

FY 2002 Brief Project Descriptions
TWG
May 10 -11, 2000

1. SCIENTIFIC OPERATIONS

A. Terrestrial Ecosystem Activities

1. Monitoring avifauna

Overwintering waterfowl and bird counts of riparian breeding birds. Methods using point counts with emphasis on common “indicator” breeding birds. Surveys will be expanded to include marginal habitat as well as “good” habitat.

2. Monitoring terrestrial habitat

Survey and census (transect sampling) along the river to determine vegetation representation and change. Included in this effort will be inventory efforts as funding permits. Monitoring methodologies will be developed with Native American participants to address traditional and ethnobotanical resources.

3. Monitoring Kanab ambersnail

Continued monitoring of habitat at Vasey’s Paradise. Will likely have fewer monitoring trips (2/year) and less intrusive methods (photogrammetry) to document habitat availability. Will be done internally with volunteer/cooperation from KAWG. Money is for the KAWG participation.

4. Bird - Insect trophic interactions research funding

Will be reprogrammed into another terrestrial research project likely associated with nesting success of riparian birds. The money in 2001 is being used for a 2nd year of support for the trophic linkage research being done by SWCA.

5. Cultural Resources Monitoring and Mitigation Strategies

Evaluate the effectiveness of cultural resource monitoring and mitigation strategies at selected locations along the river corridor using remote sensing technologies. Project will be developed to address recommendations from PEP assessment.

6. Development of Historic Contexts and Other Documents and Plans

Development of historic contexts to evaluate and interpret the significance of identified cultural resources within the river corridor. Additional documents and plans will be developed to implement the HPP as recommended in the PEP panel report.

7. Terrestrial mapping and inventory activities

The draft PEP report for terrestrial resources indicates that an inadequate framework exists for conducting long-term monitoring of the terrestrial ecosystem. They have recommended an initial mapping and inventory effort that this project is intended to address.

B. Aquatic Ecosystem Activities

1. Ongoing monitoring of the phyto-benthic community

Will be the 1st year for long-term monitoring. At this time this represents current funding levels.

2. Ongoing monitoring of the status and trends of the downstream fish community

Will be the 1st year for long-term monitoring following the 2001 PEP. Intent for the program will be to assess population change in the mainstem and to determine potential cohort contribution in the LCR.

3. Ongoing monitoring of the status and trends of the Lees Ferry trout fishery

Will be in the 2nd year of long-term monitoring. The budget number represent the current funding level for this program. The program determines the population trends of the trout in the Glen Canyon reach.

4. Ongoing population genetics research of HBC

This will be reprogrammed into native fish research. At this time it is uncertain as to the avenue of study, possibly predator population estimates.

5. New research associated with native and non-native fish

These funds were reprogrammed in the 2001 budget to cover native fish monitoring and may be absorbed by that effort. If not, they would be combined with the project funding under the HBC genetics header.

C. Integrated Water Quality Monitoring

1. IWQP downstream activities

Includes temperature and conductivity measurements under the IWQP program. The PEP for water quality will take place in 2001. the values for the monitoring may change.

2. IWQP Lake Powell (O&M) Activities

D. Integrated Terrestrial and Aquatic Ecosystem Activities

1. Long-term Monitoring of Fine-Grained Sediment Storage throughout the Main Channel.

This project is designed to annually assess the spatial distribution of sand- and finer-sized material stored within the main channel of the Colorado River ecosystem; specifically related to storage in eddy complexes and main-channel pools. Monitoring data shall reflect the relative changes in total volume of sediment and grain-size distribution within a subset of representative reaches throughout the ecosystem, with emphasis on the first 100 miles below the dam. These data support information needs on the state of the available fine-sediment supply in the system subject to influence of dam operations.

Related elements of this project include documenting changes in high-elevation sand storage (above 25,000 cfs) related to available campable areas, evolution of sand bar grain-size distribution, changes in the spatial distribution of channel-bed substrates, changes in the number and size of return-current channels within eddy complexes (backwater habitats) and changes in the size of pre-dam river terraces.

2. Long-term Monitoring of Streamflow and Fine-Sediment Transport in the Main Channel Colorado, Paria and Little Colorado Rivers.

This project provides data on streamflow and suspended-sediment transport on the gaged tributaries that provide fine-sediment to the ecosystem (influx), and on suspended-sediment transport through critical reaches of the main channel of the Colorado River ecosystem (efflux). It has one research component related to advancing development of a protocol for tracking the fine-sediment budget in real time through a variety of integrated and remotely sensed input data.

3. Long-term Monitoring of Coarse-Grained Sediment Inputs, Storage and Impacts to Physical Habitats of the Main Channel.

This project provides data on tributary inputs of coarse sediment introduced by debris flows annually, and information about how these inputs change the geomorphology of the main channel settings where sand storage, recreational, food base and fisheries resources exist.

4. Modeling Reach-Averaged Sand Bar Evolution over a Range of Discharge and Sediment Conditions Along the Main Channel.

This project provides numerical model simulations for sand bar responses to a range of dam operations under historical sediment-supply conditions within all representative geomorphic reaches in the ecosystem.

5. Development of a One-Dimensional Sand-Routing Model Along the Main Channel.

This project results in a numerical simulation for routing sand inputs from the Paria and Little Colorado Rivers, downstream through main channel storage settings below Glen Canyon Dam, including eddy complexes and main channel pools. The simulation uses modeled information on sand inputs, in combination with predictions of travel time and historical and model-derived local conditions of sand bar deposition and erosion.

6. Advanced Conceptual Modeling of Coarse-Grained Sediment Inputs Related to Evolving Physical Habitats and Aquatic Processes.

This project relates ongoing impacts of coarse-sediment inputs to the evolution of the geomorphic framework of the Colorado River ecosystem, under current dam operations, over periods ranging from decadal to centennial time scales. The project specifically examines simulations related to local and system-wide changes to the main channel thought to influence fine-sediment storage, related physical habitats and food base dynamics.

E. Protocol Evaluation Program Activities

- 1. Biological Resources and IWQP PEP**
- 2. Socio-Cultural Resources PEP**

There should not be any PEP activities in the FY2002. These funds can be reprogrammed into research or monitoring money.

F. Remote Sensing Activities

- 1. Evaluating ground-based and airborne remote sensing technologies.**

In FY2002 we will complete our evaluation of remote sensing technologies. A report recommending operational technologies will be provided.

Note: At the TWG meeting, the TWG recommended by a vote of 17 yeas, 2 abstentions, and 0 no's the FY 2002 budget for the GCMRC.