

Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
April 29-30, 2009

Agenda Item

Science Advisors' Nominations

Action Requested

✓ Feedback requested from AMWG members.

Presenter

David Garrett, Executive Secretary, Science Advisors

Previous Action Taken

- ✓ By TWG: Input from TWG
- ✓ Other: Input from GCMRC

Relevant Science

✓ There has been no relevant research or monitoring on this subject.

Background Information

The Science Advisors' Operating Protocol reads, "AMWG members may provide GCMRC with names of individuals who should be considered for appointment as a Scientific Advisor. . . . Scientific Advisors will be selected from among nominees based on the evaluation criteria presented below. GCMRC will seek the consultation of the AMWG in selecting individuals to serve as GCMRC Scientific Advisors."

The attached AMWG briefing document on this issue requests AMWG members for nominees to three Science Advisor Panel Positions.

**AMWG BRIEFING PAPER
SPRING AMWG MEETING, 4/29-30/2009**

**STRATEGY FOR SCIENCE ADVISOR AREAS OF EXPERTISE
TO RESPOND TO EMPHASIS AREAS OF THE GCDAMP; 2009-2013**

**L.D. GARRETT
EXECUTIVE COORDINATOR
GCDAMP SCIENCE ADVISORS**

NEW DIRECTION

The new GCDAMP directions and emphasis areas in science and management for 2009-2013 are articulated in the recently approved Monitoring and Research Plan, Environmental Assessment and Biological Opinion, as well as other documents. More refinement will occur in the summer of 2009 in approved 2010/2011 programs of work and budgets and a General Core Monitoring Plan.

Although GCDAMP emphasis areas will not change radically i.e. native fish, beaches, etc. a greater emphasis is being placed on understanding and resolving more integrated system wide impacts of operations on multiple resources, as well as approaches to improve adaptive management processes.

The SA Executive Coordinator has met with GCMRC and TWG to discuss needed new SA program directions. The SA program will respond to the following recommendations from GCMRC and TWG.

- Focus SA full time positions on AMWG and GCDAMP priorities, and also utilize part time SAs to fulfill needed review requirements.
- Respond as possible to level funding constraints in next 2-4 years.
- Obtain, as possible, full time SA specialists and selected part time specialists with integrated, multiresource systems science experience.
- Involve the part time Anthropologist in reviews and advisory programs necessary to insure more system level perspectives of cultural resource issues.
- Do not place an additional full time social economist SA, but continue to have the current Executive Coordinator also perform as the Science Advisors economist.
- Provide information annually to GCMRC and TWG on perceived effectiveness of Science Advisor discipline structure.

To best respond to GCDAMP needs over the current planning period i.e. 2009-2013 the Science Advisor disciplines in the following table are proposed. The SAs would like input from AMWG on nominations in three areas, areas 4, 5, and 6 in the table. Three discipline areas, 1, 2, and 3, would not change and do not require any nominations at this time.

The following SA protocol excerpt specifies that the AMWG may provide nominations for SA positions. The SA Executive Coordinator works with the AMWG in gaining input on SA program directions, including discipline makeup and nominations. “Selection Process and Terms. Scientific Advisors will be sought for a three-year term, renewable for one consecutive three-term. AMWG members may provide GCMRC with names of individuals who should be considered for appointment as a Scientific Advisor. Initial Scientific Advisors will be appointed for staggered one,-two-, and three-year terms, to ensure continuity in membership. Scientific Advisors will be selected from among nominees based on the evaluation criteria presented below. GCMRC will seek the consultation of the AMWG in selecting individuals to serve as GCMRC Scientific Advisors. The selection process, requiring them to sign the standard GCMRC conflict-of-interest statement and providing them a fixed term that they will serve will assure the independence of the Scientific Advisors.”

The following disciplines are proposed over the 2009-2013 planning period for full time and part time contracts.

A Strategy for full time and part time disciplines in the GCDAMP Science Advisor Group for the 2009/2013 program period.

