

# RECLAMATION

*Managing Water in the West*

## FY 2020 Proposed Budget

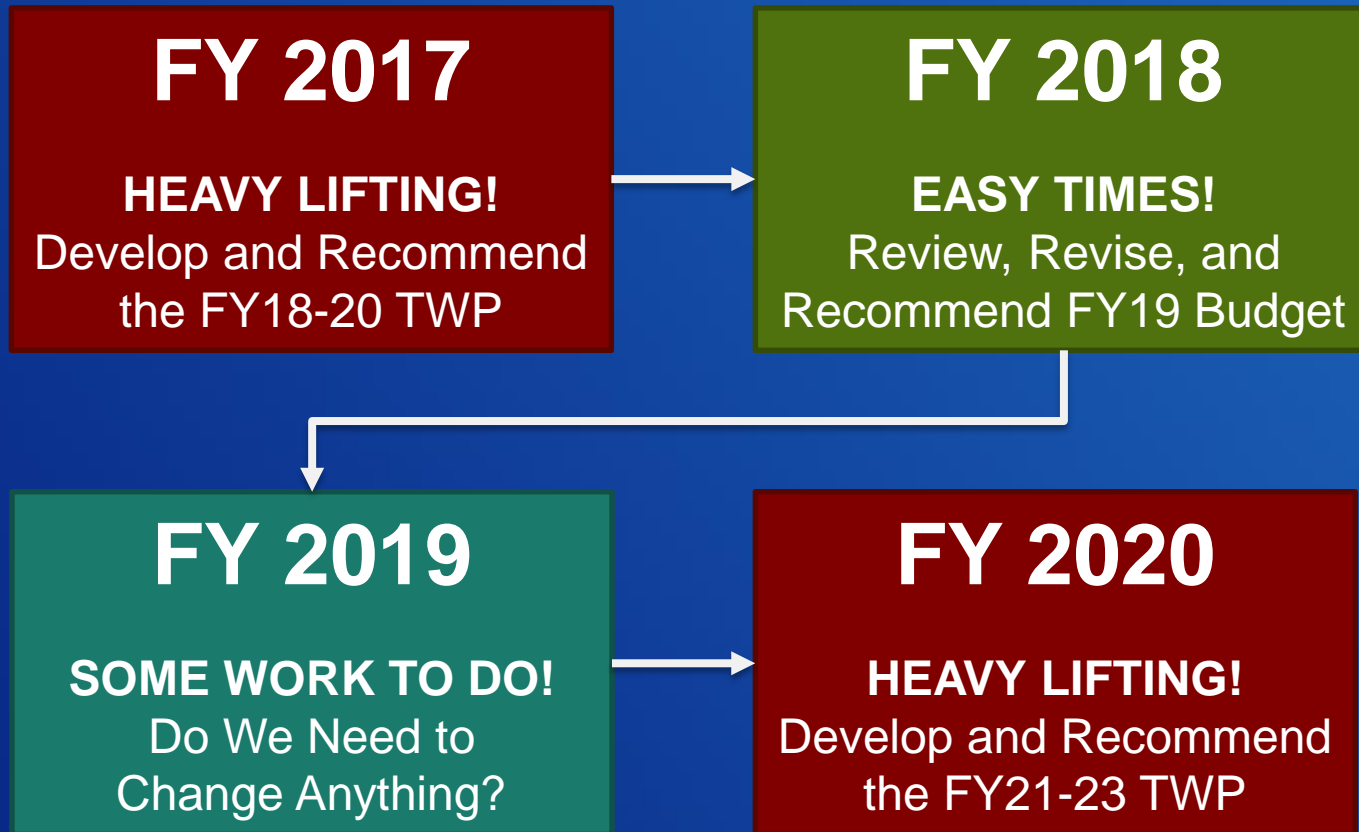
**Adaptive Management Working Group Webinar**  
**May 22, 2019**

*Lee Traynham*  
*Bureau of Reclamation*  
*Glen Canyon Dam Adaptive Management Program*



