Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
March 7-8, 2006

Agenda Item
Science Advisors Membership Selection

Action Requested
√ Information item only; we will answer questions but no action is requested.

Presenters
John Hamill, Chief, Grand Canyon Monitoring and Research Center

Previous Action Taken
√ By AMWG:
In August 2005, AMWG heard a report from Dave Garrett, Executive Director of the Science Advisors, which detailed his plans to reduce the numbers of Science Advisors in 2006 by eliminating the positions for archeologist, economist, biometrician, and sediment/hydrologist.

Relevant Science
√ There has been no relevant research or monitoring on this subject.

Background Information
√ I have attached the background information to be included in the AMWG packet that is distributed 30 days before the meeting, and posted on the website.

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 letter and background materials from John Hamill asks AMWG members for nominees to the Science Advisors' Panel by February 17, 2006.

United States Department of the Interior
U.S. GEOLOGICAL SURVEY
SOUTHWEST BIOLOGICAL SCIENCE CENTER
GRAND CANYON MONITORING AND RESEARCH CENTER
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FLAGSTAFF, ARIZONA 86001
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January 18, 2006

MEMORANDUM

To: Glen Canyon Dam Adaptive Management Work Group

From: John Hamill, Chief, GCMRC, USGS, Flagstaff, AZ //signed//

Subject: Nominations for the GCMRC Science Advisors Panel

In accordance with established Operating Protocols (attachment 1), the Grand Canyon Monitoring and Research Center (GCMRC) is seeking nominees from the Glen Canyon Dam Adaptive Management Work Group (GCD AMWG) for the GCMRC Science Advisory Panel (SAP). We are seeking nominees in the following disciplines: (1) Anthropology/Native American Studies, (2) Ecosystem/Riparian Ecology, and (3) Geomorphology. Current members of the SAP and a short bio for several candidates that are under consideration by GCRMC are identified in Attachment 2.

Nominees will be evaluated based on the criteria identified in the attached Operating Protocols. Accordingly, to aid in our evaluation of candidates, we request that you include relevant information on the qualifications of any nominees you provide. We will review the nominees and present our findings at the March 2006 AMWG meeting prior to making a final selection.

Please provide your nomination(s) and supporting documentation by February 17, 2006.

Thank you for considering this request. If you have questions or concerns, please contact me at 928-556-7364.

Attachments (2)

Attachment 1

Operating Protocols

GCMRC SCIENCE ADVISORS

FINAL
December 2000

INTRODUCTION

The final Environmental Impact Statement on the Operation of Glen Canyon Dam calls for the Secretary of the Interior in consultation with the Adaptive Management Work Group to establish Independent Review Panel(s) (IRPs) (pg. 37-38) to:

(1) annually review resource specific monitoring and research programs initiated by the science center [Grand Canyon Monitoring and Research Center (GCMRC)];

(2) make recommendations to the Adaptive Management Work Group (AMWG) and the GCMRC on the long-term monitoring and research program regarding priorities, integration, and management;

(3) conduct a five-year review of monitoring and research protocols; and

(4) provide other such scientific and technical advice as may be requested by the GCMRC, the AMWG, or the Secretary.

The GCDEIS states that the IRPs should "... be comprised of qualified individuals not otherwise participating in the [GCMRC] long-term monitoring and research studies."

GCMRC has responded to the GCDEIS call for IRPs by:

(1) Establishing an independent, external peer-review process for all proposals received by GCMRC and scientific reports resulting from GCMRC activities.

(2) Initiating a contract with the National Research Council (NRC) for review of the GCMRC Long-term Strategic Plan and GCMRC FY 98 and FY 99 Annual Plans that resulted in the 1999 NRC report, "Downstream: Adaptive management of Glen Canyon Dam and the Colorado River Ecosystem."

(3) Developing Protocol Evaluation Program (PEP) for reviewing long-term monitoring protocols.

NEED

The current IRPs established by GCMRC do not fully address the responsibilities identified in the GCDEIS. An IRP is still needed:

"... for periodically reviewing resource specific monitoring and research programs and for making recommendations to the AMWG and the Center [GCMRC] regarding monitoring, priorities, integration, and management."

