\$0			\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
E.1	Phosphorus budgeting in the Colorado R	\$64,719	-8.96%	33.7	\$3,430	5.30%	\$61,289	\$3,430	5.30%	\$61,289	\$3,430	5.30%	\$61,289
E.2	Rates and composition of primary produ	\$93,534	8.77%	33.3	\$6,258	6.69%	\$87,276	\$19,276	20.61%	\$74,258	\$19,276	20.61%	\$74,258
E.3	Understanding the energetic basis of the R	\$0			\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
E.4	Productivity at higher trophic levels	\$68,182	-3.30%	34.8	\$2,940	4.31%	\$65,242	\$2,940	4.31%	\$65,242	\$2,940	4.31%	\$65,242
F.1	Invertebrate and bat monitoring in Mar	\$237,951	-1.84%	36.7	\$17,512	7.36%	\$220,439	\$17,640	7.41%	\$220,311	\$17,640	7.41%	\$220,311
F.2	Aquatic invertebrate monitoring in Glen	\$142,931	18.87%	30.5	\$3,247	2.27%	\$139,684	\$3,247	2.27%	\$139,684	\$3,247	2.27%	\$139,684
F.3	Aquatic invertebrate monitoring of Grand C	\$82,804	28.20%	34.5	\$5,734	6.92%	\$77,070	\$27,693	33.44%	\$55,111	\$57,500	69.44%	\$25,304
F.4	Invertebrate and fish diet studies	\$49,154	\$4,71%	38.8	\$3,831	7.79%	\$45,323	\$10,607	21.58%	\$38,547	\$10,607	21.58%	\$38,547
G.1	Humpback chub population modeling	\$261,104	-1.98%	4.8	\$2,533	0.97%	\$258,571	\$12,234	4.69%	\$248,870	\$12,740	4.88%	\$248,364
G.2	Annual spring/fall HBC abundance estim	\$586,563	1.91%	6.0	\$7,064	1.20%	\$579,499	\$34,116	5.82%	\$552,447	\$86,193	14.69%	\$500,370
G.3	Juvenile chub monitoring near the LCR con	\$549,789	12.77%	7.5	\$8,276	1.51%	\$541,513	\$39,972	7.27%	\$509,817	\$100,986	18.37%	\$448,803
G.4	Remote PIT-tag array monitoring in the LCR	\$28,463	43.03%	20.5	\$879	3.09%	\$27,584	\$4,248	14.92%	\$24,215	\$5,670	19.92%	\$22,793
G.5	Monitoring humpback chub aggregation re	\$246,063	2.81%	7.7	\$3,786	1.54%	\$242,277	\$18,287	7.43%	\$227,776	\$46,202	18.78%	\$199,861
G.6	Juvenile chub monitoring - Western Grand	\$0			\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
G.7	Chute Falls translocations	\$0			\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
G.8	Sampling of springs in the upper LCR	\$0			\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
G.9	Movement in western Grand Canyon from	\$0			\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
H.1	Rainbow trout fishery monitoring in Glen	\$99,578	0.30%	18.2	\$0	0.00%	\$99,578	\$0	0.00%	\$99,578	\$0	0.00%	\$99,578
H.2	Experimental flow assessment of trout re	\$292,641	13.14%	24.2	\$14,195	4.85%	\$278,446	\$68,556	23.43%	\$224,085	\$138,984	47.49%	\$153,657
H.3	Salmonid modeling	\$92,095	4.28%	32.3	\$5,880	6.38%	\$86,215	\$5,880	6.38%	\$86,215	\$5,880	6.38%	\$86,215
I.1	System-wide native fishes and invasive a	\$374,698	2.47%	3.2	\$2,382	0.64%	\$372,316	\$11,502	3.07%	\$363,196	\$29,060	7.76%	\$345,638
I.2	Estimating kinship and spawner abunda	\$18,408	0.50%	16.5	\$610	3.31%	\$17,798	\$2,058	11.18%	\$16,350	\$2,058	11.18%	\$16,350
I.3	Identifying emerging threats to the Colora	\$111,044	1.53%	17.0	\$3,789	3.41%	\$107,255	\$18,299	16.48%	\$92,745	\$46,233	41.63%	\$64,811
I.4	Modeling population dynamics and improv	\$263,798	0.11%	5.7	\$3,000	1.14%	\$260,798	\$14,491	5.49%	\$249,307	\$36,610	13.88%	\$227,188
J.1	Integrated models for adaptive manage	\$156,853	5.14%	19.3	\$3,920	2.50%	\$152,933	\$3,920	2.50%	\$152,933	\$3,920	2.50%	\$152,933
J.2	Recreation monitoring and research	\$130,991	6.38%	31.7	\$1,960	1.50%	\$129,031	\$1,960	1.50%	\$129,031	\$1,960	1.50%	\$129,031
J.3	Tribal resources research	\$0		34.5	\$0	0.00%	\$0	\$0	0.00%	\$0	\$0	0.00%	\$0
K.1	Enterprise GIS, geospatial analysis, and p	\$168,161	23.57%	30.2	\$9,408	5.59%	\$158,753	\$9,408	5.59%	\$158,753	\$9,408	5.59%	\$158,753
K.2	Data management and database admini	\$216,261	56.47%	14.7	\$4,453	2.06%	\$211,808	\$4,704	2.18%	\$211,557	\$4,704	2.18%	\$211,557
K.3	Data telemetry and field engineering	\$42,417	74.83%	20.8	\$1,774	4.18%	\$40,643	\$8,566	20.20%	\$33,851	\$9,849	23.22%	\$32,568

