GCDAMP WIKI

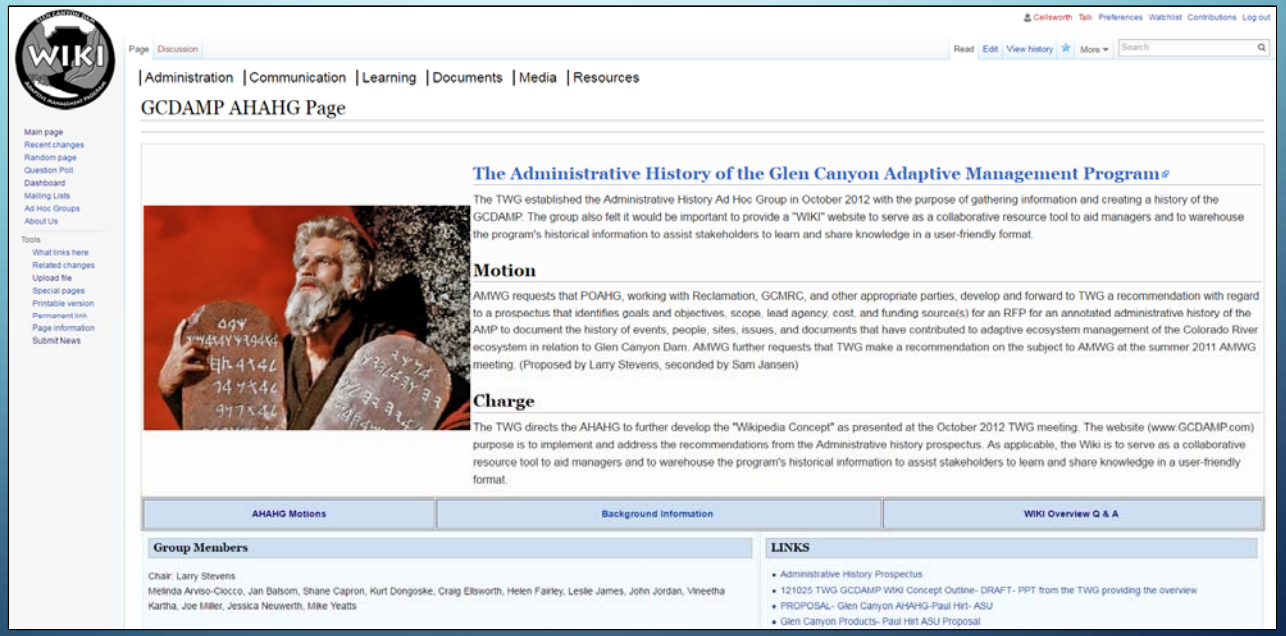
OUR ONE STOP SHOP FOR INFORMATION

TWG: OCTOBER 18-19, 2016

ADMINISTRATIVE HISTORY AHG

The TWG established the Administrative History Ad Hoc Group in October 2012 with the purpose of gathering information and creating a history of the GCDAMP.

The group also felt it would be important to provide a "WIKI" website to serve as a collaborative resource tool to aid managers and to warehouse the program's historical information to assist stakeholders to learn and share knowledge in a user-friendly format.



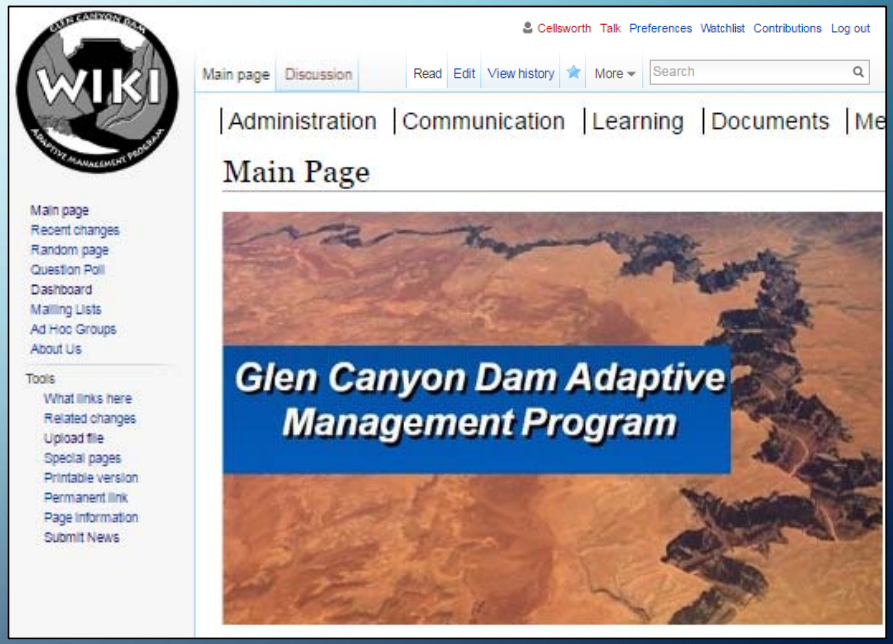
- Home Page
- Administration
- AdHoc Groups
- TWG AdHoc Groups
- AHAHG Page