PURPOSE

The group of Scientific Advisors is being established to increase the efficiency and quality of the science being developed by GCMRC and used by the AMWG and the Secretary. The Scientific Advisors will provide independent scientific oversight and technical advice to ensure that GCMRC science programs are efficient, unbiased, objective, and scientifically sound.

The Scientific Advisors individually will be expected upon request, among other things, to review and comment on:

(1) results of ongoing and completed monitoring and research program activities, as well as any synthesis and assessment activities initiated by GCMRC,

(2) the appropriateness of GCMRC's RFPs, especially their responsiveness to management objectives,

(3) the protocols used in GCMRC sponsored scientific activities, including a 5-year review of GCMRC monitoring and research protocols,

(4) GCMRC's long-term monitoring plan,

(5) GCMRC's annual monitoring and research plans,

(6) GCMRC's annual budget proposals, to ensure that the science program is efficiently and effectively responding to AMWG goals (i.e., management objectives), and

(7) any other program specific scientific and technical advice it is asked to address by the AMWG, the GCMRC, or the Secretary.

Consistent with these tasks, the Scientific Advisors will be asked not only to evaluate "… whether the best methods are used …" but also to evaluate "… whether the best questions are being asked." (NRC 1999) A multidisciplinary set of Scientific Advisors is essential for adequate consideration of coordination and balance among resource programs, their combined effectiveness in advancing understanding of the Grand Canyon ecosystem, and progress in defining and testing adaptive management experiments.

The Scientific Advisors will provide independent scientific and technical advice to the GCMRC Chief and program managers, the AMWG, and the Secretary when and as needed regarding program specific scientific and technical issues. In addition, they may lead specific scientific and technical review and evaluation tasks, as appropriate.

The Scientific Advisors will not be asked to review, interpret, or otherwise evaluate public policy decisions or assess legal compliance associated with the Glen Canyon Dam Adaptive Management Program and activities of the AMWG, the Technical Work Group (TWG), or individual member agencies and organizations.

MEMBERSHIP

In any one year, the Scientific Advisors will be comprised of 10 - 12 individuals. Individuals will be selected to serve as Scientific Advisors based on their record of publication in the peer-

reviewed literature, or other demonstrable scientific achievements or technical competence. Scientific Advisors will be selected for their scientific or technical expertise and not as representatives of a particular agency, organization, or other stakeholder group. Scientific Advisors may be drawn from other agencies, academia, and the private sector. Scientific Advisors will be comprised of qualified individuals not otherwise participating in GCMRC sponsored long-term monitoring and research studies and must recuse themselves from bidding on GCMRC proposals for one year after their term of service is completed.

Scientific Advisors will be selected on the basis of their technical competence, independence, and demonstrated capability to work in an interdisciplinary environment. Balance among expertise in the following areas will be sought:

- Adaptive management;
- Anthropology / Native American studies;
- Archaeology;
- Fisheries;
- Ecosystem / Riparian ecology;
- Geomorphology;
- GIS / Remote sensing;
- Hydrology;
- Aquatic ecology / Limnology; and
- Socio-economics.

Selection Process and Terms. Scientific Advisors will be sought for a three-year term, renewable for one consecutive three-year 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.

REPORTING

> "Although it must be independent, it must have a mechanism for being responsive to the concerns of people with local knowledge, interest and concerns. Finally, its reports must be visible and accessible to all. Although the advisory board will not and should not make policy decisions, its scientific advice must be loud and clear enough that it cannot be ignored by accident." (Upstream: Salmon and Society in the Pacific Northwest.)

The Scientific Advisors will report through an Executive Secretary. The Scientific Advisors will provide technical advice and scientific oversight, upon request, in writing to the AMWG, the GCMRC, and/or the Secretary; with copies to the TWG.

EVALUATION CRITERIA

- Technical competence as demonstrated by their record of scientific achievement in one of the areas of technical expertise being sought.

- Ability to work in a committee environment.

