

Information Needs and Program Elements for the AMP Socioeconomic Program

April 21, 2015

Introduction

The Glen Canyon Dam Adaptive management Work Group (AMWG) at their August 2010 meeting directed the TWG to further develop an economics implementation plan that includes the following elements:

- a) Information needs associated with each study or analysis and the prioritization of those needs.
- b) Scope and costs associated with each project and potential funding sources
- c) A description of how the information would be useful to the program
- d) A more thorough review of the economics panel report

The Socioeconomic Ad Hoc Group (SEAHG) reviewed existing socioeconomic information needs and identified potential additional information needs for the GCDAMP. A revised set of specified succinct socioeconomic information needs have now been identified as the program elements; the primary basis for establishing a required set of science and management activities. This document specifies whether market or non-market (both direct and passive use) evaluations are applied to these information needs and identifies current status of the information need and the responsible party.

Background and History

2009 December – GCMRC hosts a workshop and independent review of the GCDAMP socioeconomic program. An independent panel after hearing TWG members discuss their needs for economic information, formulates a plan for addressing these information needs over the next 5-10 years resulting in two documents. A summary of the facilitated discussion about GCDAMP socioeconomic needs and a report from the independent panel with recommendations on how to address the needs over a 5 and a 10 year timeframe.

2010 February – AMWG requests that TWG review the report and bring recommendations back to AMWG at their next meeting. Socioeconomic Ad Hoc Group (SEAHG) is formed.

2010 August – AMWG directs the TWG to further develop an economics implementation plan that includes the following elements:

- a) Information needs associated with each study or analysis and the prioritization of those needs.
- b) Scope and costs associated with each project and potential funding sources
- c) A description of how the information would be useful to the program
- d) A more thorough review of the economics panel report

2010 Fall – 2011 (winter spring) – After several meetings and much deliberation, SEAHG proposes to take a more linear approach starting with an evaluation of market based recreation and hydropower use values and then proceeding to non-market use and non-use studies at a future date.

2011 March – GCMRC hosts the “Economics 101” workshop. SEAHG presents a socioeconomic plan to the TWG which includes activities such as staffing GCMRC with resource economics expertise, Economics 101



workshop, power modeling, non-use studies, and recreation use analysis studies among others. NPS announces plans to conduct comprehensive economic studies related to visitor use ab on-use values for all NOS units along the Colorado River.

2011 May – AMWG recommends formation of the SIAHG (Survey Instrument Ad Hoc Group) to specifically examine the NPS study plan and determine how it could be modified to address information needs of the GCDAMP.

2011 (Summer) – 2011 (Winter/Spring) - SEAHG continues to refine a plan for a socioeconomics program.

February 2012 – AMWG passes a motion requesting the Secretary’s designee to transmit the revised SEAHG report to the Secretary and requests the Secretary to advise the AMWG regarding elements of the proposed socioeconomic implementation plan. The following motion was passed: “AMWG recommends the SEAHG report to the Secretary of the Interior for consideration. “After consideration by the Secretary and guidance from him regarding the role of the program in implementing socioeconomics studies, the AMWG directs the TWG to work with GCMRC to develop a work plan for this program.” AMWG further directs TWG to, through the SEAHG, continue to provide, develop, and recommend information to the TWG regarding implementation of the socioeconomic program, including costs and timing of the program elements; and work with AMP stakeholders who will be conducting socioeconomic analyses in other forms to enhance collaboration to fulfill Information Needs..

April 30, 2012 – Directive from Secretary Ken Salazar asking the interagency team to communicate to the AMWG, the specific studies and activities that are being prioritized for utilization as a part of the LTEMP, and directs the TWG to identify information needs and research priorities not addressed through the LTEMP process so that GCMRC can refine and develop a work plan.

August 15, 2012 – LTEMP co-leads identify socioeconomic studies that are a part of the LTEMP EIS effort. In an August 2012 letter to the TWG Chair, the Glen Canyon Dam Long Term Experimental and Management Plan (LTEMP) Environmental Impact Statement (EIS) team responded to a directional memo dated April 30, 2012 from the Secretary of Interior to reply to SEAHG regarding its proposed list of socioeconomic studies (Table 2) from its February 2012 recommendation to the Secretary. The letter clarified activities that were being undertaken as a part of the LTEMP EIS and those that remained to be pursued by the AMWG or GCMRC.

TWG ACTIVITIES

Through 2013 and 2014, four aspects of economic analysis have moved forward through the LTEMP EIS process: (a) a regional economic impact analysis under Argonne National Laboratories (ANL), (b) an economic analysis that looks at the net value of recreation lead by Dr. David Harpman, Bureau of Reclamation, (c) an economic analysis of hydropower analysis at ANL, and (d) a non-use value survey lead by Dr. Bruce Peacock, National Park Service. A socioeconomics program that includes recreation, tribal and decision analysis, led by Mr. Lucas Bair, GCMRC has been included into the FY 2015-17 Triennial Work Plan (TWP). At its October 2014 meeting, the TWG reinitiated the SEAHG and recognized Leslie James as the new Chair. The SEAHG is currently evaluating and updating the current activities and status of Table 1 & 2.

