

**REVIEW OF STATEMENT OF WORK AND
RELATING TO PRESERVATION AND PROTECTION OF
CULTURAL RESOURCES IN THE COLORADO
RIVER ECOSYSTEM (CRE)**

**GCD AMP SCIENCE ADVISORS
DON FOWLER, SA ANTHROPOLOGIST
L. D. GARRETT, SA EXECUTIVE DIRECTOR**

NOVEMBER 2007

ABSTRACT
REVIEW OF STATEMENT OF WORK RELATING TO
PRESERVATION AND PROTECTION OF CULTURAL
RESOURCES IN THE COLORADO RIVER ECOSYSTEM

GCD AMP SCIENCE ADVISORS
DON FOWLER, ANTHROPOLOGIST
L. D. GARRETT, SA EXECUTIVE DIRECTOR

REVIEW CHARGE

Review BOR Statement of Work (SOW) relating to mitigation of impacts to CRE cultural resource sites at potential risk from GCD operations and other specific activities. Determine suitability of SOW to solicit effective protection practices and learning. Review is to consider existing law and regulation, and science and management knowledge.

GENERAL REVIEW FINDING

General Finding

- SOW is clear, straightforward and in accord with best practices, i.e. conforms to law and existing knowledge.

Recommendation

- SAs recommend that the Statement of Work be implemented.

SPECIFIC REVIEW FINDINGS

Specific Findings

- SOW does not clarify science and management contributions and information available to potential respondents from native tribes, GCD AMP, GCMRC, etc. or how they were to be integrated into assessments and mitigation approaches to formulate criteria and methods. For example, how will information from tribes and AMP used in developing criteria for future site selections.
- Use of research questions and ongoing science and management input to formulate criteria and methods for data collection, analysis and mitigation is unclear, excepting for NPS input.
- The five year approach to assessments and mitigation does not clarify a collaborative process with GCD AMP entities, excepting for NPS, although activities are apparently occurring.

Recommendations

- Clarify how science and management contributions, advisory input, etc. of GCD AMP related entities (other than NPS) are input or will be input into the program.
- Clarify how research questions will be input into the process as well as ongoing science and management findings, i.e. monitoring information
- Clarify how this specified BOR activity will be accomplished in a collaborative adaptive process with GCD AMP entities. If so how would it be accomplished

**REVIEW OF STATEMENT OF WORK AND
RELATING TO PRESERVATION AND PROTECTION OF
CULTURAL RESOURCES IN THE COLORADO
RIVER ECOSYSTEM (CRE)**

**GCD AMP SCIENCE ADVISORS
DON FOWLER, SA ANTHROPOLOGIST
L. D. GARRETT, SA EXECUTIVE DIRECTOR**

INTRODUCTION

In November, 2007 the Glen Canyon Dam Adaptive Management Program (GCD AMP) Science Advisors (SAs) were requested to review A Bureau of Reclamation (BOR) Statement of Work that relates to a proposed 5 year program to evaluate fifty five (55) cultural resource sites and associated mitigation activities. The sites are located in Glen, Marble and Grand Canyon. In year one of the five year program, mitigation activities are proposed for four (4) sites in the Glen Canyon reach.

The Technical Work Group (TWG) requested this SA review to confirm the adequacy of proposed general science and management methods, developed in the Statement of Work. The SAs were directed to work with the Bureau of Reclamation and the Grand Canyon Monitoring and Research Center in completing the review.

The Statement of Work is developed to solicit potential mitigation proposals. One proposal will be selected and awarded a contract by BOR to complete the assessment and mitigation activities under 106 compliance protocols of the National Historic Preservation Act. Two supporting science and management documents were provided as reference for the review. The specific documents provided by BOR are as follows:

1. Bureau of Reclamation. 2007. Statement of work for implementation of a mitigation plan for historic properties in Glen Canyon Recreation Area and Grand Canyon National Park. USDI Bureau of Reclamation, Upper Colorado Region. 6 pp. Appendix.
2. Spurr, K. and J. H. Collette. 2007. Condition assessment and significance evaluation for cultural resources between Glen Canyon and Paria Riffle, Glen

Canyon National Recreation Area, Arizona. Navajo Nation Archeology Report No. 05-123. 92 pp plus Appendix.

