



# GCDAMP AHAHG REPORT

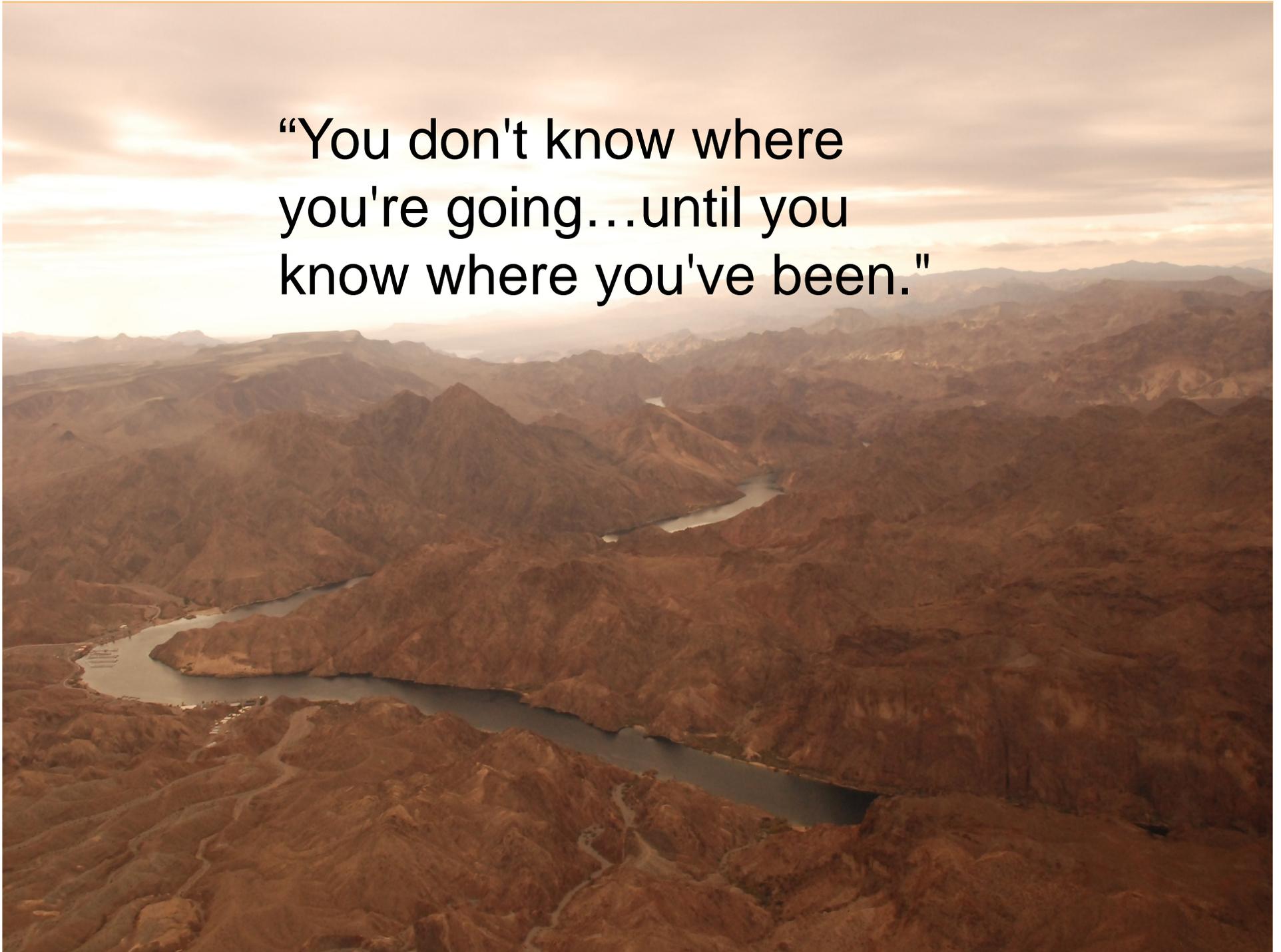
Administrative History Ad-Hoc Group

February 19, 2014

\*Purpose of gathering information and creating a history of the GCDAMP



“You don't know where  
you're going...until you  
know where you've been.”