Full Time Disciplines	Part Time Disciplines
1. <u>Geomorphologist</u> ; systems and modeling experience (currently, Dr. Ellen Wohl)	Cultural Resource Specialist; ² , Anthropology with experience in multiresource integration on large landscapes
2. <u>Fish Ecologist</u> ; systems and modeling experience (currently, Dr. James Kitchell)	Cultural Resource Specialist; ² , Field Archeology
3. <u>Adaptive Management Specialist</u> ; systems and modeling experience (currently, Dr. Lance Gunderson)	Remote Sensing Specialist; ² ; aquatic and terrestrial experience
4. <u>System Ecologist</u> ; ¹ riverine and riparian systems experience; modeling expertise	Data Base Management System Specialist; ²
5. <u>Aquatic Ecologist</u> ; ¹ fresh water riverine	Natural Resource Economist; ² terrestrial

¹ Disciplines for potential full time SA nominations. ² Disciplines where reviewers are intermittently selected from a pool of qualified experts for specific tasks.

systems experience; modeling experience	and aquatic system experience; modeling experience
6. <u>System Analyst</u> : ¹ experience with remotely sensed and large multiresource sample designs and multivariate analysis procedures	

Over the current planning period the part time anthropologist and natural resource economist will also be involved in system based multiresource reviews and advisory services.

Background

In 2001/2002, the GCDAMP's Science Advisory Protocol was developed to respond to requirements of the GCD EIS and the GCDAMP for a Science Advisory Board. It was established in 2001 from guidance in the GCDEIS. Protocols for the independent Science Advisors were developed with input from and concurrence of the GCMRC, TWG, AMWG and Secretary of Interior.

Based on AMWG requests for clarification of appropriate administration and supervision of the SA Program in 2003/2004, and Secretary's concurrence, approval of SA work activities would occur annually by AMWG. This is accomplished by AMWGs' approval each year of the SA two year program of work and accomplishment report.

Amended protocols and operating procedures were drafted for the SA program to respond to this new direction by AMWG. Supervision of the SA program contract is by the GCMRC Chief or Designee.

In 2005 all services in the SA program were placed in annual purchase orders, bid as cost proposals. In 2009 all SA program services were placed in a 5 year contract, competed nationally through an open RFP.

From FY 2002 to FY 2009 adjustments occurred in the discipline makeup of the Science Advisors Group. A comparison of the Science Advisor discipline structure in three separate years 2001/2004/2008 characterizes changes that occur in SA disciplines to respond to areas of emphasis in GCDAMP science and management programs.

2001: Twelve full time disciplines comprised the Science Advisor Group as follows:

- Adaptive Management
- Anthropology
- Archeology
- Fisheries
- Ecosystem
- Riparian Ecology

Science Advisors Nominations, continued

- Geomorphology
- GIS/Remote Sensing
- Hydrology
- Aquatic Ecology
- Limnology
- Socio-economics

2001 - 2004: In the period 2001-2004 the SAs were primarily a review group for GCMRC and reacted annually to 2-4 GCMRC planning documents. The full time Science Advisor Group was adjusted from 11 to 8. Other discipline-specific reviews were obtained on a part time, as need basis.

Full Time Disciplines	Part Time Disciplines
Adaptive Management	
Anthropology	
	Archeology
Fisheries	
Ecosystem Specialist	
Riparian Ecologist	
Geomorphology	
	GIS/Remote Sensing
	Hydrology
Aquatic Ecology	
Limnology	
	Socio-economics

The socio-economic reviews were assigned to the SA Executive Coordinator, an economist.

2004 - 2008: From 2004 to 2008 general work tasks of the SAs changed significantly.

- In late 2003/early 2004 the Secretary Designee and AMWG decided the SAs program would be approved annually by AMWG and respond more fully to requested review and advisory activities of the GCMRC, AMWG and TWG as expressed in requested operating procedures and amended operating protocol.
- SAs program would provide more advisory services to TWG, GCMRC and AMWG in science and technical program planning and implementation.

The SAs disciplines during this period generally reflected the following.