Information Needs and Program Elements

SEAHG INS	PROGRAM ELEMENTS	ONGOING RESEARCH UPDATES (added by GCMRC 12/16/2014; SEAHG mods 2/6/15)
Recreation Information Needs		
<p>RIN 1.What are the total market*, non-market, and non-use values for the following recreational uses of the Colorado River Ecosystem downstream from Glen Canyon Dam, including pre-rod and post-rod demand and economic assessments</p> <ul style="list-style-type: none"> • Glen Canyon boating and walk-in trout fishery and related components • Glen Canyon recreational boating industry • CRE day hiking and overnight camping • Grand Canyon Private and commercial rafting operations including Native American enterprises <p><i>*It is assumed that ‘total market’ refers to regional expenditures by recreationist in the Colorado River Ecosystem (CRE) – GCRMC 12/16/2014.</i></p>	<p>Conduct recreation expenditure analysis of Lees Ferry anglers and boaters, and Grand Canyon boaters. (Note: Some of this may be covered by the NPS economic study being carried out by University of Montana in 2012)</p> <p>Initiate and conduct recreation non-market and non-use assessments (Note: Some aspects of this program element may be covered by the NPS economic study.)</p>	<p>GCMRC is leading Project 13.1 in the 2015–2017 TWP which will update estimates of regional expenditures (‘total market’) and non-market direct use economic values of recreational angling in GCNRA below GCD and whitewater floating in GCNP. This is an update of the research by Bishop et al. (1987).</p> <p>Project 13.1 will not update estimates of regional expenditures (‘total market’) or non-market direct use economic values for commercial or private GCNRA whitewater floating below GCD, whitewater floating launching at Diamond Creek, or Colorado River Ecosystem (CRE) day hiking and overnight camping.</p> <p>The LTEMP EIS recreation economic analysis will use indexed Bishop et al. (1987) results to estimate impacts of alternatives in the EIS to non-market direct use economic values. The LTEMP EIS recreation economic analysis will not update the dated Bishop et al. (1987) results. The Bureau of Reclamation is leading the analysis.</p> <p>The LTEMP EIS regional economic analysis will use indexed per capita expenditure data from dated literature to estimate impacts of alternatives in the EIS to regional recreational expenditures. The LTEMP EIS regional economic analysis will not update data from existing literature. Argonne National Laboratory is leading the analysis.</p> <p>The NPS is leading a “Total Use Value” survey to estimate non-market economic values held by the American public for Grand Canyon riparian resources (OMB Control Number 1024 -0270). The study will estimate passive use (non-use) economic values for</p>

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		riparian resource (e.g., beaches, native and non-native fish). While “total use values” may include direct use value, the emphasis is to estimate passive use (non-use) economic values only. The study results are intended to be used in the LTEMP EIS.
<p>RIN2. Define and value key attributes and key benefits that affect the Grand Canyon wilderness and Glen Canyon recreation experiences</p> <ul style="list-style-type: none"> • How do they affect market values for these different CRE recreation activities? • How do they affect non-market for these different CRE recreation activities? • How do they differ under alternative flow regimes and events such as HFES, low steady flows and other experiments? • How do they differ under alternative management actions? 	<p>Conduct focus groups and pilot non-market surveys</p> <p>Conduct full non-market value surveys</p>	<p>GCMRC is leading Project 13.1 in the 2015–2017 TWP which will identify how attributes (e.g., flow regimes, crowding, and safety) affect angling in GCNRA below GCD and whitewater floating in GCNP. This is an update of the research by Bishop et al. (1987). This research will allow for inference to be made between key attributes and non-market direct use economic values.</p> <p>Project 13.1 will not include attribute research for commercial or private GCNRA whitewater floating below GCD, whitewater floating launching at Diamond Creek, or CRE day hiking and overnight camping.</p>
Tribal Information Needs		
<p>CRIN1. What are the market*, non-market and non-use values for CRE resources valued by tribes as affected by dam operations?</p> <p><i>* It is assumed that ‘market’ refers to regional expenditures from ‘activities’ in the CRE. – added by GCRMC 12/1/2014.</i></p>	<p>Scoping; identify tribes for specific surveys. Determine if separate tribal studies are needed.</p> <p>Conduct tribal market, non-market, non-use scoping and value assessments</p>	<p>GCMRC is leading Project 13.2 in the 2015–2017 TWP, with planned implementation in fiscal year 2017. Project 13.2 will, through survey methods, identify tribal preferences for and non-market, both direct and passive use, economic values of CRE resources affected by dam operations.</p> <p>Tribal non-market direct use economic values for angling in GCNRA below GCD and whitewater floating in GCNP will be included in Project 13.1 in the 2015–2017 TWP.</p> <p>No Tribal specific regional economic impact (e.g., recreation expenditure) research is proposed.</p>
Hydropower Information Needs		
<p>HIN1. What are the impacts to federal hydropower customers from implementation of Record of Decision dam operations and various other flow regimes and segregate those effects from other</p>	<p>Define GCD operational base cases and change cases. Base cases proposed: MLFF and pre-ROD.</p>	<p>HIN1: The LTEMP EIS will identify the power system economic impact and impact to rate payers from alternatives in the EIS. Argonne National Laboratory is leading this effort.</p>