3. Damp, J., J. Pederson and G. O'Brien. 2007. Geoarcheological investigation and an archeological treatment plan for 151 sites in the Grand Canyon, Arizona. Utah State University, Logan, Utah

SCIENCE ADVISORS CHARGE AND REVIEW APPROACH

Prior to SA involvement the above documents had been evaluated by representatives from Arizona SHIPO, the Bureau of Reclamation and other specialists associated with the GCD AMP. The TWG often requests the SAs to review long term science and management programs developed in the AMP Program. This program is primarily oriented to proposed management activities.

The charge for the SA review of the Statement of Work was developed by the SA Executive Director and is contained in the abstract prospectus for the review (Appendix A).

Specifically the SAs addressed the following questions in their review.

- Are general and specific elements of proposed methods appropriate to guide implementation of the cultural site treatments?
- Are approaches specified effective as related to accomplishing stated objectives, methods, outcomes, etc.?
- Are the developed questions appropriate as relates to the multiple resource information needs of the AMP, and objectives, methods and outcomes for this project?
- Will the selected treatment plan for the four specified sites solicit the desired outcomes (i.e. information/learning)?

The SAs considered each of the first three questions in developing their general and specific comments for this review. The final question will be addressed through the formal review of proposals.

Review Approach

The review was conducted as a rapid assessment for the following reasons.

1. The directed project activities in the SOW are management rather than science based, although some underlying methods for assessments and mitigation are science based.
2. It was noted that reviews had occurred on the SOW and other documents by other specialists. All documents were already approved for implementation and the SOW was scheduled for immediate release.
3. Minor time and resources were proposed for the review.
4. The documents, received on November 20, were to be reviewed and a draft and final report completed by November 24 and November 29 respectively.

FINDINGS OF THE REVIEW

Past inputs by the Science Advisors are relevant regarding this specific review by the SAs.

- The SAs have previously proposed that GCD AMP entities responsible for cultural resource science and management programs should launch activities in data documentation for sites at risk in the CRE, followed by specific site mitigation projects.
- The SAs have also proposed in past reviews that all appropriate partners to the GCD AMP cultural resources program should agree to more collaborative unified science and management approaches for data assessment, publication and site mitigation.

For example on an SA review of GCMRCs cultural resource monitoring program, the following activities were recommended by the SAs

- Utilize cultural resources data base management system and populate it with current and past data collected by GCD AMP entities.
- Utilize GIS and DTM models in assessments of the database to define sites of greatest risk to varied flows and/or other proposed science and management activities of the GCD AMP.
- Develop a monitoring and mitigation program for at risk sites.

The proposed cultural resource site mitigation direction in the Statement of Work defines a five year program approach that follows, at least in part, the above

recommendation of the SAs and other groups, and general and specific goals of the GCD AMP.

Entities of the GCD AMP directing the cultural resources program have pursued and continue to pursue these goals as evidence by this Participating Agreement (PA) continued activities of the Cultural Resources Ad Hoc Committee (CRAHG), this proposed Statement of Work and the GCMRC long term Cultural Resource Science Plan.

The following sections provide review input on the Statement of Work. reference Background comments and a general assessment of the SOW is provided first, followed by specific comments and recommendations.

Background and Context For Review Comments

The Statement of Work (BOR 2007) is a request for proposals to implement certain proposed mitigation measures for some 55 archaeological sites located along the Colorado River within the Glen Canyon National Recreation Area and the Grand Canyon National Park during federal fiscal year 2008 and subsequent years. The mitigation measures are required under federal laws relating to cultural resources on federal lands, most specifically the National Historic Preservation Act of 1966 (as amended), the 1996 Record of Decision relating to the operation of Glen Canyon Dam (36CFR800.16y), the Grand Canyon Protection Act (Section 1802) and other federal laws and executive orders relating to the assessment and protection of significant cultural resources on public lands.

The suite of federal and state historic preservation laws, regulations and best practices are designed to preserve and protect the scientific and historic values, meanings and knowledge embedded in or related to sites, places and objects deemed to be significant. The general intent has been to protect and preserve sites and places in situ, and where appropriate, interpret them for the public good. However, when sites and places cannot reasonably be protected, appropriate mitigation measures are required to at least save the data they contain, analyze those data and make them part of the public record.