ADMINISTRATIVE HISTORY PROSPECTUS

- Create a focal point to access information about the AMP program
- Can be easily expanded and added to over time
- Accessible to outside researchers, educators, stakeholders, public
- Unbiased, integrated, well-annotated
- Contain a robust chronology of persons, concepts, decisions, actions, events, and reviews
- Improve understanding of inter-relationships among AMP issues and concepts
- Mechanism to allow new members to readily learn about the AMP's history
- Store interviews of key figures
- Search engine: compilation of existing documentation

THE WIKI CAN HELP

- **Clearing House:** One centralized place to go where AMP-related information can be shared, learned, understood, and conveyed in a collaborative format.
  - Links to public sites
- **Administrative History**
  - Each stakeholder can add information
  - Show decision process
- **Forum to share Stakeholder Perspectives**
- **Forum for share and understand Science**
  - Organized by resource
  - Links resources
- **Searchable**



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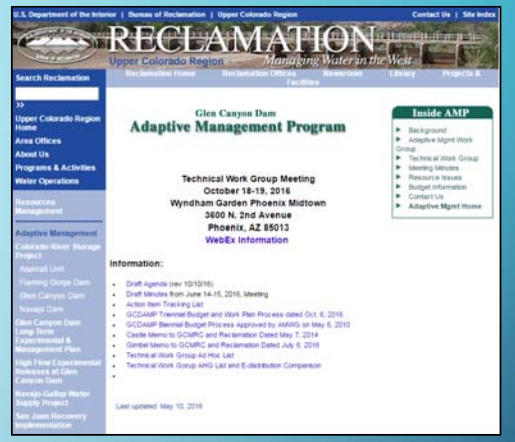
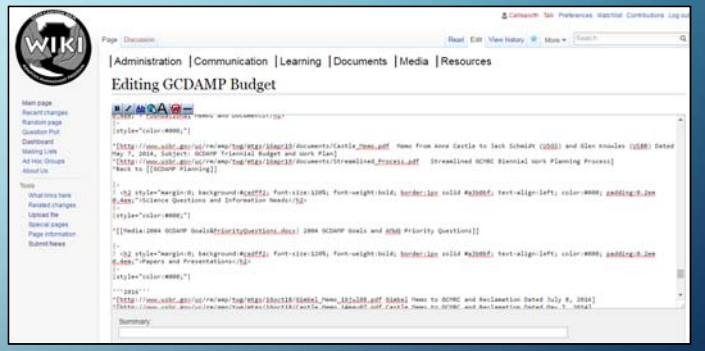
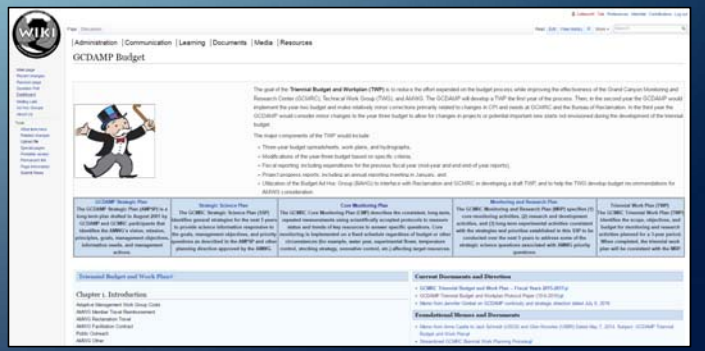
WHAT IS THE WIKI?