Science Advisors Nominations, continued

Full Time Disciplines	Part Time Disciplines
Adaptive Management	
Anthropology	
	Archeology
Fisheries	
Ecosystem Specialist	
Riparian Ecologist	
Geomorphology	
	GIS/Remote Sensing
	Hydrology
Fisheries; RIP Expertise	Aquatic Ecology
Limnology	
	Socio-economics

Socio-economic expertise was obtained part time from the Executive Coordinator. Cultural resources expertise was obtained from a full time specialist until 2008.

**Strategy for Science Advisor Expertise to
Respond to Emphasis Areas of the GCDAMP;
2009-2013**

**L.D. Garrett
Executive Coordinator
GCDAMP Science Advisors**

**Presented at Adaptive
Management Work Group Meeting
Phoenix, AZ
April 29-30, 2009**

Protocol for SA Group Composition and Selection

- “AMWG members may provide GCMRC with names of individuals who should be considered for appointment as a Science Advisor.”
- Scientific Advisors will be selected from among nominees based on the evaluation criteria presented below. GCMRC will seek the consultation of the AMWG in selecting individuals to serve as Scientific Advisors.”

A Strategy for Full Time and Part Time Discipline Balance in the GCDAMP Science Advisor Group for the 2009-2013 Program Period

Full Time Disciplines	Part Time Disciplines
1. Geomorphologist; systems and modeling experience,	■ Natural Resource Economist; terrestrial and aquatic system experience, modeling experience
2. Fish Ecologist; systems and modeling experience	■ Cultural Resource Specialist; Field archeology
3. Adaptive Management Specialist; systems and modeling experience;	■ Remote Sensing Specialist; Aquatic and terrestrial; GIS

A Strategy for Full Time and Part Time Discipline Balance in the GCDAMP Science Advisor Group for the 2009-2013 Program Period (continued)

Full Time Disciplines	Part Time Disciplines
4. System Ecologist; riverine and riparian systems experience; modeling expertise	■ Data Base Management System Specialist
5. Aquatic Ecologist; fresh water riverine system experience	■ Cultural Resource Specialist; Anthropology
6. System Analyst; experience with remotely sensed and large multiresource sample designs and multivariate analysis procedures	■ Limnology Specialist; reservoirs and streams; hydrology

2001: Twelve full time disciplines comprised the Science Advisor Group as follows:

- ◆ Adaptive Management
- ◆ Anthropology
- ◆ Archeology
- ◆ Fisheries
- ◆ Ecosystem
- ◆ Riparian Ecology
- ◆ Geomorphology
- ◆ GIS/ Remote Sensing
- ◆ Hydrology
- ◆ Aquatic Ecology
- ◆ Limnology
- ◆ Socio-economics

2004: Eight full time and four part time disciplines comprised the SA Group



■ Adaptive Management	
■ Anthropology	
	■ Archeology
■ Fisheries	
■ Ecosystem Specialist	
■ Riparian Ecologist	
■ Geomorphology	
	■ GIS/Remote Sensing
	■ Hydrology
■ Aquatic Ecology	
■ Limnology	
	■ Socio-economics

2008: Eight full time and five part time disciplines comprised the SA Group

Full Time Disciplines	Part Time Disciplines
Adaptive Management	
Anthropology	
	Archeology
Fisheries	
Ecosystem Specialist	
Riparian Ecologist	
Geomorphology	
	GIS/Remote Sensing
	Hydrology
	Aquatic Ecology
Fisheries; RIP Expertise	
Limnology	
	Socio-economics



Activity Schedule for SA Strategy, Nominations and Approval



- GCMRC discussions of SA strategy - 2/09

- TWG discussions of SA strategy,
nominations - 3/09



- AMWG discussions of SA strategy,
nominations - 4/09



- Placement of new Science Advisors – 7/09

Guidance from GCMRC and TWG

- Focus SA full time positions on AMWG and GCDAMP priorities
- Respond as possible to level funding constraints
- Obtain, as possible SA specialists with systems science experience
- Involve the part time Anthropologist in reviews and advisory programs to insure system level perspectives
- Executive Coordinator perform as Science Advisors economist
- Provide information annually on perceived effectiveness of discipline structure