- Demonstrated capability to work in an interdisciplinary setting.

- Not otherwise participating in the Glen Canyon Dam Adaptive Management Program or GCMRC monitoring and research activities.

ESTABLISHMENT, ADMINISTRATION AND BUDGET

GCMRC will establish the Scientific Advisors following consultation with the AMWG. The Scientific Advisors will be required to sign the standard GCMRC conflict-of-interest statement, and other Department of the Interior conflict-of-interest statements, as appropriate. Administrative support (i.e., travel, expenses, report production) for Scientific Advisory activities will be provided for by GCMRC.

Scientific Advisors will be reimbursed for their travel and receive per diem for time spent at meetings or at GCMRC to conduct approved scientific and technical review and advisory activities. In addition, Scientific Advisors will receive a professional fee of $300 per day for time spent on approved activities. Scientific Advisors will be expected to participate in at least one scientific river trip on the Colorado River to familiarize them with the ecosystem

Operations for the first year of Scientific Advisory activities are estimated at $50,000-$100,000.

OPERATING PROCEDURES

An Executive Secretary who will be an employee of, or contractor to the GCMRC will lead the Scientific Advisors to GCMRC. In the first year Dr. Lawrence D. Garrett as a contractor will fill this position to GCMRC. The Executive Secretary and the Scientific Advisors will develop operating procedures with respect to resolving disputes and providing scientific and technical advice to the GCMRC, the AMWG, or the Secretary, as appropriate. The Scientific Advisors will meet at least three times per year or as needed. GCMRC will provide a scientist to serve as an Executive Secretary to support the activities of the Scientific Advisors.

Annually the AMWG will, in its budget meeting, review, update and assign a set of 24-month review tasks and advisory activities for the Science Advisors. The Chief of the GCMRC, TWG Chair, and Executive Secretary of the Science Advisors are responsible for providing all necessary inputs to the Chair of the AMWG 30 days prior to the annual budget meeting to permit development of the new Science Advisors charge.

This does not preclude review requests from GCD AMP parties after AMWG approval of the Science Advisors Annual Program of Work. Science Advisor review requests identified after the annual review program is approved by AMWG, will be provided to the GCMRC Chief, who will request the review from the Executive Secretary. The Executive Secretary is to notice immediately the AMWG Chair (Secretary Designee), the TWG Chair, the TWG Budget Committee Chair, and the GCMRC Chief of the objectives of the review request, its potential Science Advisor time requirement, and its potential impact on the AMWG approved Annual Review Program. Should issue(s) exist regarding the review with the TWG Chair, TWG Budget Chair or GCMRC Chief, a conference call is to be held immediately to resolve the issue(s). If the issue(s) cannot be resolved, the Secretary's Designee is to be consulted by the group, to decide if the review should be conducted. A time period of two weeks is proposed from the Executive Secretary's notice, to the Secretary Designee decision.

The Science Advisors or Executive Secretary are to present to the Secretary's Designee, AMWG Chair, GCMRC Chief and TWG Chair 30 days prior to the AMWG budget meeting a verbal and written annual report of accomplishments including specific documentation of all formal activities of the Advisors, including meetings, GCD AMP recommendations, draft and final reports, and GCD AMP related presentations. Further, the Advisors, or Executive Secretary, are to report to AMWG a verbal and written report at each formal AMWG meeting on any review or advisory report completed since the previous AMWG meeting. The Science Advisors or the Science Advisors' Executive Secretary will be available at all formal AMWG meetings to respond as needed to requests for information from AMWG, the Secretary Designee or GCMRC.

FY 2001 TASKS

Scientific Advisors will be asked to provide timely review of:

(1) review the Goals, management objectives and information needs to determine their potential, taken together as a suite, for achieving the Glen Canyon Dam Adaptive Management Program's Vision and Mission,

(2) the structure and responsiveness of RFPs to the management objectives and information needs,

(3) the FY 2001 and 2002 long-term monitoring plans, especially the parameters to be monitored, the protocols to be used, and the overall sampling strategy,

(4) GCMRC's remote monitoring technology proposals, and

(5) GCMRC's budget priorities to ensure that the science program is responding efficiently and effectively to AMWG goals (i.e., management objectives).