# GCDAMP-DASHBOARD



## Navigation

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## DASHBOARD: Can Address the Following Questions:

- Q: What are the snow pack conditions? Percentages?
- Q: What are the lake levels for Powell /Mead? (Compare 3 or 5 years?)
- Q: What are the latest news articles (specifically associated) with this program?
- Q: What science trips are going on right now? Last month? Next month?
- Q: What is the drought outlook right now? Seasonal outlook for the basin?
- Q: How many power units are online? maintenance season?
- Q: How much water is coming out of the dam right now? CFS?
- Q: What is the water temperature? How is it trending?
- Q: Recreation: Are there motorized boats on the river right now?
- Q: What does the hydrograph look like? Next few months? Year?
- Q: What do the upper basin lake levels look like? Navajo? Fontenelle?
- Q: What does the precipitation look like in the Basin?
- Q: What year are we in with the HFE protocol? Other guiding documents?
- Q: Fishery: What are the fishing conditions at Lees Ferry?
- Q: What are the sediment conditions? HFE?

[www.GCDAMP.com](http://www.GCDAMP.com)



Page Discussion

## Dashboard

### Science Trips

- Dec 10: Lake Powell Forebay/Tailwater Monitoring
- Jan 9: Natal Fish Origins
- Feb 13: Sediment Monitoring
- Mar 18: Monitoring LF rainbow trout population

### News Articles

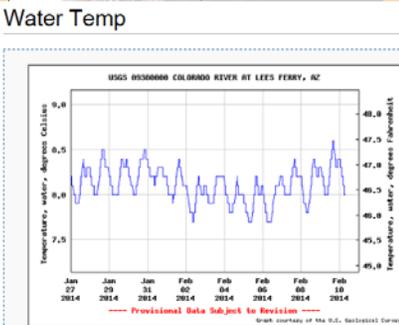
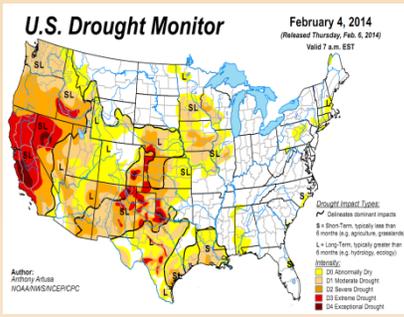
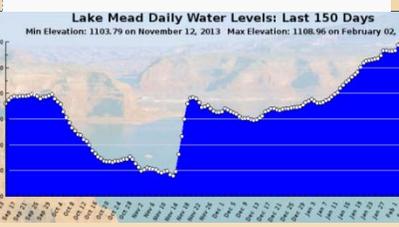
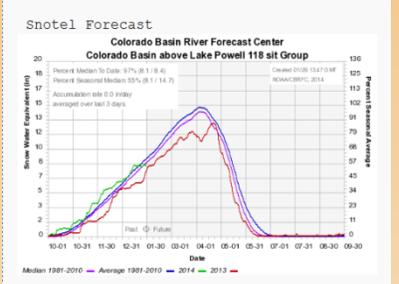
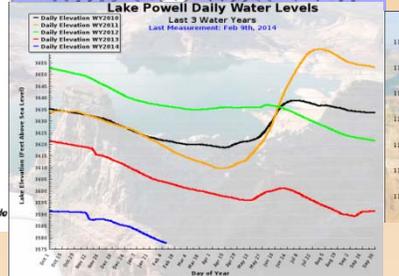
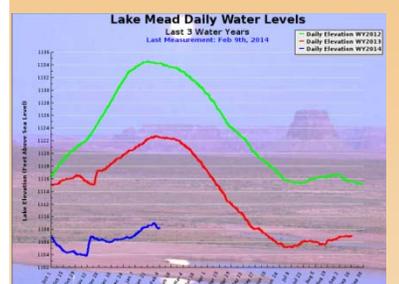
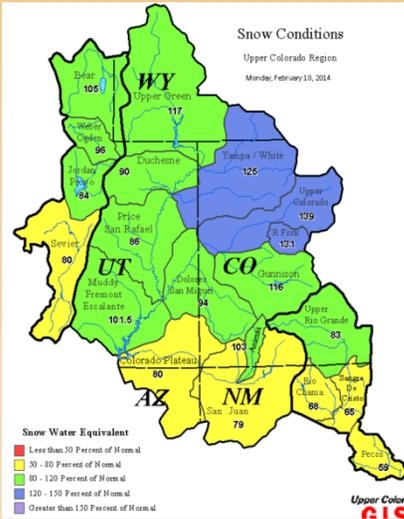
- FAA to Allow More Air Tours at Grand Canyon**  
ABC News (07 Feb 14)  
<http://abcnews.go.com/Travel/wireStory/faq-air-tours-grand-canyon-22384854>
- Grand Canyon Lottery for 2015 Noncommercial River Trip Permits Opens February 1st**  
KCSG.COM (31 Jan 14)  
[http://www.kcsg.com/view/full\\_story/24490839/article-Grand-Canyon-Lottery-for-2015-Noncommercial-River-Trip-Permits-Opens-February-1st?instance=more\\_local\\_news1](http://www.kcsg.com/view/full_story/24490839/article-Grand-Canyon-Lottery-for-2015-Noncommercial-River-Trip-Permits-Opens-February-1st?instance=more_local_news1)
- USGS and Tribes Work Together to Gain Water Knowledge**  
USGS- Science Features (23 Jan 14)  
[http://www.usgs.gov/blogs/features/usgs\\_top\\_story/usgs-and-tribes-work-together-to-gain-water-knowledge/?from=textlink](http://www.usgs.gov/blogs/features/usgs_top_story/usgs-and-tribes-work-together-to-gain-water-knowledge/?from=textlink)
- California governor declares drought emergency**  
USA TODAY (21 Jan 14)  
<http://www.usatoday.com/story/weather/2014/01/17/california-drought-emergency/4581761/>
- Colorado River Drought Forces a Painful Reckoning for States**  
New York Times (06 Jan 14)