PROJECT A – Streamflow, Water Quality, and Sediment Transport

PROJECT B – Sandbar and Sediment Storage

PROJECT C – Riparian Vegetation

PROJECT D – Archeological and Cultural

PROJECT E – Ecosystem Productivity

PROJECT F – Aquatic Invertebrates

PROJECT G – Humpback Chub

PROJECT H – Trout

PROJECT I – Nonnative Aquatic Species

PROJECT J – Socioeconomic

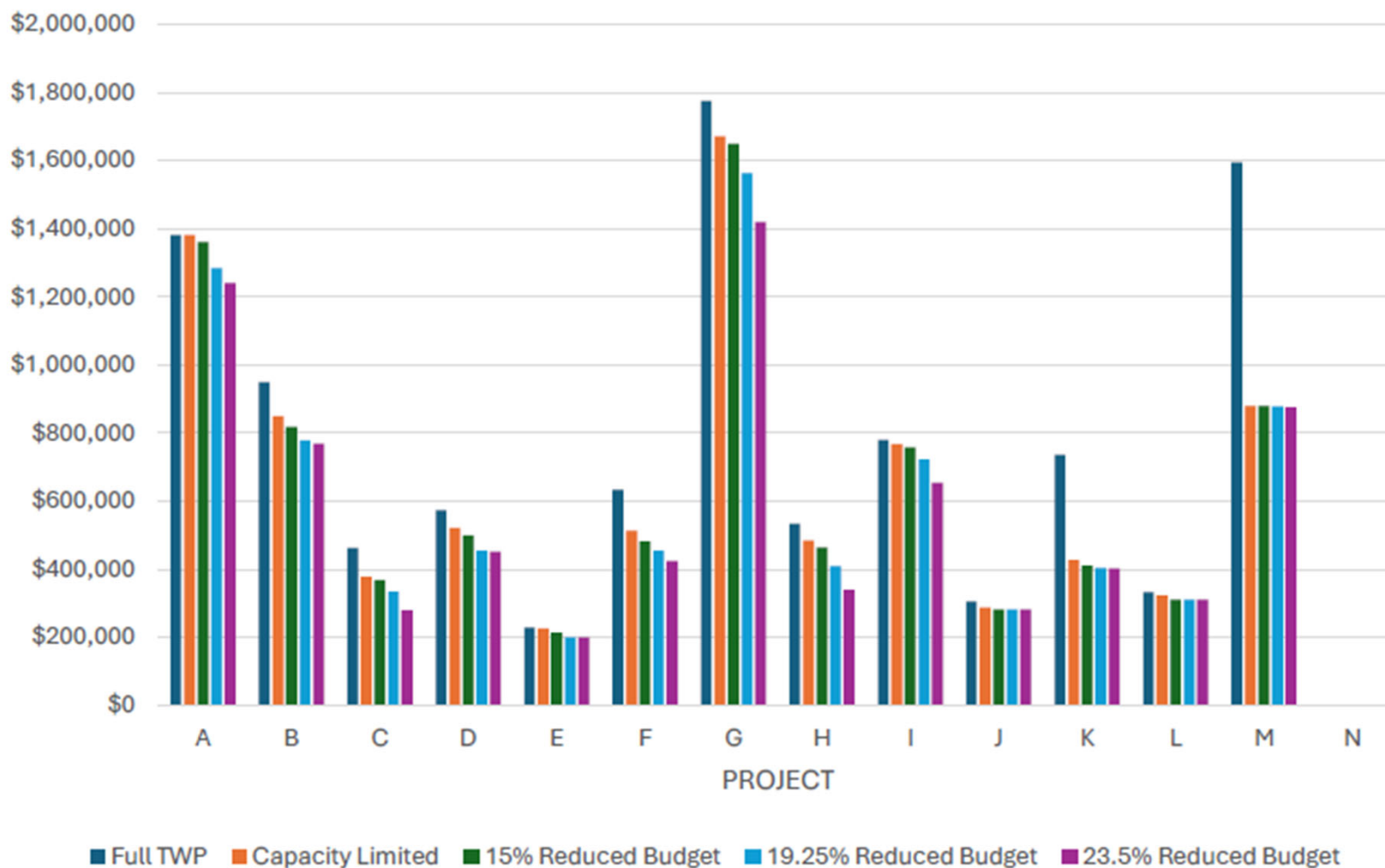
PROJECT K – Geospatial Science, Data Management and Technology