In the case of archaeological sites, appropriate mitigation measures are often excavation of all or significant portions of the sites in question. Decisions to excavate are judgment calls made by land managers and their staffs who must balance acceptable excavation costs against long term management costs to accord reasonable protection to

every site deemed to be significant within their purview. What constitutes “reasonable protection” and “acceptable costs” vary from agency to agency, according to their policies and the perceived scientific and/or historic significance of each place or site in question.

The Statement of Work was reviewed in relation to other relevant documents, specifically Anderson (2006), Damp, Pederson and O’Brian (2007), Fairley (2007), and Spurr and Collette (2007). To reiterate some of the previous discussion, Sections 106 and 110 of the National Historic Preservation Act require that cultural resources be located, identified, and assessed for scientific and historical significance. If resources deemed significant are threatened by activities undertaken or sanctioned by federal agencies, appropriate mitigation measures must be developed and implemented.

General Assessment of the Statement of Work

The 55 archeological sites noted in the Statement of Work have all been appropriately and fully identified and assessed, as reported in the documents listed above and other studies referenced in those documents. The sites have been determined to be significant by science and management specialists.

The Statement of Work proposes that 4 of the 55 archeological sites undergo mitigation by testing and excavation during FY 2008. Given all available data in referenced cultural resource documents, it is clear that some forms of mitigation activities are the most appropriate alternatives. As defined by BOR and in the Statement of Work, all four sites are imperiled by active erosion and human activities. The available data they contain should be collected by careful excavation, analyzed and made part of the public record.

The Statement of Work quite properly requires that contractors make further assessments of the remaining 51 sites in consultation with BOR and NPS archaeologists. This will insure that each site receives full consideration and options as to levels of preservation and/or excavation that should be developed and assessed.

In general, the Statement of Work is clear, straightforward, and in accord with best practices. It properly builds on the assessments and evaluations presented in the related documents. The work undertaken should resolve some difficult mitigation problems and (hopefully) result in the recovery of new significant scientific data about

Archaic and later cultures in the Colorado River corridor. The SAs recommend that the Statement of Work be implemented.

Specific Comments On Statement of Work

The Statement of Work provides information on twelve elements, most of which are normally incorporated into SOWs. Of the twelve, the first four i.e. 1.0 Background, 2.0 Scope, 3.0 Objectives, and 4.0 Tasks address the substantive management and science information to guide the proposed mitigation program. This does not mean all specific guidelines are contained in these SOW elements. As is often the case, for specific methods, regulations, guidelines etc, readers are referenced to other source documents, in this case i.e., Damp et al 2007 and Spurr and Collette 2007. These documents were not subjected to a scientific review, but do appear to be well developed and track with earlier baseline work by Fowler, Fairley, etc.

In general, elements 1-4 in the SOW do address the information needed to develop an appropriate management proposal to provide necessary mitigation to potential impacts to the specified archeological sites. It does appropriately reference other documents which contain needed information on regulation, methods, etc.

However, the SOW could be improved through additional clarification in several sections of these above four elements as follows.

0.0 Background

This element makes clear that Reclamation has responsibility for identifying historic properties that might have potential effect from dam operations under the 1996 EIS Record of Decision (ROD); and that the BOR is responsible for mitigating related impacts. It also provides clarification of the past collaborative efforts to accomplish the identification process; i.e. Programmatic Agreement, university contracts etc. However, missing in the references are past and current work by the Glen Canyon Environmental Studies Program (GCES) and GCMRC science programs.

Although mentioned in the context of the University of Utah work (Damp et al 2007), the GCD AMP programs association to this area of inquiry and mitigation is not clarified. It is assumed that the GCD AMPs long term science, management and monitoring programs will be integrated into this assessment and mitigation program, but it is not clarified in this element. It needs to be added.

Often an element on methodology or methods section is incorporated into a SOW, and it would be an appropriate place to describe how Native American, GCD AMP science (GCMRC) and NPS management programs are integrated with BOR programs to resolve issues relating to both assessment and mitigation. Some clarity exists with NPS programs, but not with Native American and GCD AMP programs.