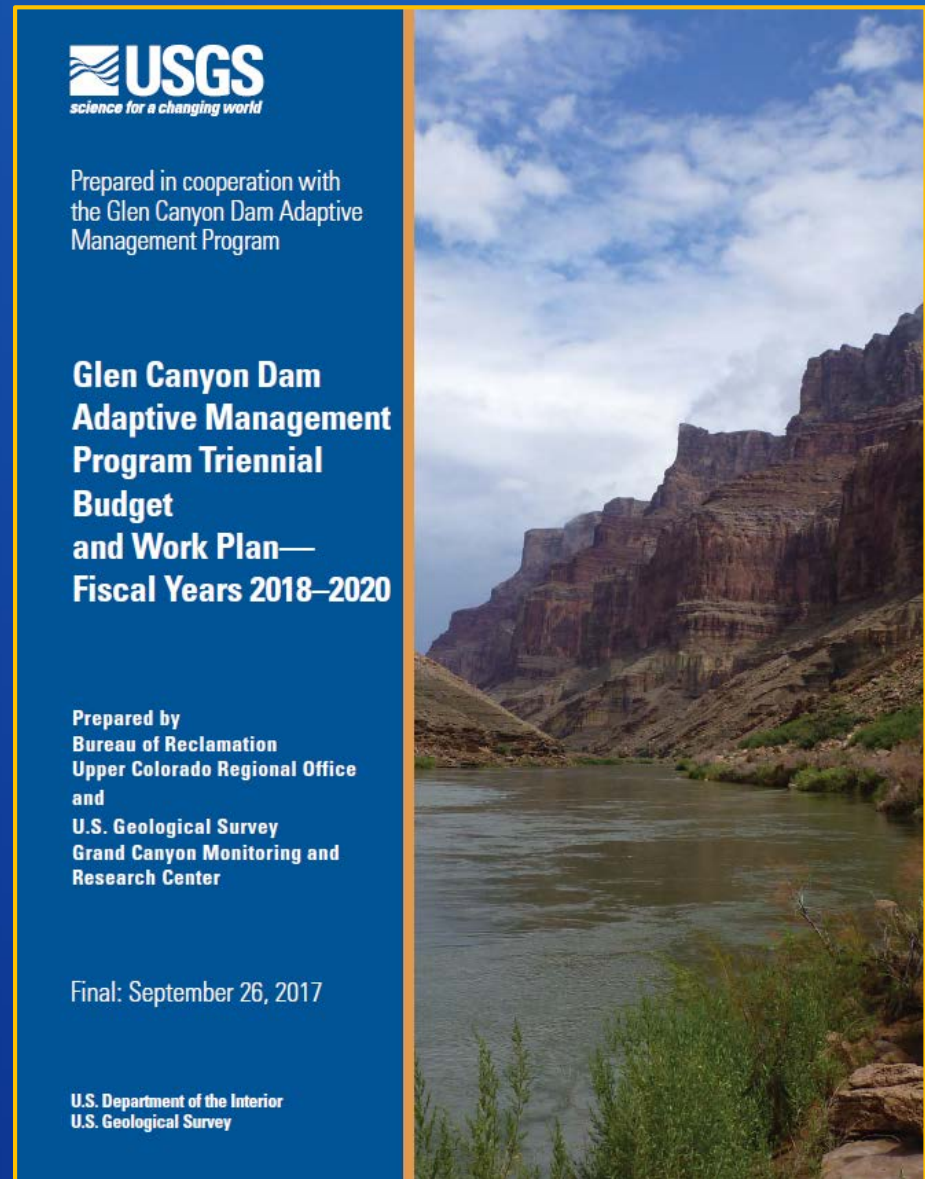
U.S. Department of the Interior  
Bureau of Reclamation

# Where are we in the Triennial Work Plan Process?



# FY 2020 Budget Planning

- Start with AMWG recommended FY 18-20 Budget and Work Plan
- Determine whether any adjustments need to be made for FY20 (e.g., changes in science, adjustments in implementation)