PROJECT L – Remote Sensing

PROJECT M – Management

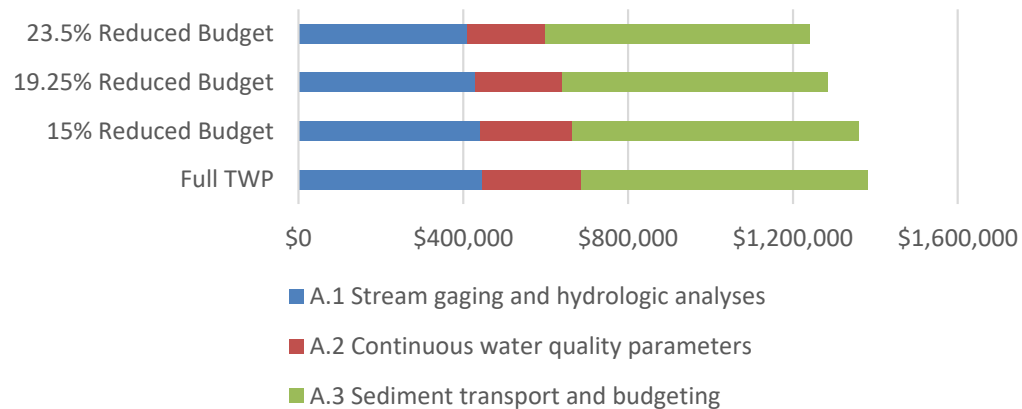
PROJECT N – Native Fish Population Dynamics

FY27 GCMRC Budget Comparison



A

Streamflow, Water Quality, and Sediment Transport and Budgeting in the Colorado River Ecosystem



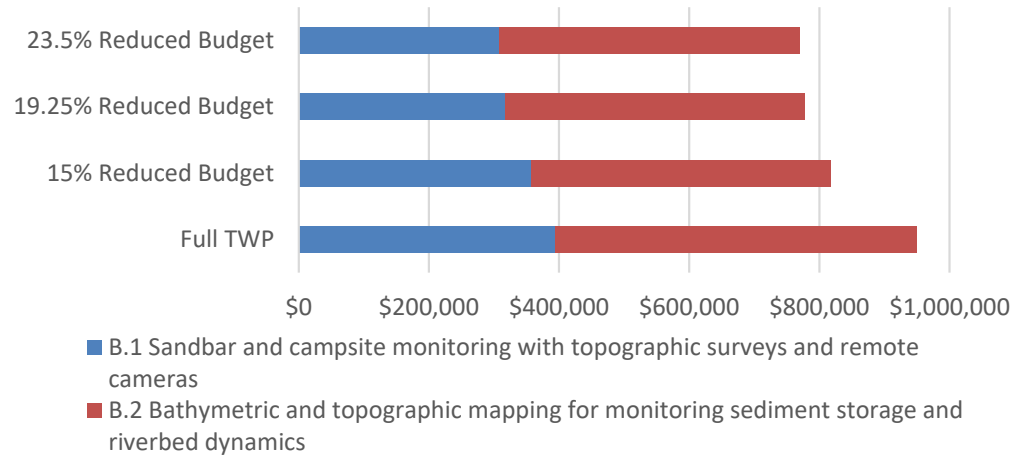
Project A – Streamflow, Water Quality, Sediment Transport

•**15% Scenario:** Decommissioning of select gages (Little Colorado River, Havasu Creek); minimal data loss, but critical gages protected.

•**19.25% & 23.5% Scenarios:** Further gage eliminations; risks loss of ability to support planning of HFEs; water-quality monitoring at Glen Canyon Dam is threatened; increasing risk to data continuity and scientific capacity.

