

SEAHG Monitoring and Research High Priorities

Social and Economic Survey Research

Social and economic survey research would provide information about preferences for and economic values of resource conditions in Glen and Grand Canyons. This research provides information important for formal and informal decision processes.

List of proposed projects (not in order of priority):

1. **Commercial whitewater guide survey** to identify and evaluate key recreational experience attributes that may differ under alternative flow regimes and events such as HFEs, low steady flows and other experiments in the LTEMP EIS (RIN#2). This survey would allow the GCDAMP to better understand impacts to the whitewater recreational experience, building on the economic survey in Project 13.1 in the GCDAMP TWP FY2015-17.
2. **Extension of project 13.2 in the GCDAMP TWP 2015-17.** This effort would implement a tribal member population survey to assess the impact of GCD operations on tribal preference for and value of downstream resources affected by dam operations. This project element would build on the qualitative survey research being conducted in Project 13.2 in the GCDAMP TWP FY2015-17.

Applied Decision and Scenario Analysis

Applied decision and scenario analysis would develop a series of integrated assessment models to improve the GCDAMP's capacity to organize scientific information and evaluate and prioritize monitoring, research and management alternatives specific to the operation of GCD, including proposed flow experiments in the LTEMP EIS.

List of proposed projects (not in order of priority):

1. **Cost/benefit analysis of retrofitting bypass tubes with turbines.** Move from Hydropower Information Need #2 to General Information Need.
2. **Extension of decision support models and scenario analysis** (Project 13.3 in the GCDAMP TWP 2015-17), using economic metrics, to evaluate management actions and future scenarios, including proposed experiments in the LTEMP EIS, and prioritize monitoring and research on resources downstream of GCD.
 - a. Evaluate impacts of LTEMP EIS experimental flows to hydropower (HIN#3).
 - b. Evaluate economic and management implications of LTEMP EIS experimental flows to rainbow trout and humpback chub.
 - c. Evaluate impacts of LTEMP EIS experimental flows to recreation, including angling at Lees Ferry and whitewater boating in Grand Canyon National Park. This would also include a regional economic impact model of anglers in Glen Canyon.

- d. Evaluate the impacts of LTEMP EIS experimental flows to tribal preferences for and values of downstream resources.

SEAHG Monitoring and Research Low Priorities

Social and Economic Survey Research

List of proposed projects (not in order of priority):

1. **Nonmarket economic assessment** of commercial whitewater boaters, boaters accessing the Colorado River from Diamond Creek, Glen Canyon commercial and private day use floaters, and backpackers (RIN#1). Results from Project 13.1 in the GCDAMP TWP 2015-17 indicate that recreationist's preferences for flows are stable over long periods of time, both in ranking of and nonmarket economic values associated with various Colorado River flow scenarios. Based on the results of Project 13.1 in the GCDAMP TWP 2015-17, including information that some of these groups' economic value are not impacted by river flow.

Applied Decision and Scenario Analysis

List of proposed projects (not in order of priority):

1. **Regional economic impact analysis** of whitewater boaters based on expenditure data obtained in nonmarket valuation survey. This is of low priority given that a similar number of whitewater trips occur regardless of dam operations. The whitewater boater's nonmarket values related to their recreational experience change with river flows, but their expenditures do not.

Considerations:

* Available funds for the GCD AMP in FY 18 – 20 will be limited due to an increase in USGS overhead and LTEMP implementation.

* Some economic analysis has been recently accomplished through the preparation of the LTEMP EIS. Comparing these analyses with "Table 1" shows that there are still Information Needs in the socio-economic area. To develop economic analyses for the LTEMP EIS, several assumptions were used and conclusions reached via economic and GCD operation models. The assumptions used and some very old studies relied upon could be verified or updated through empirical means.

* The TWP will contain details on the implementation of the LTEMP ROD and on other, non-operational DOI actions in the GCNRA & GCNP, which could be informed with updated socio-economic information and trade-off analyses.