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### Toolbox

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### Unit Outage Schedule

Unit Number	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014
1												
2												
3												
4												
5												
6												
7												
8												
Units Available	5	6	6	6	4	5	6	5	6	6	6	5
Capacity (GW)	14,100	17,800	17,800	17,800	12,800	15,100	17,200	15,200	17,800	17,800	17,800	14,800
Capacity (kW/month)	930	1090	1100	1100	710	1000	1040	990	1090	1100	1100	890
Max (kW)	600	600	600	600	600	600	600	600	600	600	600	600
Max (MW)	600	600	600	600	600	600	600	600	600	600	600	600
Min (kW)	480	500	600	600	600	600	600	600	600	600	600	600

1. Based on Apr 2013 MW/Min production 24 month history  
2. Based on Apr 2013 MW/Min production 24 month history  
3. Total reserves during a HFE = Capacity + 15,000 cfs system (e.g., Nov 2013 Total Reserves Release = 32,000 cfs)

- WATER BOR BC00 WaterOps from Jan 16**
- Projected 2014 April-July unregulated inflow Powell is 8.81 MAF or 95% of average.
  - Unregulated Inflows into Lake Powell
    - Jan 280,000 (AF) or 78% of avg (Forecast)
    - Feb 330,000 (AF) or 84% of avg (Forecast)
    - Mar 600,000 (AF) or 90% of avg (Forecast)
  - Snowpack is currently about 96% of median of year. (KGrant\_1-9-2014)
  - Avg Water Temp = \_\_\_ deg
  - Jan- Monthly Release = 800,000 acre feet
  - Feb- Monthly Release = 600,000 acre feet
  - Mar- Monthly Release = 510,000 acre feet
  - Water Yr Release: 7.48 MAF
  - Water Yr operating tier: Mid-Elevation Rkt
  - HFE Scheduled: No
  - Water Quality: Normal
  - CRSS: Lake Mead level predicted to be 102'
  - Forecasting
    - \_\_\_% chance of 8.23 for water yr 2014 (†)
    - \_\_\_% chance of 7.48 for water yr 2014 (†)

### RECREATION

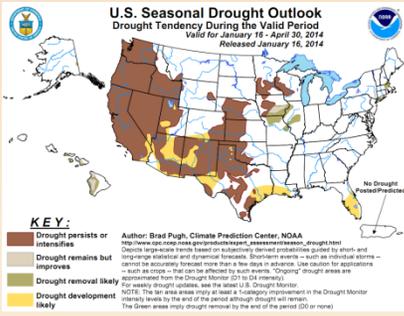
- Boat Season:** Motorized boats currently NOT allowed on river

### FISH

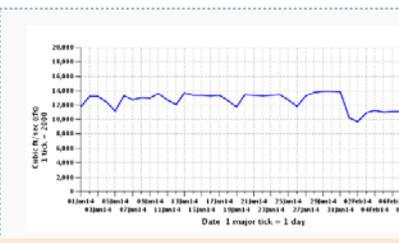
- Recent Fish Rating:** November 11, 2013
  - Upriver: 3.5 to 6
  - Walk-In: 3.5 to 6
  - Spin-Fishing: 5 to 7.5
- Key:** 1 = Go fish somewhere else 10 = Rent a helicopter and get here now!

