

**Glen Canyon Dam Adaptive Management Work Group**  
**Agenda Item Information**  
**August 27-28, 2014**

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Agenda Item

The Colorado River Total Value Survey, a Passive Use Economic Study for the Long-Term Experimental and Management Plan (LTEMP) EIS

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Action Requested

Information item only

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Presenter

Dr. Bruce Peacock, National Park Service (NPS)  
Dr. Lynne Koontz, National Park Service (NPS)  
Rob Billerbeck, National Park Service (NPS)  
Glen Knowles, Bureau of Reclamation (Reclamation)

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Previous Action Taken

**February 23, 2012:** SEAHG recommended a list of economic studies to the Secretary that included the need for a non-use or passive use study.

**August 15, 2012:** Letter from Reclamation and NPS to TWG Chair Regarding Socioeconomic Studies in the Long Term Experimental and Management Plan (LTEMP) Environmental Impact Statement EIS which listed the passive use study as one of the economic analyses for the EIS.

**August 30, 2012:** The list of SEAHG recommended studies were discussed in relation to LTEMP. The passive use study was discussed as one of the economic analyses to be performed as part of the EIS.

**September 18, 2013:** Federal Register Notice to solicit public comment for 60 days on the general process of the "Proposed Information Collection: Colorado River Total Value Survey"

**December 3, 2013:** Webinar held for AMWG stakeholders to understand and ask questions about the Colorado River Total Value Survey

**July 9, 2014:** Federal Register Notice to solicit public comment for 30 days on the survey documents for the "Proposed Information Collection: Colorado River Total Value Survey"

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Relevant Science

Science and research completed since the GCDAMP was established will be used in the development of the EIS and assessment of impacts.

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Background Information

The Department of the Interior (Department), through Reclamation and NPS, is preparing a draft EIS for adoption of the LTEMP for the operation of Glen Canyon Dam. The purpose of the proposed LTEMP is to utilize current, and develop additional, scientific information to better inform Departmental decisions and to operate the dam in such a manner as to improve and protect

important downstream resources while maintaining compliance with the Grand Canyon Protection Act (GCPA), the Law of the River, and the Endangered Species Act, among others, and to fully evaluate dam operations and identify management actions and experimental options that will provide a framework for adaptively managing Glen Canyon Dam over the next 15 to 20 years, consistent with the GCPA and other provisions of applicable Federal law.

As part of the analysis for this project, a passive use study is being conducted, which surveys the public for the 'existence value' of different aspects of the resources and issues related to the LTEMP. This information collection process concerns the value of National Park System Resources along the Colorado River Corridor from the Glen Canyon Dam through Grand Canyon National Park. This information collection process will provide data for the economic analysis of the alternative management and operation protocols that will be one piece of information that the Secretary of the Interior will use to evaluate future dam operation plans associated with the current ongoing Glen Canyon LTEMP EIS.

The proposed collection is needed to update the scientific information that was used in the 1996 Record of Decision that the Department of the Interior used to inform their decisions on Dam operations. This information will be used to assist in the development of an operating plan for the Glen Canyon Dam in accordance with the Grand Canyon Protection Act, section 1802a, to protect and improve the values for which the Grand Canyon National Park and Glen Canyon National Recreation Area were established and section 1802b, to implement this section in a manner fully consistent with and subject to the Colorado River Compact, the Upper Colorado River Basin Compact, the Water Treaty of 1944 with Mexico, the decree of the Supreme Court in *Arizona v. California*, and the provisions of the Colorado River Storage Project Act of 1956 and the Colorado River Basin Project Act of 1968 that govern allocation, appropriation, development, and exportation of the waters of the Colorado River basin.

One goal of the LTEMP is to make use of the latest science by considering all relevant studies, especially those conducted since 1996. This collection takes into account all relevant case studies, however it most closely parallels the work of Welsh *et al.* (1995) by using stated choice methods to measure the changes in total value associated with the impacts on riparian areas caused by changes in operations of Glen Canyon Dam. After reviewing all available research, the National Research Council concluded that the results of those studies are of high quality, but considerably outdated. Others have emphasized the need for additional or updated research on the sources and magnitudes of values associated with operational goals (see Glen Canyon Dam studies: National Resource Council 1999 and Loomis *et al.* 2005). This would update the most recent willingness to pay estimates in the Glen Canyon National Recreation Area, downstream of Glen Canyon Dam, and in Grand Canyon National Park.