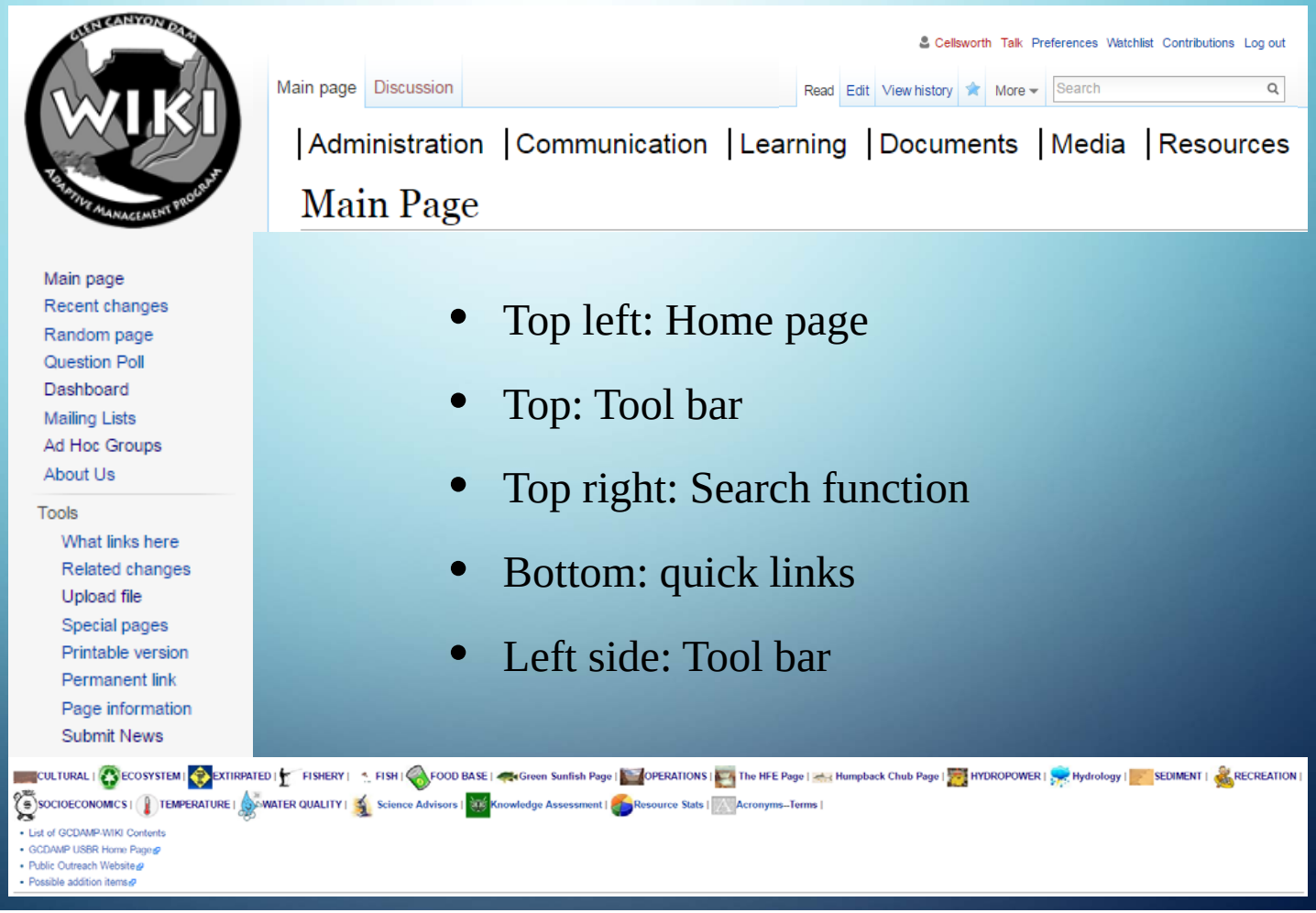
- Wiki is short for Wikipedia.
- Simple web-based programming.
- Wiki allows for users to create and edit Web page content using any Web browser.
- Wiki has a simple text syntax with web support for developing web pages.
- Allows for linking to both internal and external web pages.
- Allows us to organize work being done by the Program by resource