B

Sandbar and Sediment Storage Monitoring and Research

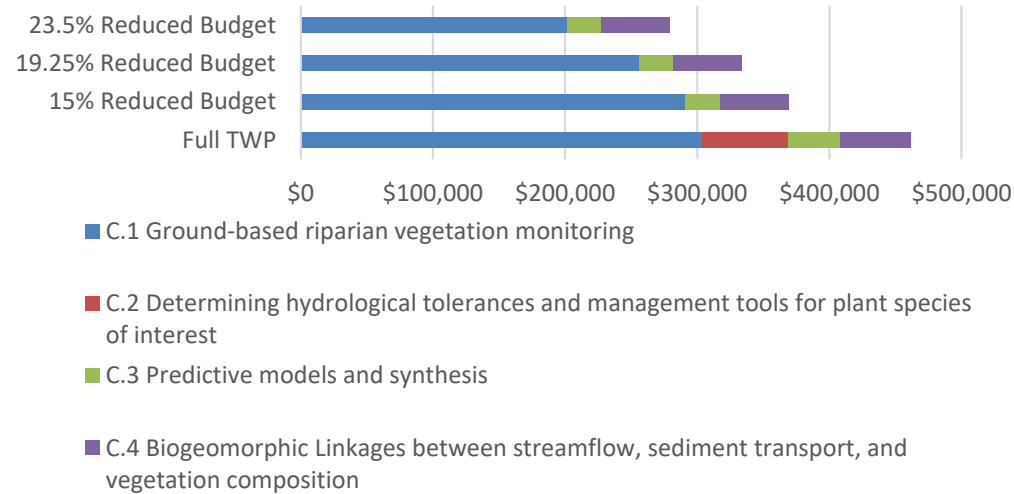


Project B – Sandbar & Sediment Storage

•All Reduction Levels: Sandbar monitoring minimally impacted at lower reductions; analysis of sediment mapping data threatened; increased reliance on volunteers and staff sharing; higher reductions risk loss of key products and metrics.

C

Riparian Vegetation Monitoring and Research



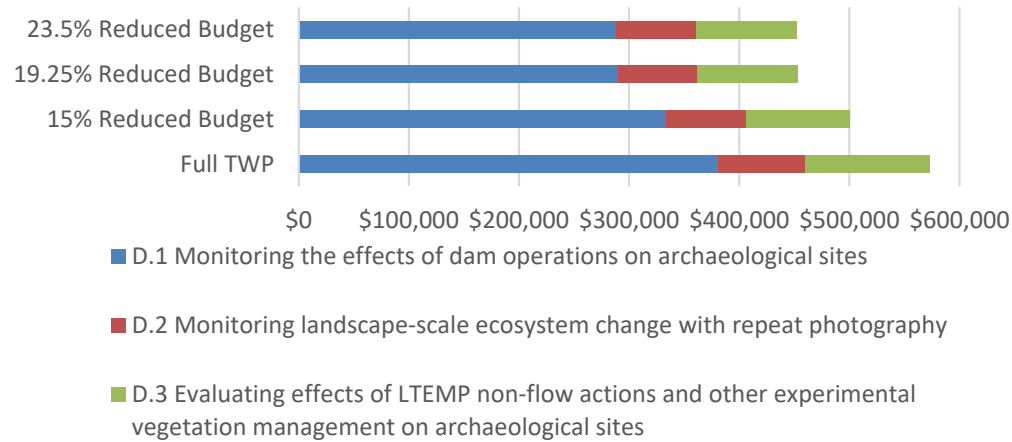
Project C – Riparian Vegetation

•**15% Scenario:** Annual data collection reduced; loss of annual monitoring metrics; greenhouse experiment paused.

•**19.25% & 23.5% Scenarios:** Further narrowing of scope; modeling and interdisciplinary studies may be reduced or eliminated; limited ability to assess plant community responses to dam operations.

D

Effects of Dam Operations and Vegetation Management for Archaeological Sites

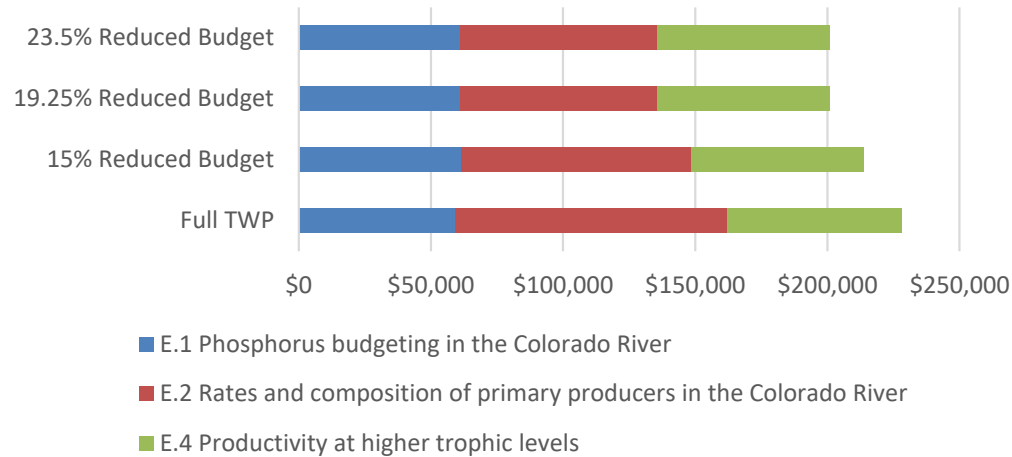


Project D – Archaeological & Cultural

- 15% Scenario:** Monitoring continues for lidar sites; photography and collaborative studies paused; limited analysis/reporting.
- 19.25% & 23.5% Scenarios:** All monitoring paused; only analysis of existing data; delayed reporting; collaborations eliminated.