### GUIDING DOCUMENTS

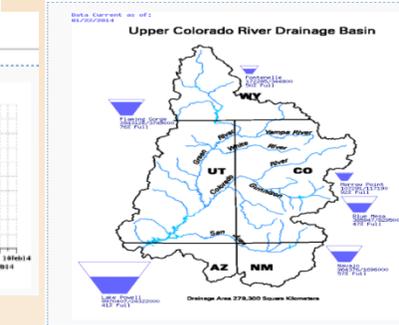
- 2014 is year 2 of 10 for HFE protocol EA (2020)
- 2014 is year 2 of 10 for NN Fish Control EA (2020)
- 2014 is year 1 of 5 for Mexico to store water in U.S. reservoirs – Minute 319



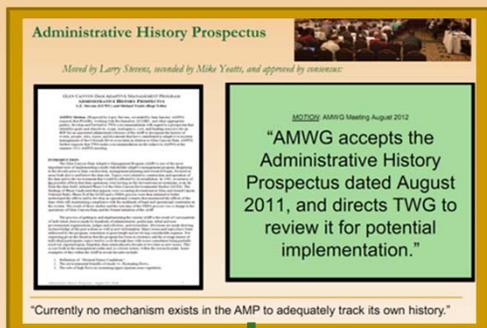
### Glen Canyon Dam Power Plant



### Basin Info



# WHAT ARE WE ASSIGNED TO DO?



**MOTION:** AMWG accepts TWG's report on the Strategy for Development of the Administrative History of the Adaptive Management Program (SDAH, website [www.gcdamp.com](http://www.gcdamp.com) ). AMWG recommends this approach to the Secretary of the Interior to review and concur with the AMWG strategy on implementation of the SDAH.

Move forward with developing GCDAMP history

Ad-Hoc Formed in October 2012

# STRATEGY DESIGN OVERVIEW

- One Stop Shopping-  
“Clearing House” approach



- Develop knowledge base  
to help make informed  
decisions



“I Might not know the answer to your question,  
but I do know where to go to find it out.”

- Collaboration &  
empowerment of  
stakeholders



# WWW.GCDAMP.COM

Log in



Page Discussion

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## Main Page

### Internal Web-Page

## Glen Canyon Dam Adaptive Management Program



CALENDAR

- Administrative
- Documents
- Knowledge Assessments
- Ad-Hoc Groups
- Desired Future Conditions
- Links
- Tribal Perspectives
- DOI Direction
- Learning Pages

### STAKEHOLDERS CENTRAL



SEDIMENT



FISH



HYDROPOWER



CULTURAL



FOOD BASE



RECREATION



ECOSYSTEM



FISHERY



EXTIRPATED



Science



### ADMINISTRATION

- GCDAMP USBR Home Page
- AMWG Home Page
- GCDAMP ADMINISTRATION
- GCDAMP Policy and Procedures
- GCDAMP Sediment Model



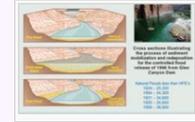
### COMMUNICATION

- GCDAMP AdHoc GROUPS
- GCDAMP Announcements-----\* NEWS ARTICLES
- GCDAMP FACTS PAGE----- GCDAMP Trivia Page
- GCDAMP ADMINISTRATIVE HISTORY



### LEARNING PAGE

- Fact Sheets
- GCDAMP TRAINING Page
- GCDAMP Learning Page
- GCDAMP Web-LINKS
- PHOTO GALLERY- VIDEO- MAPS- GRAPHICS
- SANDBOX



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GCDAMP Glen Canyon Dam



Resource Stats



Acronyms--Terms



Hydrology



Tribal Ecological Knowledge



Knowledge Assessment

### Maps & Diagrams

### Tribal Monitoring Reports

#### Tribal Ecological Knowledge

Integrating Tribal Ecological Knowledge

"TEK is a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment..." - Fikret Berkes

### Calendar

#### AMP WIKI CALENDAR

### Stakeholder Page

### Photo Gallery

### FACT SHEETS

Compile/Link the various FACT sheets that stakeholders produce i.e. fact sheets from USGS, NPS, CREDA, Other, etc...

### Stakeholder Lists

#### GCDAMP Stakeholders List

### History Time-Line

#### GCDAMP History Time-Line

TIME LINE EXAMPLE ONLY--- CRC HISTORY

The Colorado River Commission - Our History  
See additional information at the [State of Nevada Library Archives](#)

**1920**  
Governor Boyle appointed an informal Commission on Colorado River Development to safeguard Nevada's interests in ongoing negotiations.

**1921**  
Nevada Legislature formalized the Colorado River Development Commission. Members of the Commission actively participated in the development of the Colorado River Project.

**1922**  
Colorado River water apportionment for the lower basin states of Arizona, California, and Nevada established by the Colorado River Compact Development Commission.

**1928**  
Boulder Canyon Project Act authorized construction of Hoover Dam and the diversion of Lower Basin water apportionment in annual amounts.

**1935**  
Nevada Legislature created the Colorado River Commission of Nevada in place of the Colorado River Development Commission. The new commission was charged with the responsibility of securing and protecting Nevada's rights and interests in the waters of the Colorado River and in electric power generated on the river.