(amended August 2004)

M3 RESEARCH

ATTACHMENT 2

L. David & Pamela Garrett, Principals
53716 Falcon Rd
Olathe, CO 81425
970-323-9511 (Ph)
970-323-9512 (Fax)
E-Mail: m3research@aol.com

TO: John Hamill, GCMRC Chief
FROM: L.D. Garrett, Executive Director Science Advisors
DATE: January 13, 2006
SUBJECT: Potential Science Advisor Candidates for FY 2006-2008

Attached please find several specialists that could be considered for the three vacant SA positions. Each have specific expertise that will fit our needs over the next three years. Currently active Science Advisors include

- Lance Gunderson, Adaptive Management Specialist
- Jim Kitchell, Fish Ecologist
- Dale Robertson, Limnologist
- Jill Baron, Biologist
- Virginia Dale, Systems Specialist

ABSTRACT CV'S

Dr. William Eric Dietrich; Ph.D, Professor Geomorphology, University of California, Berkley. Dr. Dietrick is Professor and past Chair of the Department of Geology and Geophysics UC Berkley. He is also a senior faculty in the Earth Science Division, Lawrence Berkley National Laboratory. He has published extensively on the geomorphology of meandering river corridors, especially in areas of mechanics of flow and sediment transport in river bends, sediment transport and hid slope morphology, land surface morphology, and debris flows. His research has been extended to models for management use, and he has collaborated on ecological implications of sediment flows and deposition. Dr. Dietrich has contributed extensively in professional organizations as a member and officer, and has made his science available to managers in advisory capacities with the NMFS, Oregon Department of Forestry, GCD AMP and private industry.

Dr. Mary Eleanor Power; Ph.D. Integrative Biology, University of California, Berkley. Dr. Power is a Fulbright Scholar and serves on the Board of Directors for the Nature Conservancy of California. Dr. Powers' areas of teaching and research interest is community ecology, grazing, fish biology, freshwater ecology and food webs. She has published extensively on riverine corridor effects of regulation on trophic interactions, food webs, and transfer to fish. Significant research has been focused on the effects of disturbance on food webs and aquatic biodiversity. She has evaluated dam regulation effects on food webs in several western rivers, including the Colorado River. Several aspects of her work has been extended to biotic models relating lower trophic food chains to fish productivity.

Dr. Don Fowler. Ph.D. Anthropologist, University of Nevada, Reno. Dr. Fowler is the Mamie Kleberg Professor Emeritus of Anthropology and Historic Preservation and Director of the UNR Continuing Education Program in Heritage Resources Management. He also is a research associate with the Smithsonian Institute. Dr. Fowler has conducted extensive research of native peoples of the Colorado Plateau. He has led and collaborated on extensive archeology and anthropology studies of the Plateau and Great Basin for over 40 years. He has specialized in early culture of the region, and the history of anthropology and anthropological theory. A recipient of extensive research grants as well as a large research endowment for the Sundance Archeological Research Fund, Dr. Fowler is broadly published, co-editing two books in 2003 on archeology and anthropology. Now focused on research, Dr. Fowler was Department Chair at UNR, and past president of the Society for American Archeology. In 2003 he received the SAAS Lifetime Achievement Award and UNR Outstanding Research Award.

Dr. Ellen Wohl. Ph.D. Geomorphology, Colorado State University. Dr. Wohls' graduate training at U of A established the basis for continued research in sedimentology and geomorphology of western rivers and streams. Although her graduate instruction is across all aspects of geomorphology, significant focus is directed at fluvial geomorphology patterns and processes in western rivers. Her research covers a broad spectrum, including streams in humid and arid mountain environments to larger rivers in both humid and arid lowlands, such as the Colorado River in the western U.S. Extended studies have occurred in eastern and western U.S., Puerto Rico, New Zealand, Panama, South Africa etc. Initial investigations into the hydraulics sediment transport, morphology and physical responses of streams and rivers has expanded to now include assessments of both physical/biological interactions as well as physical/social/biological interactions. Dr. Wohl now extends her research into application using developed models and guidelines for managers. River management application occurs in the form of flood hazards, water supply and quality, engineering of structures for dams, physical and biotic river restoration, and habitat development and protection. Dr. Wohls' research is widely accepted due to her extensive science papers, monographs and technical reports. She has also authored several books on her research as well as instruction texts.