E

Controls on Ecosystem Productivity: Nutrients, Flow, and Temperature

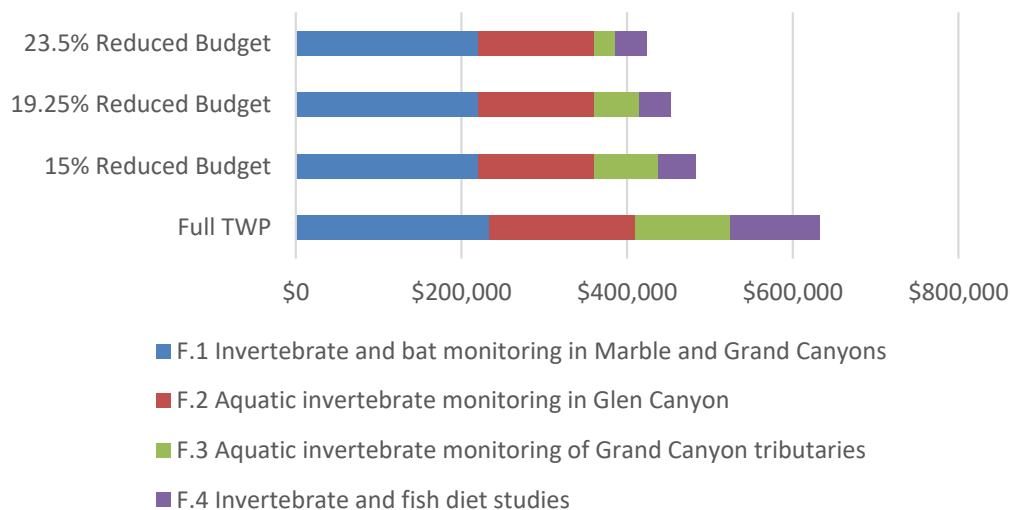


Project E – Ecosystem Productivity

- 15% Scenario:** Operating expenses cut; publication fees unfunded; minimal impact to ongoing analysis.
- 19.25% & 23.5% Scenarios:** Elimination of ecosystem metabolism measurements; only special-interest water quality data collected; further reduction in analysis and publication.

F

Aquatic Invertebrate Ecology

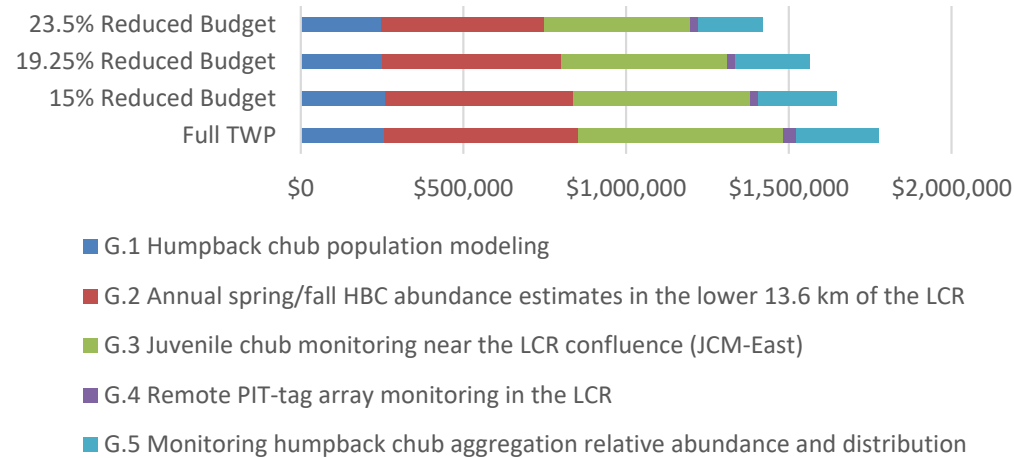


Project F – Aquatic Invertebrates

•All Reduction Levels: Food base monitoring maintained as much as possible; effort apportioned to minimize impacts; higher reductions may limit data collection and analysis.