**1936**

### Participant History List

#### GCDAMP Representatives-History

GCDAMP History PAGE

NAME	ORGANIZATION	DATE	ROLE	NOTES	
Steve Moore	USGS	1927	1915-1916	N/A	
Robert A. Winters	NPS	1928	1916-1917	Operating Procedures signed May 11, 1928	
Steve Moore	USGS	1928	1918	1918-1919	N/A
Bill Parsons	AJCEP	1928	1919-1920	Operating Procedures signed June 21, 1928	
Nick Johnson	USGS	1928	1919-1920	Operating Procedures signed September 7, 1928	
Kurt Doughty	USGS	1928	1919-1920	N/A	
Kurt Doughty	USGS	1928	1919-1920	N/A	
Steve Moore	NPS	1928	1919-1920	N/A	
Steve Moore	NPS	1928	1919-1920	N/A	
Kurt Doughty	CREDA	1928	1919-1920	N/A	
Steve Moore	NPS	1928	1919-1920	N/A	
John Jordan	USGS	1928	1919-1920	N/A	

But wait...There's more!

## Video Clips

## Library

Wiki Library Test

Num	TITLE	LINK	CATEGORY	YEAR	FORUM
000	Assessment of Dam Operations on Reservoir and Reservoir Water Quality	LINK 11	Water Quality	1999	AMWGS
000	Response to Comments on GCDAMP Integrated Water Quality Program (IWQP), Draft of 10-1999	LINK 11	Water Quality	1999	AMWGS
000	Process for Developing an Integrated Water Quality Program	LINK 11	Water Quality	1999	AMWGS
000	Response to Comments on GCDAMP Integrated Water Quality Program (IWQP), Draft of 10-1999	LINK 11	Water Quality	1999	AMWGS
000	Items from AZ Rice Committee on Strategic Planning dated March 25, 2002	LINK 11	Vegetation	2002	AMWGS
000	TWGS Chair Report	LINK 11	TWGS Chair	2006	AMWGS
000	TWGS Chair Report PPT	LINK 11	TWGS Chair	2007	AMWGS
000	TWGS Chair Report on FY08 Budget PPT	LINK 11	TWGS Chair	2007	AMWGS
000	Items Funding of Tribal Participation in GCDAMP	LINK 11	Tribal	2002	AMWGS
000	Tribal Funding Issues	LINK 11	Tribal	2002	AMWGS
000	Federal Tribal Trust Responsibilities	LINK 11	Tribal	1999	AMWGS
000	Cultural PEP Presentation	LINK 11	Tribal	2000	AMWGS
000	PA for Cultural Resources Activities, FY 2002	LINK 11	Tribal	2001	AMWGS
000	Captive Breeding Statistics	LINK 11	Territorial	2002	AMWGS

## John Jordan- BIO PAGE

TWGS BIO SUMMARY Bio Page [\[edit\]](#)

John Jordan

- TWGS CHAIR**
- John Jordan has been involved in a number of businesses throughout his professional career. He was the owner and Chief Operation Officer of a group of companies that provided temporary medical employment services to metropolitan Phoenix and Tucson. In 1984 the combined businesses were sold the H&R Block Corporation as part of its corporate acquisition and expansion program. As a general partner in two different ventures, he was responsible for land acquisition and supervision of construction progress, project design, engineering, and subdivision approval through the State Department of Real Estate and Gila County. He has also served on various community service entities. "He is a member of the Arizona Fly Casters Club in Phoenix and serves on the Club's Conservation Committee. He belongs to the Federation of Fly Fishers and Trout Unlimited and is familiar with the Lee's Ferry fishery upriver to Glen Canyon Dam. His interests in fish extend beyond fishing and includes all fish in all settings.
- He received a Bachelor's Degree from the University of Michigan in 1965, and his Master's Degree in 1969. He also served as a special agent for the U.S. Army Intelligence Corps from 1965 to 1968.
- Last Updated: ???