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		complete.
General Information Needs		
<p>GIN1. What are merits of market non-market, non-use, and existence values being proposed for development (i.e., reliability of information gained, costs, area of proposed use in program, etc.).</p> <p>GIN 2. Define how socioeconomic research information should be used by AMP</p> <p>GIN3. Determine methods to assist more real-time assessments of resource impacts of alternative management activities.</p> <p>GIN4. Evaluate, as needed, market, non-market, and non-use values for other resources also found to have impacts from dam operations and deemed important to the AMP</p>	<p>Develop workshop to inform TWG/AMWG of various socioeconomic information types and their utility. (Note: some of this work completed during previous workshops)</p> <p>Conduct workshop on appropriate socioeconomic research information use. Develop real time model capability to evaluate biophysical and socioeconomic resource impacts and tradeoffs under differing flow and non-flow alternatives.</p> <p>Develop general program capability to evaluate market, non-market and non-use values for resource impacts not yet defined by the AMP</p>	<p>GIN1: A discussion of the reliability of the non-use studies will be part of the NPS “Total Use Value” study.</p> <p>GIN2: GCMRC, in coordination with SEAHG, will identify opportunities to provide presentations of the practical application of socioeconomic research at TWG meetings and other venues.</p> <p>GIN3: GCMRC is leading Project 13.3 in the 2015–2017 TWP which will develop modeling capabilities to evaluate biophysical and socioeconomic resource economic impacts and tradeoffs under differing flow and non-flow alternatives.</p> <p>GIN4: GCRMC will pursue, with direction from the AMP, additional economic evaluation of resource impacts from dam operations.</p>

**Glen Canyon Dam Technical Work Group (TWG) –
April 21-22, 2015**

**SOCIOECONOMIC AD HOC
GROUP (SEAHG) UPDATE**

Background and Recent SEAHG Activity

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- **Info Needs/Program Elements Approved by AMWG February 23, 2012**
- **Secretary Salazar Approval and Direction to SEAHG to Identify INs and Research Priorities Not Addressed in LTEMP – April 30, 2012**
- **SEAHG Reactivated at October 2014 TWG Meeting**
- **Conference Call – November 13, 2014 – R&C Table 1**
- **Conference Call – December 16, 2014 – NPS Presentation on Total Economic Values for the LTEMP EIS**
- **Table 1 Draft Distributed January 9, 2015 and February 6, 2015**
- **Update at AMWG Meeting (Table 1 Distributed) – February 26, 2015**
- **Table 1 Redistributed to SEAHG - March 31, 2015/Conf Call April 16, 2015**

RECREATION INFORMATION NEEDS

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- **Project 13.1 – Recreational Expenditures and Non-Market Direct Use Values and Tribal Non-Market Direct Use Values (Recreational Angling /Whitewater Floating in GLCA and GCNP) – GCMRC**
- **LTEMP EIS Recreational Economics (Non-Market Direct Use) – Reclamation**
- **LTEMP EIS Regional Economics – Argonne**
- **Total Use Value Survey Value (Beaches, Native, Non-Native Fish) – NPS**

TRIBAL INFORMATION NEEDS

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- **Project 13.2 (Tribal Preferences Through Surveys)**

HYDROPOWER INFORMATION NEEDS

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- **LTEMP EIS Power System and Rate Payer Impacts – Argonne**
- **Post-ROD Analysis – Argonne (COMPLETE)**
- **Project 13.2 (Tribal Non-Use Values Associated with Hydropower) – GCMRC**
- **Market and Non-Market Value of Hydropower and Water – University of Oklahoma**

GENERAL INFORMATION NEEDS

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- **Discussion of Reliability of Non-Use Studies – NPS (Part of Total Use Value Study)**
- **Opportunities to Present Socioeconomic Information – SEAHG/GCMRC**
- **Project 13.3 – Modeling Capabilities to Evaluate Impacts and Tradeoffs/Decision Support Tool – GCMRC**
- **AMWG-Directed Additional Economic Evaluation re Dam Operations - GCMRC**

CONCLUSION

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- **The TWG has reviewed the Information Needs and Program Elements of the AMP socioeconomic program as updated 2/6/15 and presented to AMWG on 2/26/15. The TWG recommends that the SEAHG and GCMRC a) continue to provide, develop and recommend information to the TWG on implementation of the AMP socioeconomic program, including status, costs and timing of the program elements, b) work with AMP stakeholders and who may be conducting socioeconomic analyses in other forums, to enhance collaboration on AMP socioeconomic program information.**

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