G

Humpback Chub Population Dynamics throughout the Colorado River Ecosystem



Project G – Humpback Chub

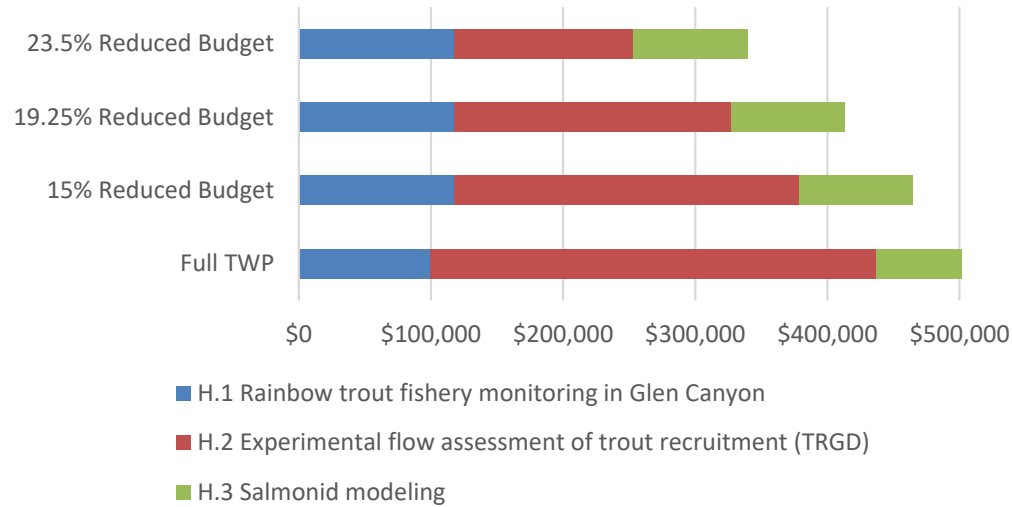
•**15% Scenario:** Reduced travel, logistics, and publication costs; minor impact to monitoring and modeling.

•**19.25% Scenario:** Significant cuts to logistics and supplies; reduced trip lengths; monitoring of non-natives near LCR confluence reduced.

•**23.5% Scenario:** Severe cuts; elimination of trips and PIT tag servicing; major impact to data collection and management triggers.

H

Salmonid Research and Monitoring



Project H – Trout

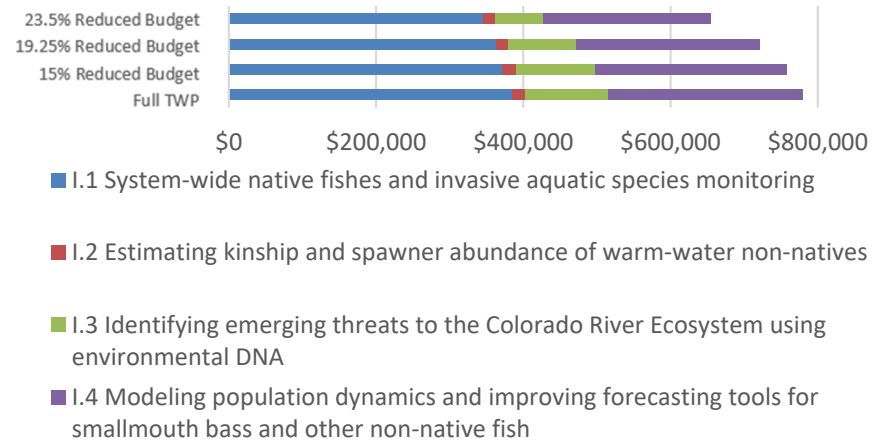
•**15% Scenario:** One TRGD trip cut; publication costs eliminated; reduced ability to detect warmwater non-natives and analyze trout demographics.

•**19.25% Scenario:** Two TRGD trips cut; insufficient data for demographic analysis; compromised staff sharing.

•**23.5% Scenario:** All TRGD trips cut; only analysis of existing data; future monitoring compromised.



Non-native Invasive Species Monitoring and Research

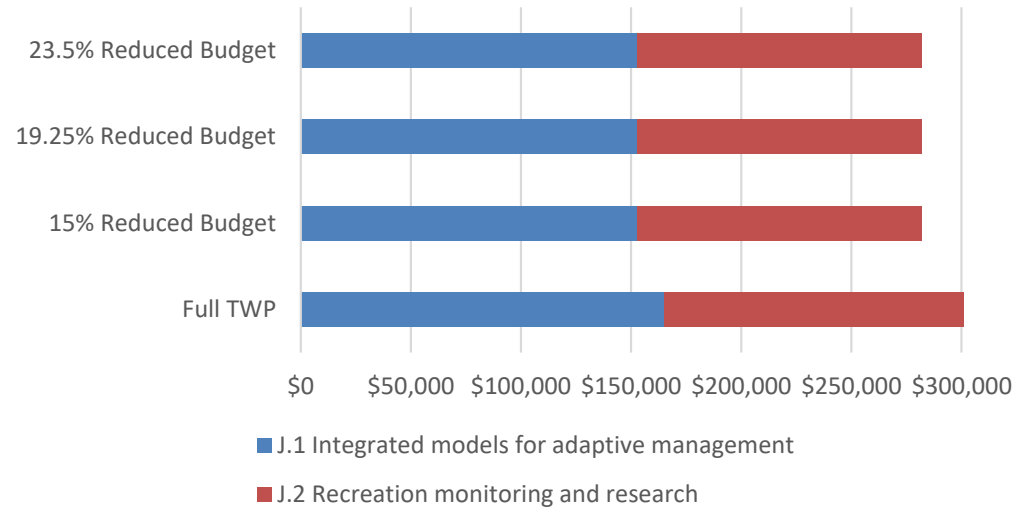


Project I – Nonnative Aquatic Species

- 15% Scenario:** Reduced sampling days; minimal impact to biosurveillance.
- 19.25% Scenario:** Elimination of gear type in eDNA project; reduced modeling and sample collection.
- 23.5% Scenario:** Elimination of downstream eDNA work; reduced robustness of detection methods; modeling efforts curtailed.