## News and Events

### News and Events-2013

2013 2012 2011 2010 2009

**2013**

- From: Healy, Brian <brian\_healy@nps.gov>
- Date: Mon, Dec 9, 2013 at 2:26 PM
- Subject: **HFE Release of Finding of No Significant Impact for the Co**
- Details: Attached is the final, signed copy of the Finding of No Significant Impact for the Co...
- From: Anne Castle - (Sally Jewell)
- To: AMWGS and TWGS Members
- Date: December 14, 2013
- Subject: **Recommendations Memo from AS-WS Anne Castle to DOI**
- Details: Attached is a memorandum memorializing the decision of the C3 Interior technical team. The technical team's recommendation memo is...
- From: Anne Castle - (Via Glen Knowles)
- To: AMWGS and TWGS Members
- Date: October 25, 2013
- Subject: **Approval of Recommendation for HFE Release from Glen C**
- Details: Attached is a memorandum memorializing the decision of the C3 Interior technical team. The technical team's recommendation memo is...
- We are pleased that we have the long term protocol in place given this a...
- We are envisioning a small event at the dam on November 11, not the 5...
- From: (AZ Game & Fish Bill Stewart - Via Linda Whetton)
- Date: October 23, 2013
- Subject: **AZGF Videos: 2012 HFE and LCR Monitoring**

**LCR VIDEO LINK**

## Dashboard

Science Tips

Water Levels

Lake Mead Daily Water Levels

Lake Powell Daily Water Levels

2013 Gauge Schedule

## Learning Pages

### GCDAMP Learning Page

**LEARNER'S KIT - Under Construction**

- State of the Colorado River Ecosystem in Grand Canyon- USGS Circular
- 130330 Science Unwrapped - Overview of the Colorado River - PNAS

**TCD**

- AOP Learning Page
- GTMAX Learning Page
- Hydrograph Learning Page
- TCD Learning Page
- Minute 319 Understanding
- GCDAMP Flow Type Understanding
- Geomorphology Understanding
- Monitoring Understanding
- Invasive Species Learning Page
- Programmatic Agreement Understanding
- Water Quality Page
- Rapid Response Page
- Temperature Page
- NEPA Understanding
- Models used in GCDAMP
- Science Over-Flights/ LIDAR

## DFC's

### DESIRED FUTURE CONDITIONS PAGE

Stakeholders | Calendar | Dashboard | Learning

Before the Adaptive Management Program can measure its success, it must first develop a clear statement of what it is trying to accomplish.

**GROUP MEMBERS**

- Work in Progress

**ADDITIONAL NOTES**

- (AMWG Meeting Minutes\_Anne Castle) The DFCs will not supersede the AMP Strategic Plan, but the DFCs may result in action taken by the Secretary.
- (AMWG August-2003\_Motion on Information Under Goal 3 (extirpated species) would not be accomplished by the GCMRC or paid for with AMP funds.

**Documents and Resources**

- Desired Future Conditions- USBR LINK ID
- 130327\_USBR-GKnowles\_DFC Comparisons
- Desired Resource Goals/Strategic Plan GCDAMP August

**List of DFC GOALS**

- Protect or improve the aquatic food base so that it supports populations of desired species at higher trophic levels.

## Rafting Q&A

Recreation and the AMP: Grand Canyon River Running

**OVERVIEW** A river trip through the Grand Canyon is a unique and special experience. It can be a life-changing event, full of grandeur, wonder, new challenges, profound encounters and tiny moments of joy. It's a time of self exploration and bonding with family and friends.

Those who haven't yet had the chance to float the river first hand often have a number of questions about what it's like, and why we should care so much about taking care of the place. The tried to answer a few of those questions here.

**QUESTION: How many people raft down the river per year?**

About 22,000 people travel the Colorado River through the Grand Canyon each year. About half of these travelers go on commercial trips, and about half on private trips. A commercial trip is one where an outfitter is hired, and the outfitter provides professional guides, food, boats, and all the other necessities. A private trip is a shared expense, do-it-yourself expedition. River access is controlled by the National Park Service. Private trip permits are given out through a "weighted lottery." The past practice used to use a straight-forward, first come first serve waiting list, but that list grew to be more than 12 years long. There are sixteen commercial river outfitters listed on the Grand Canyon River Outfitters Association web page. They offer trip lengths from 2 to 18 days, with a variety of motor, car, and paddle powered craft to choose from.

**QUESTION: What's the history of river running in the Grand Canyon?**

River runners in the canyon tend to think of John Wesley Powell as the man who started it all. He and his crew of nine ran the first (known) river trip through the canyon in 1869. This was a government sponsored trip of science and exploration. The Grand Canyon was the last big stretch of unbroken, unpopulated land in the 48 states. Powell and his men actually ran from the headwaters of the Colorado River in Wyoming all the way through the Grand Canyon. For the most part, after an early disaster, they ran very low rapids--instead, they hid or portaged them. The slow pace and strenuous labor were hard on both morale and supplies. By the end of their trip the men were living on bacon, dried apples, and moldy flour, washed down with copious amounts of strong coffee. Norm Neville pioneered commercial rafting in the canyon in the 1930s. He used cataraft boats, small wooden craft designed for moving through whitewater. In the 1950s, George Whitt built the first G-rig, a 33 foot long motor boat built from