Prepared in cooperation with  
the Glen Canyon Dam Adaptive  
Management Program

**Glen Canyon Dam  
Adaptive Management  
Program Triennial  
Budget  
and Work Plan—  
Fiscal Years 2018–2020**

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

Final: September 26, 2017

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

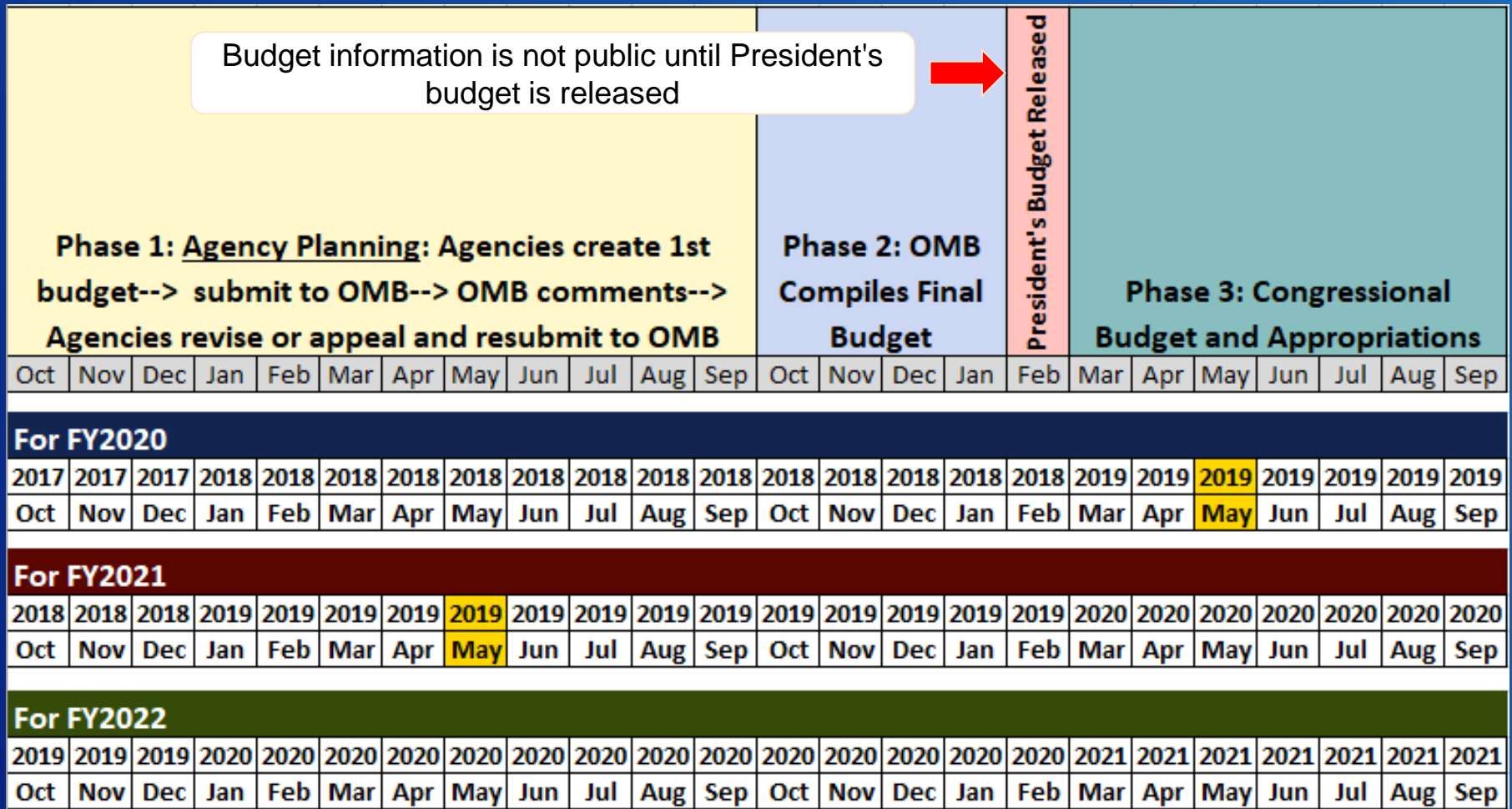
RECLAMATION

# FY2020 GCDAMP Funding

- In FY19, GCDAMP was funded by appropriated dollars rather than power revenues
  - Per WAPA, OMB Directive remains in place until is rescinded or replaced.
- In FY20, Reclamation requested over-target appropriated funding

Reclamation Adaptive Management Program Budget Summary 2020				
		2018	2019	2020
	<b>GCDAMP Total</b>	\$ 11,156,449	\$ 11,360,000	\$ 11,360,000
	<b>Reclamation Total (20%)</b>	\$ 2,231,290	\$ 2,336,788	\$ 2,336,788
	<b>GCMRC Total (80%)</b>	\$ 8,925,159	\$ 9,023,212	\$ 9,023,212

# The Federal Budget Calendar



1. FY2020 Bureau of Reclamation Budget Justifications (pages 93-95) – [URL](#)
2. FY2020 Energy and Water Appropriations Draft Bill (House) – [URL](#)

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# Differences between Appropriated Dollars and Power Revenues