J

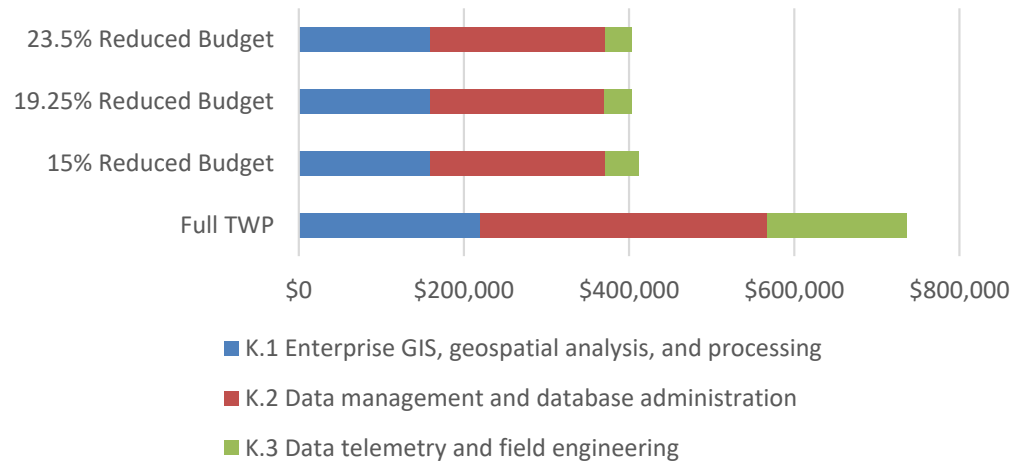
Socioeconomic Research



Project J – Socioeconomic

K

Geospatial Science, Data Management, and Technology

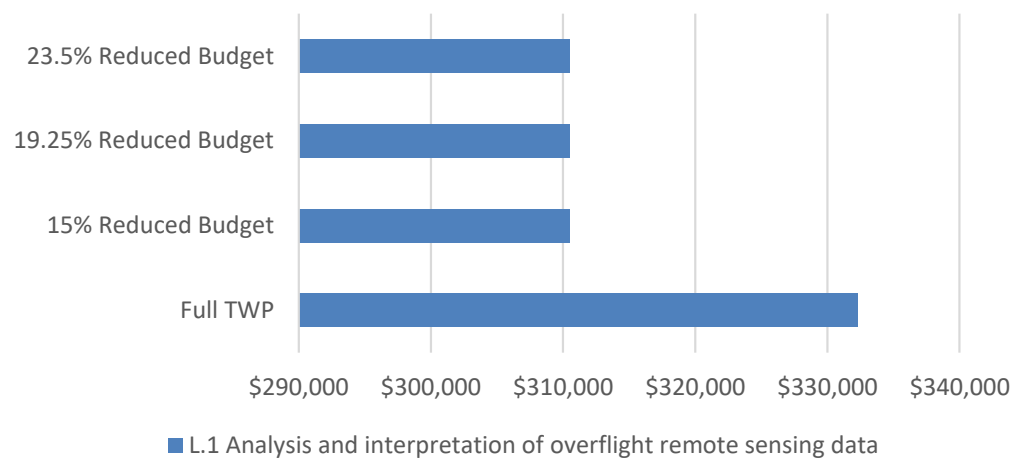


Project K – Geospatial Science, Data Management & Technology

•All Reduction Levels: Compounding impacts across GCMRC; reduced capacity for data management and accessibility; risk of data loss increases with continued hiring freeze.