## Resource Portals

**SEDIMENT**

**FISH**

**HYDROPOWER**

**CULTURAL**

**FOOD BASE**

**RECREATION**

**ECOSYSTEM**

**FISHERY**

**EXTIRPATED**

**Science**

# Plus more...



## Key Points of the Administrative History Prospectus



Create a focal point (clearing-house) to access information about the AMP [WIKI](#)



Accessible to outside researchers, educators



Can easily be expanded and added over time



Search engine by key words



Mechanism to allow new members to readily learn about the AMP's history



"A learning kit for new comers"



Contain robust chronology of persons, concepts, decisions, actions, events, and reviews, etc...



Interviews



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We don't want to look back and say,  
“...we should have done more to capture  
the institutional knowledge”.

**History has a way of repeating itself**



## LOCATIONS and GEOGRAPHY

### DRAFT

AHAHG Course Training

### PARIA RIVER

\*The Paria is the single largest contributor of sand, silt, and clay to the Colorado River below Glen Canyon Dam.

\*USGS has 3 river gauges on the Paria

\*Turbid water from Paria carries fine sediments (silts and clays) that mix with the clearer water from the Colorado River. Instead of the usual river, the Paria is a muddy stream that does not flow year-round; that is, they dry up with occasional short-duration floods linked to monsoon activity.



DRAFT

### Glen Canyon (-15 RM) to Lees Ferry (0 RM)



### (-) NEGATIVE RIVER MILES

\*The GCDAMP will often refer to locations on the Colorado River via River Miles (RM) to mark locations.

\*Glen Canyon Dam (-15 RM) down to Lees Ferry boat launch (0 RM).

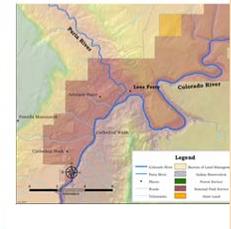
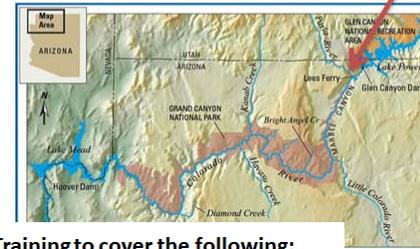
\*The Negative River Miles on the CR is unique. "Quite possibly the only river in the world that uses negative river miles."

\*In the 1995 Humpback Chub Life History Report (Valdez and Ryel), it referenced a "negative river mile" to mark river locations from Lees Ferry (RM 0). The intent was to avoid confusion with locations downstream of Lees Ferry. Ever since, the negative river miles have remained on books and maps.

\*

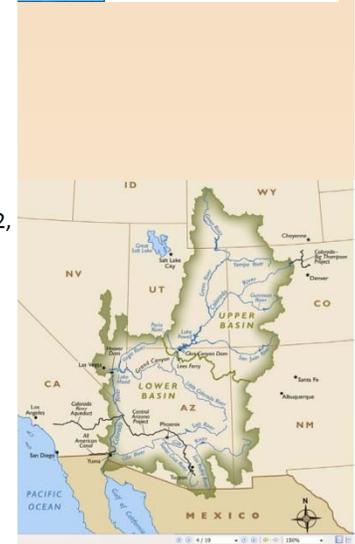
**POTENTIAL COURSES:** Fish History, Guiding Documents, Pre-Dam Conditions, River Terms, Fish Translocations, Tribal Perspectives, HFE Flow Types, Budget Overview etc...

cs, the Paria is associated with events that bear and direct research, activities.



### Course Training to cover the following:

- Overview
- GCDAMP Geographic Scope
- Basin Map—Scope boundary area
- Lake Powell-Glen Canyon Dam
- Lees Ferry- gage- fishery
- Paria River
- Lower Colorado River (LCR) - RM 61-62,
- Havasu Falls
- Bright Angle
- Phantom Ranch
- Tribal lands- Reservations (General locations)
- Upper and Lower Marble Canyon
- Grand Canyon (Upper-middle-lower)
- GCMRC- Flagstaff
- Havasu Creek
- Shinumo Creek
- Diamond Creek
- Pierce Ferry
- Lake Mead- Hoover Dam
- NPS, USFWS, boundaries