## Appropriated Dollars

- Requested 3 yrs in advance - next request will be for FY22
- Do not include CPI
- Do not carry over from year to year
- Must be obligated by the end of the FY
- Can be impacted by Continuing Resolutions

## Power Revenues

- Included CPI
- Can be carried over from year to year
  - Native Fish Conservation Contingency Fund
  - NHPA Section 106 Contingency Fund
- Usually not impacted by Continuing Resolutions - but may get monthly increments instead of lump sum

# FY20 Proposed Budget - Totals

		FY18-20 TWP	Revised
		2020	2020
	<b>GCDAMP Total</b>	<b>\$ 11,247,066</b>	<b>\$ 11,360,000</b>
	<b>Reclamation Total (20%)</b>	<b>\$ 2,249,413</b>	<b>\$ 2,272,000</b>
<b>A</b>	<b>Adaptive Management Work Group</b>	<b>\$ 432,538</b>	<b>\$ 440,300</b>
	<i>percent of BOR budget</i>	<b>19%</b>	<b>19%</b>
<b>B</b>	<b>Technical Working Group</b>	<b>\$ 204,020</b>	<b>\$ 206,468</b>
	<i>percent of BOR budget</i>	<b>9%</b>	<b>9%</b>
<b>C</b>	<b>Program Admin, ESA Compliance, and Mgmt Actions</b>	<b>\$ 1,031,814</b>	<b>\$ 1,044,351</b>
	<i>percent of BOR budget</i>	<b>46%</b>	<b>46%</b>
<b>D</b>	<b>Cultural Resources</b>	<b>\$ 581,030</b>	<b>\$ 585,000</b>
	<i>percent of BOR budget</i>	<b>26%</b>	<b>26%</b>

# A. AMWG and B. TWG

**FY18-20  
TWP  
2020**

**Revised  
2020**

<b>A</b>	<b>Adaptive Management Work Group</b>
	<i>percent of BOR budget</i>
A.1	Adaptive Management Work Group Costs (BOR)
A.2	AMWG Member Travel Reimbursement
A.3	AMWG Reclamation Travel
A.4	AMWG Facilitation Contract
A.5	Public Outreach - Reclamation public affairs, POAG
A.6	Public Outreach- Administrative History
A.7	AMWG Other
<b>B</b>	<b>Technical Working Group</b>
	<i>percent of BOR budget</i>
B.1	TWG Costs (BOR)
B.2	TWG Member Travel Reimbursement
B.3	TWG Reclamation Travel
B.4	TWG Chair Reimbursement/Facilitation
B.5	TWG Other

<b>\$ 432,538</b>
<b>19%</b>
\$ 224,422
\$ 20,402
\$ 20,402
\$ 76,508
\$ 25,503
\$ 50,000
\$ 15,302
<b>\$ 204,020</b>
<b>9%</b>
\$ 122,412
\$ 25,503
\$ 20,402
\$ 25,503
\$ 10,201

<b>\$ 440,300</b>
<b>19%</b>
\$ 232,000
\$ 21,000
\$ 21,000
\$ 75,000
\$ 25,700
\$ 50,000
\$ 15,600
<b>\$ 206,468</b>
<b>9%</b>
\$ 123,881
\$ 25,809
\$ 20,647
\$ 25,809
\$ 10,323

# C. Program Administration

		FY18-20 TWP 2020	Revised 2020
C	Program Admin, ESA Compliance, and Management Actions	\$ 1,031,814	\$ 1,044,351
	<i>percent of BOR budget</i>	46%	46%
C.1	Administrative Support for NPS Permitting	\$ 114,251	\$ 114,251
C.2	Contract Administration	\$ 76,508	\$ 75,000
C.3	Integrated Stakeholder River Trip	\$ -	\$ -
C.4	Science Advisors Program	\$ 153,015	\$ 150,000
C.5	Experimental Management Fund	\$ 408,040	\$ 425,100
C.6	Native Fish Conservation Contingency Fund		
C.7	Experimental Vegetation Treatment	\$ 220,000	\$ 220,000
C.8	Evaluation of means to prevent fish passage through GCD	\$ 50,000	\$ 50,000
C.9	Evaluation of temperature control methods at GCD		
C.10	Ridgway Rail and Southwest Willow Flycatcher monitoring	\$ 10,000	\$ 10,000