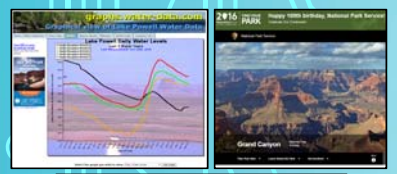


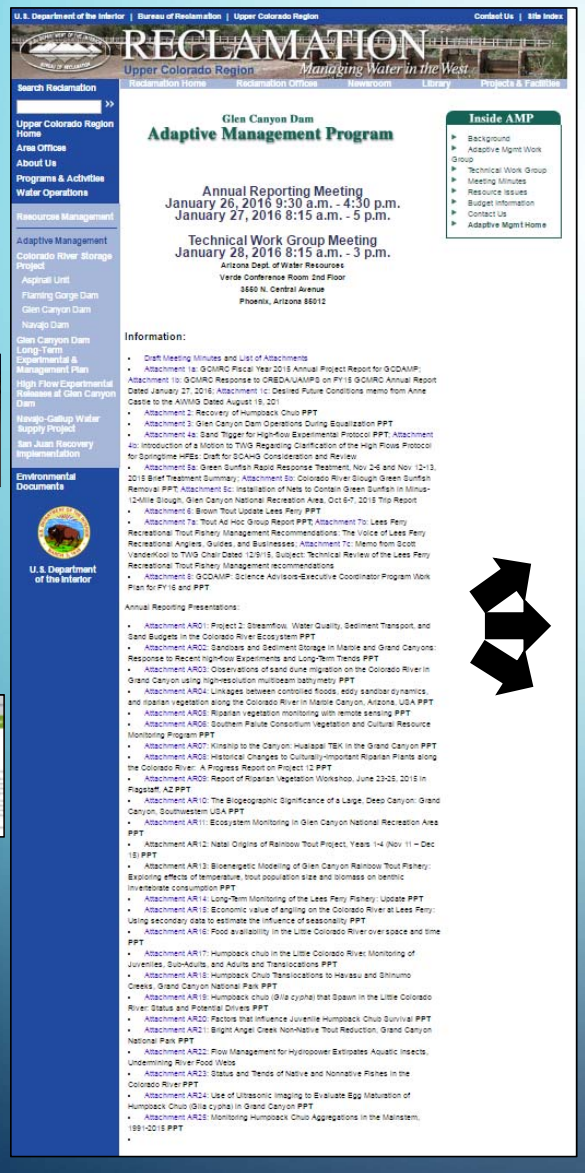


NAVIGATING THE WIKI



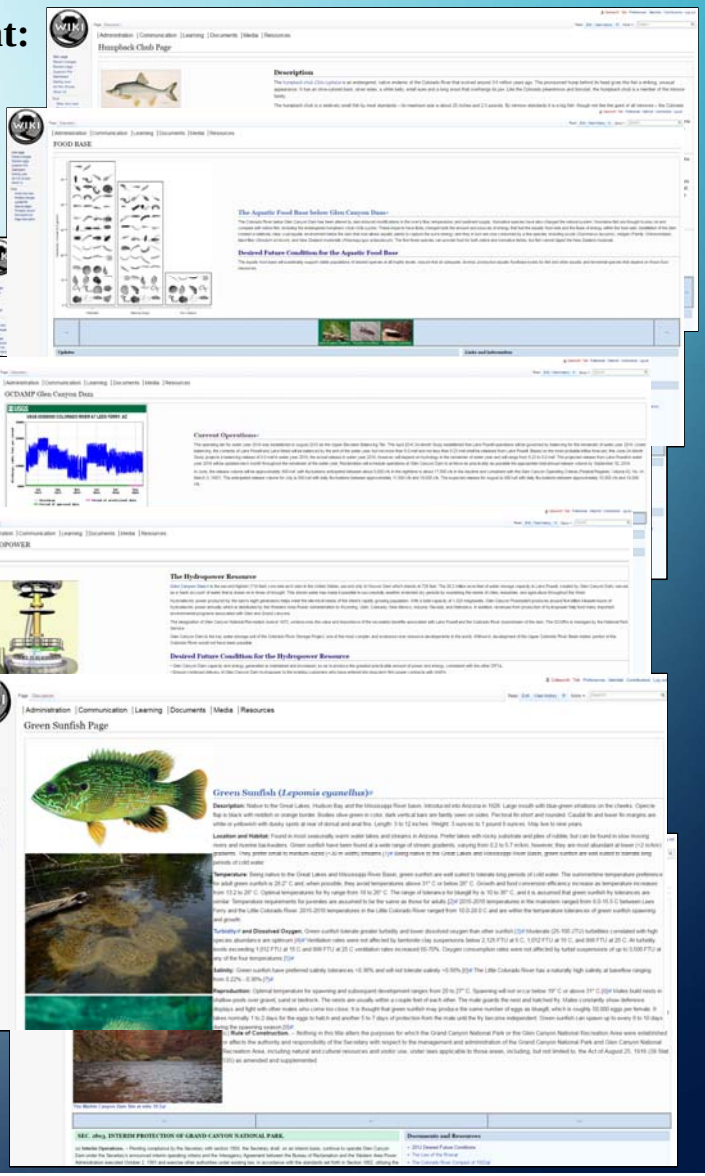
- Top left: Home page
- Top: Tool bar
- Top right: Search function
- Bottom: quick links
- Left side: Tool bar





