



# **Grand Canyon Monitoring and Research Center**

## **FY 2002 Budget**

### **AMWG**

### **July 6 - 7, 2000**



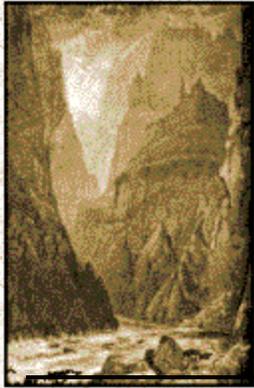
# Budget Protocol

- April / May TWG
  - Presentation of FY 2002 bottom-line
  - Seek recommendation supporting bottom-line
- July AMWG
  - Presentation of FY 2002 bottom-line
  - Seek recommendation supporting bottom-line
- July - October
  - Develop budget details with review and input from TWG
- January AMWG
  - Present detailed FY 2002 budget
  - Seek recommendation supporting FY 2002 budget



# Budget Development Process

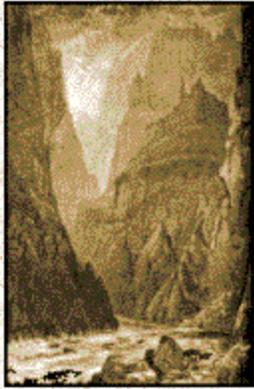
- Step 1 - Look at work required to support MOs and INs
- Step 2 - Revise existing programs based on results and experience from FY 1997 - FY 2000
- Step 3 - Incorporate PEP recommendations, as appropriate
- Step 4 - Make adjustments in anticipation of results from LSSF and fish monitoring activities
- Step 5 - Consider any effects of transfer to the USGS
- Step 6 - Develop a bottom-line number
- Step 7 - Compare with available power revenues and O&M funds (based on FY 2001 increased by 2.2%)
- Step 8
  - If under available funds, recommend a reduction
  - If over available funds, recommend appropriations initiative



# Three-Year Budget Summary

## GCMRC (000's)

	FY2000	FY2001	FY2002
• Bureau Support Services	123	125	128
• Operations, Personnel	2,023	1,969	2,011
• Physical Resources	700	950	971
• Biological Resources	1,500	1,280	1,844
• IWQP (O&M funds)	300	300	307
• Socio-cultural resources	355	365	373
• Information Technologies	320	320	512
• Remote Sensing	400	400	400
• Independent Review	155	175	229
• Unsolicited Proposals	na	120	123
• AMWG/TWG	na	60	61
• In-house Research	na	20	20
• Logistics	653	650	664
<b>TOTAL</b>	<b>6,529</b>	<b>6,734</b>	<b>7,643</b>



# FY 2002 BUDGET

## GCMRC Proposed Increases

• Biological Resources	
– Terrestrial Monitoring	200,000
– Downstream Fish Monitoring	200,000
– Native / Non-native Fish Interactions	125,000
• Information Technologies Program	185,000
• Independent Review Panels	<u>50,000</u>
<b>Total</b>	<b>760,000</b>

NOTE: \$250,000 will be provided by USGS to support administrative operations & personnel as GCMRC is transferred to USGS so GCMRC can participate in USGS initiatives.



# Budget Justifications

## Administrative Operations and Personnel

- USGS has recommended additional administrative and operational support at GCMRC
- Results in following personnel changes at GCMRC
  - Office automation clerk (GS-5)
  - Administrative assistant (GS-7)
  - Add Systems administrator (GS 12)
  - Add contracting specialist (GS-12)
  - Portion of Chief and Program Manager salaries to participate in USGS initiatives, as appropriate.
- Support from the USGS Western Regional Office for Administration, Human Resources, Computers, etc.
- USGS will provide \$250,000 to support these costs



# Budget Justifications

## Terrestrial monitoring

- PEP terrestrial review indicates current terrestrial monitoring program not likely to distinguish effects of dam operations on terrestrial resources from other variables
- Historic GCMRC budgets for terrestrial resources range from \$200,000 - \$250,000
- PEP recommends expanded spatial coverage for vegetation surveys and 2 - 3 year effort to inventory and map terrestrial resources.
- Proposed increase is to support expanded spatial coverage for vegetation surveys and to begin inventory and mapping activities.



# Budget Justifications

## Downstream Fish Monitoring

- Compilation and evaluation of historic fish data indicates need to move to a more statistically based sampling region in order to produce valid population abundance and distribution estimates of native and non-native fish.
- LSSF work provides opportunity to begin testing new protocols.
- New sampling protocol will be presented to PEP in Spring 2001.
- Budget initiative needed in event PEP recommends implementation of more robust monitoring program.
- Monitoring protocol being developed would result in a reduced need to supplement monitoring around a test flow.



# Budget Justifications

## Fish Interactions Research

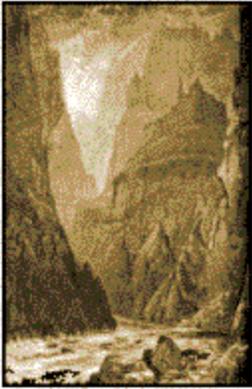
- Concerns have been raised about the potential predator - prey interactions between native and non-native fish.
- Concerns have been raised about how warming water either through LSSF or TCD may effect these interactions
- This funding will be used to enhance our understanding of the dynamics between native and non-native fishes.
- Funding may also be used to experiment with non-native fish control, as appropriate.



# Budget Justifications

## Information Technologies

- Aerial Photography - The remote sensing initiative has already resulted in the proposed implementation of a new aerial photography protocol. This protocol will require approximately \$50,000 in additional funding but provide more data in a more readily usable digital format.
- Additional funding is being requested here in the anticipation that the second year of the remote sensing initiative will result in additional recommendations for implementation of new protocols.
- Another area where additional funding may be required is in support of gathering bathymetry data for sediment monitoring.



# FY 2002 BUDGET

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– Terrestrial Monitoring	200,000
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– Native / Non-native Fish Interactions	125,000
• Information Technologies Program	185,000
• Independent Review Panels	50,000
• CPI Increase (2.2%)	<u>149,000</u>
– (Allows program to accommodate out-year increase in contract costs)	
<b>Total</b>	<b>760,000</b>



# Accomplishments

## Mapping of the Colorado River Ecosystem

- In 1997 GCMRC indicated that it would cost approximately \$3,000,000 to develop a map of the CRE, using conventional methods, with sufficient accuracy to serve as a base map for change detection.
- With support from the AMWG, GCMRC developed a remote sensing initiative and began tests of new technologies could provide the desired product at lower cost.
- Based on GCMRC investments in GPS, the development of a control network, and remote sensing technologies, in FY 2000 we will have a map of the CRE (Plus other products) at a cost of approximately \$375,000
- Example of the results of sound budgeting and investing.