# D. Cultural Resources

**FY18-20  
TWP  
2020**

**Revised  
2020**

D	Cultural Resources
	<i>percent of BOR budget</i>
D.1	Reclamation Cultural Resources Program Management
D.2	Support to Reclamation for cultural resources compliance
D.3	Cultural Resources Monitoring - Grand Canyon
D.4	Cultural Resources Monitoring - Glen Canyon
D.5	Documentation of Navajo, Hualapai, and Paiute TCPs
D.6	Associative values studies for TCPs
D.7	Cultural sensitivity training development - tribal expertise
D.8	Cultural sensitivity training video
D.9	Hualapai archive project
D.10	Contingency fund for NHPA section 106 compliance
D.11	Tribal cultural resources monitoring
D.12	<i>Tribal participation in AMP (not funded by power revenues)</i>

\$ 581,030
26%
\$ 122,412
\$ 40,400
\$ 48,000
\$ 26,000
\$ -
\$ 100,000
\$ 15,000
\$ 25,000
\$ -
\$ 25,700
\$ 178,518
\$ 475,000

\$ 585,000
26%
\$ 126,000
\$ 40,000
\$ 48,000
\$ 26,000
\$ -
\$ 100,000
\$ 15,000
\$ 25,000
\$ -
\$ 30,000
\$ 175,000
\$ 475,000



# GCMRC FY 2020 Proposed Budget

**Adaptive Management Work Group Webinar**  
**May 22, 2019**

Scott VanderKooi

Southwest Biological Science Center

Grand Canyon Monitoring and Research Center

# **A. Streamflow, Water Quality, and Sediment Transport and Budgeting in the Colorado River Ecosystem**

## **Project Elements**

1. Stream gaging
2. Water quality
3. Sediment transport and budgeting



# **B. Sandbar and Sediment Storage Monitoring and Research**

## **Project Elements**

1. Sandbar monitoring using topographic surveys and remote cameras
2. Bathymetric and topographic mapping for monitoring long-term trends in sediment storage
3. Control network and survey support

## C. Riparian Vegetation Monitoring and Research

### Project Elements

1. Ground-based riparian vegetation monitoring
2. Imagery-based riparian vegetation monitoring at the landscape scale
3. Vegetation responses to Long-Term Experimental and Management Plan (LTEMP) flow scenarios
4. Vegetation management decision support

## D. Geomorphic Effects of Dam Operations and Vegetation Management for Archaeological Sites

### Project Elements

1. Geomorphic effects of dam operations and vegetation management
2. Cultural resources synthesis to inform Historic Preservation Plan

## **E. Nutrients and temperature as ecosystem drivers: understanding patterns, establishing links and developing predictive tools for an uncertain future**

### **Project Elements**

1. Temperature and nutrients in the Colorado River ecosystem – patterns, drivers, and improved predictions
2. Linking temperature and nutrients to metabolism and higher trophic levels

## **F. Aquatic Invertebrate Ecology (Food Base)**

### **Project Elements**

1. Influence of dam operations on the food base
2. Aquatic food base status at humpback chub monitoring locations
3. Terrestrial-aquatic linkages
4. Glen Canyon food base monitoring and research
5. Are undesirable shifts in the Glen Canyon prey base facilitating expansion of brown trout?

# G. Humpback chub population dynamics throughout the Colorado River Ecosystem

## Project Elements

1. Humpback chub population modelling
2. Annual spring/fall humpback chub abundance estimates in the lower 13.6 km of the Little Colorado River (LCR)
3. Juvenile chub monitoring near the LCR confluence
4. Remote PIT array monitoring in the LCR
5. Monitoring humpback chub aggregation relative abundance and distribution
6. Juvenile chub monitoring – West
7. Chute Falls translocations
8. Havasupai translocation feasibility (FY2020)
9. Backwater seining



## H. Salmonid Research and Monitoring

### Project Elements

1. Experimental flow assessment of trout recruitment
2. Rainbow trout and brown trout recruitment and outmigration model
3. Using early life history and physiological growth data from otoliths to inform management of rainbow trout and brown trout populations in Glen Canyon
4. Rainbow trout monitoring in Glen Canyon

## I. Warm-Water Native and Non-Native Fish Research and Monitoring

### Project Elements

1. System-wide native and invasive aquatic species monitoring
2. Improved early detection of warm-water invasive fish
3. Assess the risks warm-water nonnative fish pose to native fish