National Park Service  
U.S. Department of the Interior

Social Science Program



# Passive Use Values for the Glen Canyon Dam Long Term Experimental and Monitoring Plan

Bruce Peacock  
August 28, 2014

EXPERIENCE YOUR AMERICA

# What is the study purpose?

- Update the 1995 Welsh et al. study
- Provide current information about:
  - Values held by the American public for Grand Canyon and Glen Canyon resources
  - Measures to protect those resources
- Data gathered will include information on:
  - Individual characteristics and familiarity with the park and river ecosystems
  - Preferences regarding resource management outcomes

# Past communication on this survey

- **February 23, 2012:** SEAHG recommended a list of economic studies including a non-use or passive use study
- **August 15, 2012:** Letter from Reclamation and NPS to TWG stated passive use study would be conducted
- **August 30, 2012:** Studies recommended by SEAHG, including passive use, were discussed in relation to LTEMP

# Past communication on this survey

- **September 18, 2013:** Federal Register Notice for 60 day comment period on the general process of the survey
- **December 3, 2013:** Webinar held for AMWG stakeholders to understand and ask questions about the survey
- **July 9, 2014:** Federal Register Notice for 30 day comment period on the survey documents

# What will be measured?

- ***Passive use values:*** values derived independently from physical interaction with resources
  - Value of knowing resources exist or will be preserved in a given condition
- Courts have recognized passive use values as valid (*Ohio v. DOI 1989*)

# Has this been done before?

- Welsh et al. 1995 “Glen Canyon Dam, Colorado River Storage Project, Arizona: Nonuse Values Study Final Report”
  - Prepared as part of the Glen Canyon Environmental Studies (GCES) effort to explore relationships between dam operations and downstream resources
  - Reviewed by the National Research Council:

*“..the nonuse value results are an important contribution of GCES and deserve full attention as decisions are made regarding dam operations.”*

National Research Council 1996



# What is the study design?

- **Estimation** of passive use values of LTEMP alternatives
  - Methodology: conjoint analysis
  - Respondents are asked their preferences among scenarios with different management **outcomes**
    - River beaches
    - Native fish populations
    - Trout populations
    - Cost
  - Note – for this type of survey, respondents are not given details of EIS alternatives, but are only given information about the resource outcomes

# What is the study design?

- The indicated tradeoffs among management outcomes allow the estimation of values for each outcome individually (river beaches, native fish, trout)
- Values of LTEMP alternatives are then estimated by setting outcome levels in the valuation model to match those of respective alternatives and adding their individual values together
- **Note – outcome levels in the survey are set statistically to maximize estimation efficiency – they are intended to represent the range of potential impacts**

# What is the study design?

- The survey will have two strata:
  - Regional household sample (8 counties surrounding dam and river corridor)
  - National household sample
- A nonresponse bias phone follow up will also be conducted

# Survey review process

- Economic peer review
  - John Loomis – Colorado State University
  - Michael Welsh – Stratus Consulting (now with Industrial Economics, Inc)
  - Lynne Koontz – USGS Fort Collins Science Center (now with NPS)

# Survey review process

- Agency review
  - NPS information collection review
  - USGS GCMRC factual content review
    - Paul Grams – sediment resources
    - Scott Vanderkooi – aquatic resources
    - Helen Fairley – cultural resources
    - Jack Schmidt – center chief
  - USGS GCMRC survey instrument review
    - Lucas Bair – economist
  - DOI information collection review
  - OMB information collection review (in progress)

# Current Status and Next Steps

- OMB comment period
  - NPS received some comment letters directly – awaiting full comments from OMB
- Known Changes
  - Based on comments, change survey to indicate that use of bypass tubes impacts hydropower generation
  - Based on OMB comments, drop one of the two surveys
- Next Steps
  - Work with OMB to consider all comments received
  - Pilot survey, then full public survey

# Social Science Program

Fort Collins, Colorado



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