For example, it is not clear what overall management/science processes, criteria, etc. are being used to select sites to be treated in any one year, an obvious critical issue. The Spurr and Collette (2007) plan presents criteria for selecting one of the four sites, but it is not clear what criteria is used to select the other three sites, i.e it is not apparent in Damp et al 2007. This would seem to be a primary methods element of a treatment plan being sought from solicited proposals.

Recommendation: We understand the desire to leave substantial freedom to respondents to the RFP on methods and approaches, but since this desire is not made clear in the background or other elements, further clarification is needed. Native American Tribes, BOR, NPS and the AMP have gone to considerable effort to both identify significant sites in the CRE and characterize potential threats to these sites, i.e. impact of flows, recreation, natural events etc. Efforts expended on the two treatment plans (Damp et al 2007 and Spurr and Collette 2007) and ongoing work by Native American Tribes and GCMRC offer opportunity to at least provide insight to respondents on potential methods as well as criteria that would be deemed important for respondents to at least evaluate in their submission.

2.0 Scope:

This element does provide guidance that the scope of effort must include data recovery, analysis, report preparation and cataloging for four sites. And it does reference both USDI and NPS guideline documents on these activities as well as the two referenced treatment plans. Given the need to solicit creativeness in the proposals, the available information appears sufficient.

3.0 Objective:

Again, given the desire to solicit creative approaches from respondents, the five general objectives appear appropriate. As in other elements, it would appear the ongoing efforts of the GCD AMP science program could be a critical resource on prehistory,

geomorphology and outreach objectives.

4.0 Tasks:

The tasks outlined appear appropriate given stated objectives. Although not mentioned, it is presumed that activities related to research questions, designing data collection and analysis procedures would also involve Native American Tribes and GCMRC, to create efficiency and effectiveness, especially as regards efforts on monitoring program. This is especially critical since data collection methods, and we assume analysis, are to be established to respond to the research questions developed in the GCD AMP, and also used to guide GCMRCs monitoring program.

Recommendation: Since the data collection and we assume analysis methods will respond to the specified research questions, it is critical that they be included in the task section, or appropriately referenced. Without this information the respondents cannot develop appropriate proposals. Advisory input of tribal and GCMRC specialists would seem important to this effort.

FUTURE CULTURAL RESOURCE COLLABORATIVE PROGRAMS OF THE GCD AMP

As noted above, the SAs have expressed concerns in past reviews that all GCD AMP entities and other related federal, state, and local entities should act in concert on a unified effort to protect CRE cultural resources. To continue to structure more collaborative approaches, it would seem important that all GCD AMP parties would be more involved, at least in advisory capacity, in this Statement of Work and/or others being proposed. If this is simply an oversight in text development, it could be easily corrected by referencing the ongoing collaboration. For example, GCMRC is developing a long term cultural resource research and monitoring program that is surely integrated into this proposed Statement of Work mitigation program. Yet, there is no mention of the science program and how it can be used to support and enhance the mitigation program. In like manner inputs of Tribal entities are only mentioned in reference to site visitation, yet their specialists are surely part of the process.

Recommendation: There are many parties involved in cultural resource programs of the CRE, all of whom desire to participate, in some way, in all developed programs. The SAs have, in past reviews, identified the need for some form of common

agreement amongst the parties for overall science and management program development, whatever might comprise the overall program.

For example, a Memorandum of Understanding could be used to at least document all the parties that are participating in some form of cultural resource activity in the CRE. It is assumed that significant benefit would exist to tribal and agency scientists and managers in the AMP to better integrate as possible the research, monitoring management and mitigation activities of Tribes, agency and AMP entities. At the very least, the GCD AMP could provide cross reference so that all involved parties are at least aware of all the science and management activities from which benefit can be derived.

REFERENCED CITED

Anderson, K.C. 2006 . Geoarchaeological Investigations of 53 Sited between Glen Canyon Dam and Paria Riffle. Navajo Nation Archaeology Department Report no. 05-229.

Bureau of Reclamation. 2007. Statement of Work for Implementation of a Mitigation Plan for Historic Properties in Glen Canyon Recreation Area and Grand Canyon National Park.

Damp, J., J. Pederson and G. O'Brian. 2007. Geoarchaeological Investigations and an Archaeological Treatment Plan for 151 Sites in the Grand Canyon, Arizona. Utah State University, Logan.