Dr. Alan P. Sullivan. Ph.D. Anthropologist, University of Cincinnati. Dr. Sullivan is Chairman and Professor, Department of Anthropology, University of Cincinnati.
He has broad experience in archeology and anthropology study in the southwest. His research focuses on the development of an independent archeology theory. Drawing on several decades of research in the American southwest, he is exploring how influence regarding the cultural past can be advanced without dependence on analogs from cultural anthropology. Dr. Sullivan is utilizing his extensive field site surveys on the Colorado Plateau to evaluate how the dynamic interplay among environmental manipulation, intensive wild-plant production and un-intensive horticulture, affects the distribution of perennial settlements and the abandonment patterns of landscapes.

Dr. Barry L. Johnson. Ph.D. Aquatic Ecologist. USGS. Dr. Johnson is Chief, Aquatic Science Branch, Upper Midwest Environmental Sciences Center, USGS. Although his personal research focus is on aquatic ecology relationships of fish to habitat, food base, etc., as Chief of Aquatic Science he integrates these findings into ecosystem assessments that involve other biotic resource, physical resource, and social resource issues, His personal river ecology research has evaluated the effects of water quality factors (temperature, dissolved oxygen, sediment, etc.) on fish survival and life cycles. Specific emphasis has been placed on selected river habitats such as bars and small islands. His research has evaluated the effects of regulated flows from dams on aquatic habitat and fish response; including modeling approaches to assist managers with decisions, and the use of adaptive management to enhance the science/management decision process.