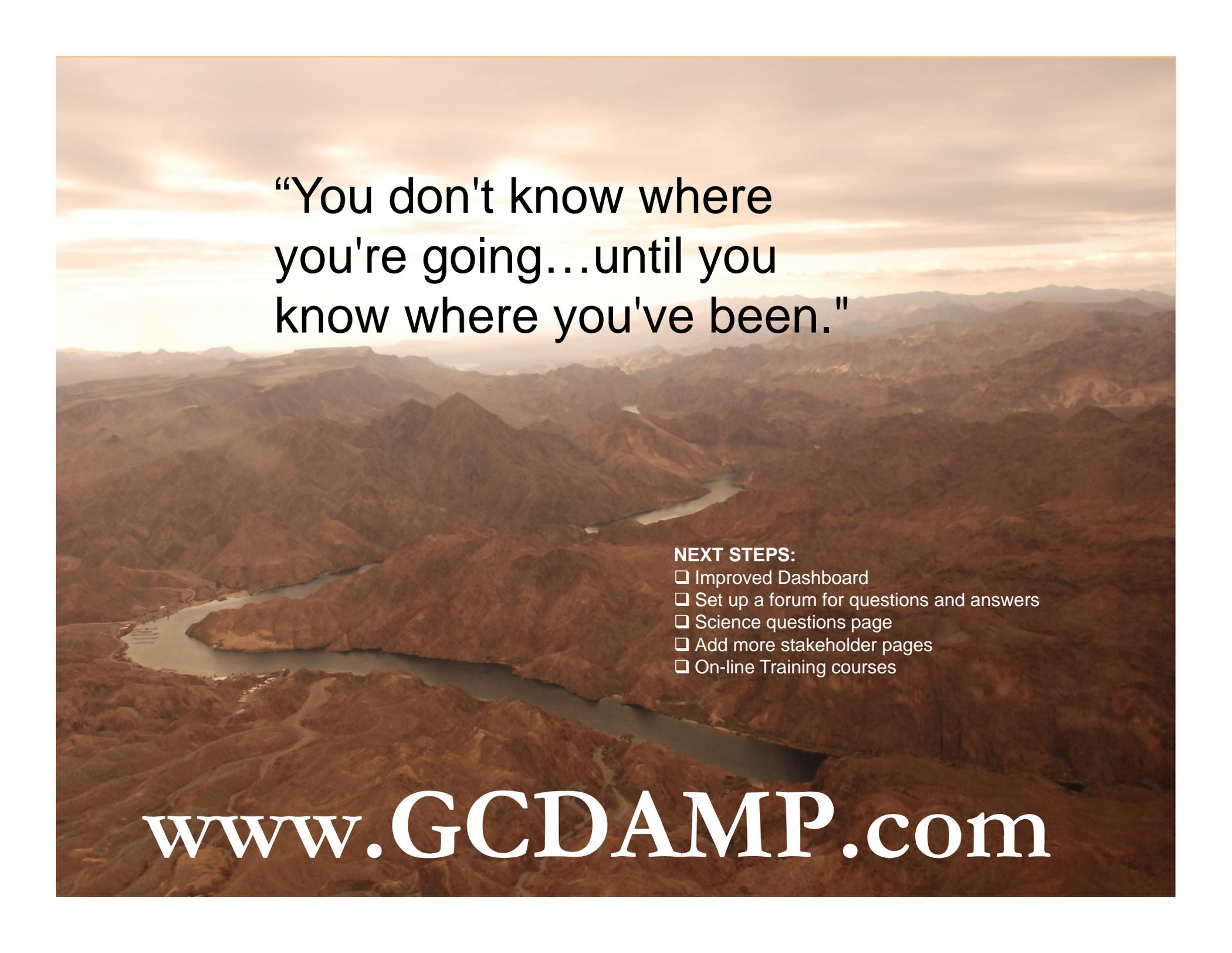
# On-Line Training Course

\*The AHAHG acknowledges that moving forward with other key recommendations from the Administrative History Prospectus will require further analysis, priority evaluation, and consideration of AMP funding.

**RECOMMENDATION:** The AHAHG recommends that the TWG support efforts to implement the Strategy for Development of the Administrative History (SDAH) by considering funding measures to accomplish the history objectives.

**Highlighted are the following:**

- 1) Oral Histories and Interviews with AMP historical figures
- 2) Annotated Bibliography
- 3) Website and library database for information archival and retrieval
- 4) Chronological Program Overview
- 5) New Participants Handbook to the history of the AMP

An aerial photograph of a winding river flowing through a vast, mountainous landscape. The terrain is rugged and brownish, with the river meandering through the valleys. The sky is filled with soft, golden light from a setting or rising sun, creating a hazy atmosphere over the mountains.

“You don't know where  
you're going...until you  
know where you've been.”

**NEXT STEPS:**

- Improved Dashboard
- Set up a forum for questions and answers
- Science questions page
- Add more stakeholder pages
- On-line Training courses

[www.GCDAMP.com](http://www.GCDAMP.com)