# J. Socioeconomic Monitoring and Research in the Colorado River Ecosystem

## Project Elements

1. Tribal perspectives for, and values of, resources downstream of Glen Canyon Dam: tribal member population survey
2. Applied decision and scenario analysis

# K. Geospatial Science and Technology

## Project Elements

1. Geospatial data management, processing and documentation
2. Access to geospatial data holdings
3. Remote monitoring systems and technological engineering



# L. Remote Sensing Overflight in Support of Long Term Monitoring and LTEMP

## Project Elements

1. Remote sensing overflight in support of long term monitoring and LTEMP

# M. Administration

## Project Elements

1. Administration
2. Logistics
3. IT



# N. Hydropower Monitoring and Research

## Project Elements

1. Hydropower monitoring and research



# New USGS Flagstaff Science Building and Overhead Projection

- Occupancy agreement between USGS, City of Flagstaff, and GSA signed in April
- Occupancy start of FY2021 at earliest, overhead may increase some during planning and construction.
- FY 2020 overhead on GCDAMP funds: Current projection ~16%, pass-through rate = 3.0%
- Overhead on GCDMAP funds to ~26% upon occupancy

# FY 2020 Budget Revisions

- Revised budgets using reduced overhead rate
- Eliminated use of Native Fish Consv. Fund
- Eliminated projected carryover
- Increased salaries to retain key capacities/staff (Projects A, B, C, D, E, G, H, I, K)
- Increased cooperative agreements to partially offset previous reductions (AGFD, USFWS)
- Requests for support from Experimental Fund for work to help evaluate Bug Flows and design future Trout Management Flows

# FY2020 Revised Budget Summary

Project	Project Description	FY18-20 TWP	Revised
A	Streamflow, Water Quality, and Sediment Transport and Budgeting in the Colorado River Ecosystem	\$1,317,000	\$1,280,000
B	Sandbar and Sediment Storage Monitoring and Research	\$1,044,000	\$1,015,000
C	Riparian Vegetation Monitoring and Research	\$457,000	\$515,000
D	Geomorphic Effects of Dam Operations and Vegetation Management for Archaeological Sites	\$298,000	\$284,000
E	Nutrients and Temperature as Ecosystem Drivers: Understanding Patterns, Establishing Links and Developing Predictive Tools for an Uncertain Future	\$257,000	\$284,000
F	Aquatic Invertebrate Ecology	\$780,000	\$718,000
G	Humpback Chub Population Dynamics throughout the Colorado River Ecosystem	\$1,682,000	\$1,632,000
H	Salmonid Research and Monitoring	\$699,000	\$667,000
I	Warm-Water Native and Non-Native Fish Research and Monitoring	\$577,000	\$598,000
J	Socioeconomic Research in the Colorado River Ecosystem	\$258,000	\$243,000
K	Geospatial Science and Technology	\$273,000	\$320,000
L	Remote Sensing Overflight in Support of Long-term Monitoring and LTEMP	\$75,000	\$75,000
M	Administration	\$1,572,000	\$1,444,000
N	Hydropower Monitoring & Research	\$13,000	\$13,000
	<b>GCMRC Total Budget</b>	<b>\$9,304,000</b>	<b>\$9,088,000</b>

\$1,000)



# FY 2020 Proposed Budget Summary

	From FY 18-20 TWP	**Current Estimate
GCMRC Total Budget	\$9,304,000	\$9,088,000
Anticipated GCMRC AMP Funds (80%)	\$8,998,000	*\$9,088,000
<b>Over/Under Budget</b>	<b>(\$306,000)</b>	<b>\$0</b>
Additional Funding:		
Native Fish Conservation Contingency Fund	\$145,000	\$0
Anticipated Carryover (From Previous FY)	\$161,000	\$0
Remainder	\$0	**\$0
Experimental Fund Proposals:		
Bug Flows: Weekend vs Weekday Study		**\$93,000
Trout Management Flow Design Work		**\$110,000

Lake Powell:  
\$207,000  
(Not Funded by GCDAMP).  
Submitted SOW for funding.

\*Projected to be Same as FY2019 Funding

\*\* Preliminary, subject to revision

(Amounts rounded to nearest \$1,000)

A wide-angle photograph of a river flowing through a deep canyon. The river is in the foreground, reflecting the blue sky. The canyon walls are composed of layered red and brown rock, showing signs of erosion. The sky is clear and blue. The word "Questions?" is overlaid in yellow text in the upper center.

# Questions?