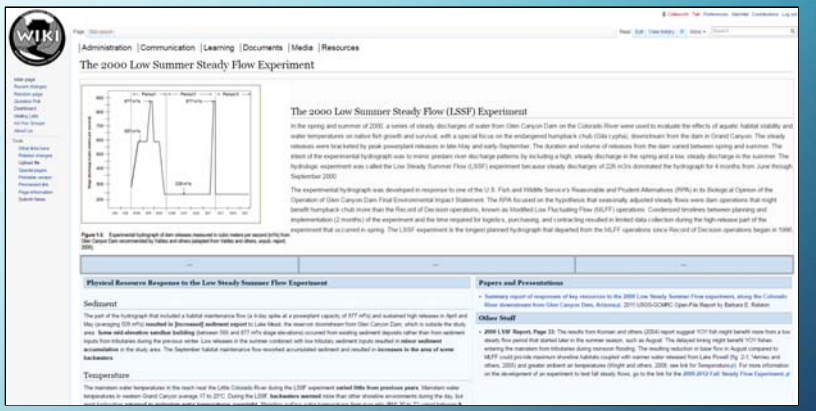
We have a page for that:

- Humpback chub
- Foodbase
- Lees Ferry fishery
- Operations
- Hydropower
- Sediment
- Recreation
- HFEs
- LSSF, FSS
- Temperature
- Green sunfish
- Budget
- LTEMP
- GCPA of 1992
- AdHoc Groups
- Fact Sheets
- GCMRC Library
- Trivia



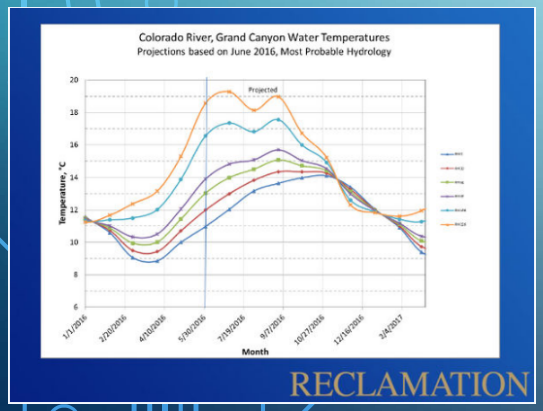
WHY DID WE DO THAT?

- 2000 Low Summer Flow
- 2009-2011 Fall Steady Flows



Other Stuff

- **2000 LSSF Report, Page 33:** The results from Korman and others (2004) report suggest YOY fish might benefit more from a low steady flow period that started later in the summer season, such as August. The delayed timing might benefit YOY fishes entering the mainstem from tributaries during monsoon flooding. The resulting reduction in base flow in August compared to MLFF could provide maximum shoreline habitats coupled with warmer water released from Lake Powell (fig. 2-1; Vernieu and others, 2005) and greater ambient air temperatures (Wright and others, 2008; see link for Temperature). For more information on the development of an experiment to test fall steady flows, go to the link for the 2009-2012 Fall Steady Flow Experiment.

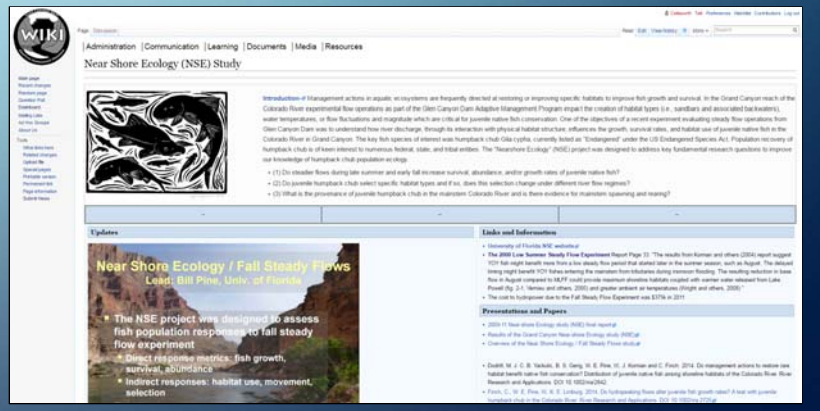


Conclusions

The NSE project developed a sampling and analytical framework to directly assess juvenile humpback chub population responses to management actions at smaller fish sizes than were previously possible. This framework is important, as the key outcome from many different types of management actions in the Colorado River is to improve survival of juvenile humpback chub, increasing overall abundance and accelerating the population to recovery. The NSE project also documented that **small juvenile humpback chub can survive and rear in the mainstem Colorado River**. This information is important because adult humpback chub numbers (age 4+) have increased over the past decade, possibly due to improved survival in the mainstem Colorado River (Coggins and Walters 2009).