Fairley, H. 2007. FY07-FY11 Archaeological Site Monitoring Research and Development Project. GCMRC, USGS.

Spurr, K. and J.H. Collette. 2007. Condition Assessment and Significance Evaluation for Cultural Resources between Glen Canyon Dam and Paria Riffle, Glen Canyon National Recreation Area, Arizona. Navajo Nation Archaeology Department Report no. 05-123.

APPENDIX A

**REVIEW OF CULTURAL RESOURCE PROGRAM STATEMENT OF WORK
FINAL PROSPECTUS ABSTRACT**

11/16/07

Topic: Review of US Bureau of Reclamation Statement of Work and reference documents; i.e., NNAD, ZCRE, and RFP, related to treatment of CRE cultural sites.

Reviewer: Glen Canyon Dam Adaptive Management Program Science Advisors.
Two - three Science Advisors.,

Technical Supervision: AMWG assigns work tasks for the SA Program. The Grand Canyon Monitoring and Research Center has contract and technical supervision responsibility for the Science Advisor Program.

Review Period: The review is to take place in November or December of 2007, or as specified by the Upper Colorado Region of the Bureau of Reclamation.

Task: Review the BOR Statement of Work. Reference documents include:

- NNAD. Approximately 100 pages containing general research designs and research questions.
- ZCRE. Approximately 100 pages containing general background such as geomorphological information related to the cultural resource sites proposed for treatment.
- RFPs. Multiple proposals that present treatment plans for four sites to be treated in FY 2008. The proposal would implement the science design and questions specified in the Statement of Work.

The SAs will conduct the following review activities

- Review the Statement of Work with the intent to determine the following:
 - Are general and specific elements of proposed methods appropriate to guide implementation of the cultural site treatments?
 - Are approaches specified effective as related to accomplishing stated objectives, methods, outcomes, etc.?
 - Are the developed questions appropriate as relates to the multiple resources information needs of the AMP, and objectives, methods and outcomes for this project?
 - Will the selected treatment plan for the four specified sites solicits the desired outcomes (i.e. information/learning)?

Review Costs: A cost of \$4000.00 to \$8,000.00 is estimated for the project.

Review of Statement of Work Relating to Preservation and Protection of Cultural Resources in the Colorado River Ecosystem

GCD AMP Science Advisors
Don Fowler, Anthropologist
L. D. Garrett, SA Executive Director

TWG Meeting
December 3-4, 2007

Confusion Regarding SA Cultural Resources Review

- Summer request for review canceled.
- October TWG request: work with BOR/GCMRC to review Treatment Plans and Statement of Work
- SA prospectus to review Statement of Work and Treatment Plans
- Concern of BOR over cost and extent of SA review

SA Review Change In Review Focus

- Mid-November receipt of Statement of Work and Reference documents
- Statement of Work did not specify use of Treatment Plans
- SA Executive Director decision to focus review on Statement of Work and not treatment plans

Review Charge

Review BOR Statement of Work (SOW) relating to mitigation of impacts to CRE cultural resource sites at potential risk from GCD operations and other specific activities. Determine suitability of SOW to solicit effective protection practices and learning. Review is to consider existing law and regulation, and science and management knowledge.

General Review Finding

General Finding

- SOW is clear, straightforward and in accord with best practices, i.e. conforms to law and existing knowledge.

Recommendation

- SAs recommend that the Statement of Work be implemented.

Specific Review Findings

Specific Findings

- SOW does not clarify science and management contributions and information available to potential respondents from native tribes, GCD AMP, GCMRC, etc.
- Use of research questions and ongoing AMP science and management input to formulate criteria and methods for data collection, analysis and mitigation is unclear.
- The five year approach to assessments and mitigation does not clarify a collaborative process with GCD AMP entities.

Specific Review Findings Continued

Recommendations

- Clarify how science and management contributions, advisory input, etc. of GCD AMP related entities (other than NPS) will be input into the program.
- Clarify how research questions will be input into the process as well as ongoing science and management findings, i.e. monitoring information.
- Clarify how this specified BOR activity will be accomplished in a collaborative adaptive process with GCD AMP entities.