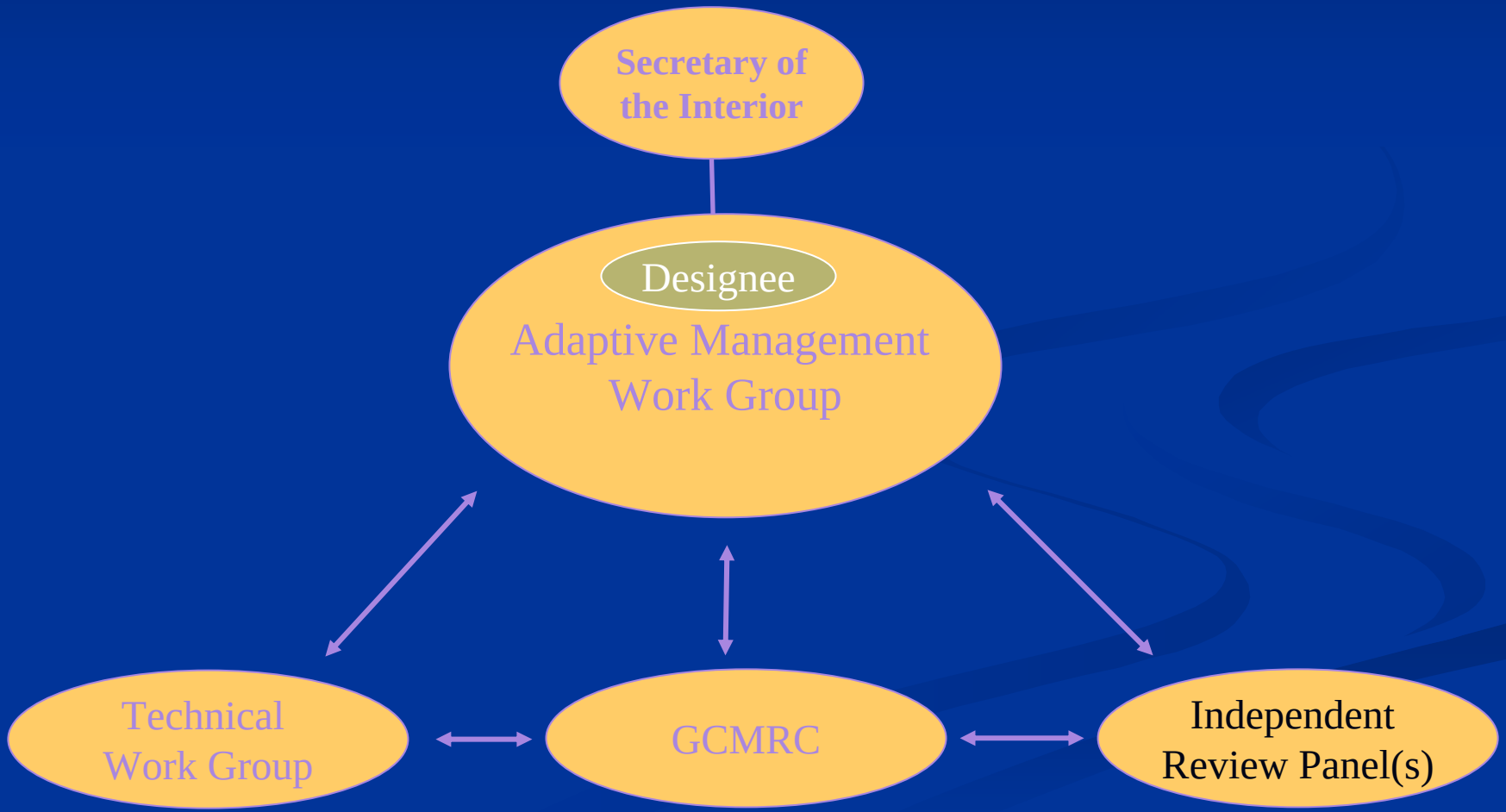
GCMRC Science Advisor Selection

AMWG Meeting

March 8, 2006

John Hamill, Chief
GCMRC

Structure of the Glen Canyon Dam Adaptive Management Program



GCMRC Science Advisors (SA)

Background: SA Membership Selection process outlined in AMP Operating Protocols (December 2000)

Purpose of SA:

1. **Increase the efficiency and quality of science being developed by GCMRC and used by the AMWG/DOI**
2. **Provide independent scientific oversight and technical advice to ensure GCMRC programs are unbiased objective and scientifically sound**

Membership

- 10-12 members, recently reduced to 8 (Aug 2005)
- Selected based on:
  - Technical competence/scientific achievement
  - Interdisciplinary experience
  - Independence (No vested interest)
- Disciplines
  - Adaptive mgt
  - Anthropology/Native American
  - Ecosystem/ riparian ecology
  - GIS/remote sensing
  - Aquatic Ecology/Limnology
  - Fisheries
  - Archaeology
  - Hydrology
  - Socioeconomics
  - Geomorphology
- Term: 3 years (renewable)

Selection Procedure

- AMWG invited to provide nominations
  - January 18, memo
  - No nominations/comments provided
- GCMRC makes selection following consultation with AMWG (March 8, 2006)

Current Members

- David Garrett (Chair)- Economist
- Lance Gunderson – Adaptive Management Specialist
- Dale Robertson – Limnologist/Fish Ecologist
- Jill Baron - Biologist
- Virginia Dale – Ecosystems Specialist

Nominees (Select 3)

- **William Eric Dietrich, Ph.D. Geomorphology, University of California, Berkley**
- **Don Fowler, Ph.D. Anthropology, University of Nevada, Reno**
- **Barry L. Johnson, Ph.D. Aquatic Ecology USGS**
- **Mary Eleanor Power, Ph.D. Integrative Biology, University of California, Berkley.**
- **Alan P. Sullivan, Ph.D. Anthropology, University of Cincinnati**
- **Ellen Wohl, Ph.D. Geomorphology, Colorado State University.**
- **Steven L. Yaffee , Ph.D. Natural Resource and Environmental Policy,** University of Michigan **(Collaborative problem solving/ecosystem management)**