L

Overflight Remote Sensing in Support of GCDAMP and LTEMP

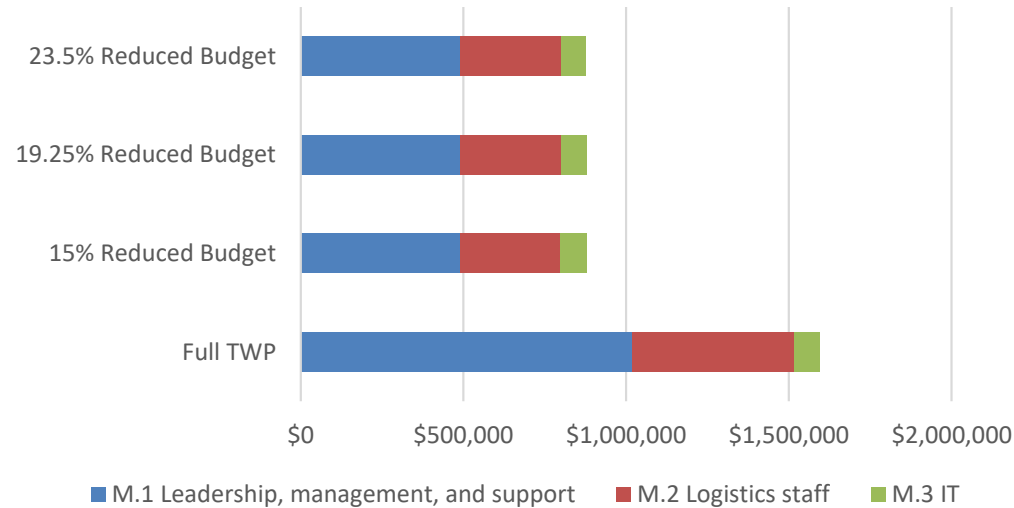


Project L – Remote Sensing

•All Reduction Levels: Data analysis continues; no funding for software, publication, or travel; staffing may be reduced to cover expenses.

M

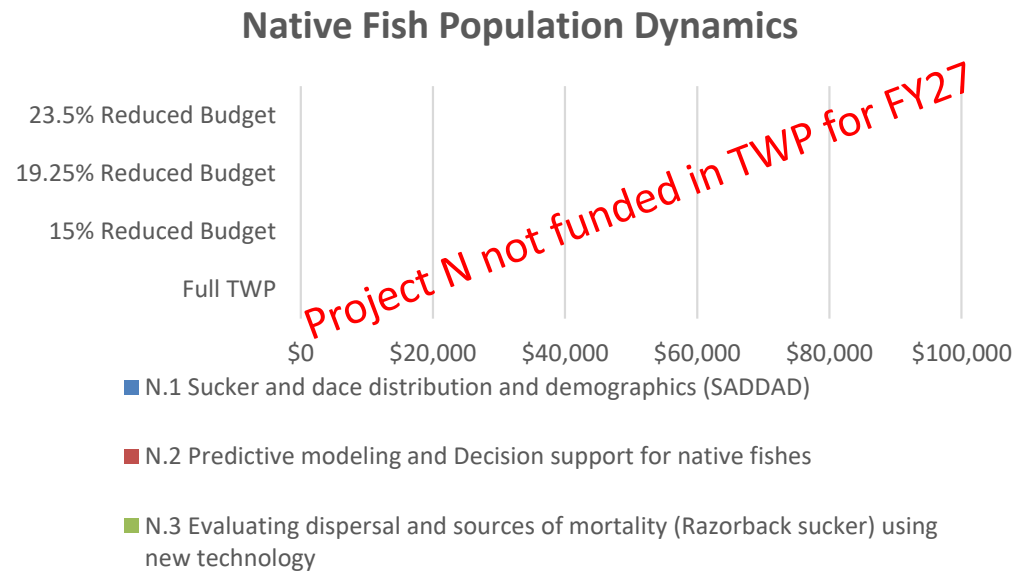
Leadership, Management, and Support



Project M – Management

•All Reduction Levels: Maintain current reduced management and logistics staff levels; information product delays; managerial functions stressed; IT needs reduced but risk minimized.

N



Project N – Native Fish Population Dynamics

•All Reduction Levels: Project not funded; only minimal support for student tuition in FY25; PI salary eliminated; analyses and presentations limited.

DOI/BAHG Scores will guide trade-off decisions

ELEMENT	GRAND AVG RANK
A.1	3.2
A.2	8.7
A.3	9.3
AVERAGE	7.1
B.1	14.0
B.2	30.5
AVERAGE	22.3
C.1	15.2
C.2	42.7
C.3	39.5
C.4	35.7
AVERAGE	33.3
D.1	16.3
D.2	38.7
D.3	33.0
AVERAGE	29.3

ELEMENT	GRAND AVG RANK
E.1	33.7
E.2	33.3
E.4	34.8
AVERAGE	33.9
F.1	36.7
F.2	30.5
F.3	34.5
F.4	38.8
AVERAGE	35.1
G.1	4.8
G.2	6.0
G.3	7.5
G.4	20.5
G.5	7.7
AVERAGE	9.3

ELEMENT	GRAND AVG RANK
H.1	18.2
H.2	24.2
H.3	32.3
AVERAGE	24.9
I.1	3.2
I.2	16.5
I.3	17.0
I.4	5.7
AVERAGE	10.6
J.1	19.3
J.2	31.7
AVERAGE	25.5

ELEMENT	GRAND AVG RANK
K.1	30.2
K.2	14.7
K.3	20.8
AVERAGE	21.9
L.1	34.3
AVERAGE	34.3
M.1	27.0
M.2	12.7
M.3	40.8
AVERAGE	26.8

Funded Project Elements with DOI/BAHG scores and Project averages



Thank you!