We identified **chemical markers that can distinguish fish use of Little Colorado River** from mainstem use. Humpback chub in this reach of Grand Canyon originate overwhelmingly from the Little Colorado. Mainstem adult otoliths showed evidence that longer rearing in the Little Colorado promotes better growth and recruitment. The combination of otolith chemistry and growth increment analysis together produced a good natural marker that could be used as a tag to follow fish movements between the mainstem and Little Colorado River. Further work will be needed to extend this methodology to other humpback chub aggregations within Grand Canyon and possibly to other native fish species assessments.

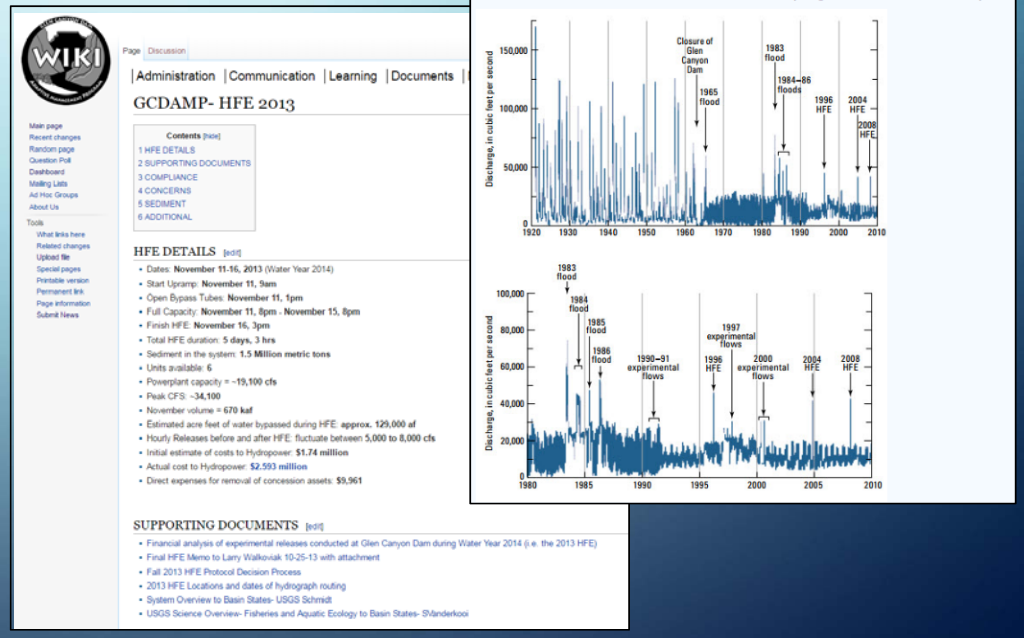
The results of the NSE project suggest that **juvenile humpback chub survival, growth, abundance, and habitat use are robust (did not change) to the fall steady flows observed during 2009-2011**. It is likely that more extreme flow treatments (e.g. higher or lower discharges, longer duration) are required before changes in these metrics would be observed. This research demonstrates the apparent flexibility of juvenile humpback chub in habitat selection regardless of fluctuating or steady river flows. Our development and application of methods to assess the growth, survival, and persistence of juvenile humpback chub in the mainstem Colorado River are key new additions to the body of knowledge available for managing the Colorado River and understanding how juvenile fish populations respond to hydropower operations in regulated rivers globally.



WHAT HAPPENED WHEN?

HFE Page

- 2013 HFE
  - Dates
  - Sediment
  - Peak Flow
  - Costs
    - Estimate
    - Actual (link)
  - Documents
  - Photos



Glen Canyon Dam Flow Experiments

- The 1965 Reservoir Equalization and Channel Cleaning Floods
- The 1983-86 Floods
- The 1990-91 Experimental Flows
- The 1996 Spring HFE
- The 1997 Experimental Flows
- The 2000 Low Steady Summer Flow Experiment (LSSF)
- The 2004 Fall HFE
- The 2008 Spring HFE
- The 2009-11 Fall Steady Flow Experiment
- The 2012 Fall HFE
- The 2013 Fall HFE
- The 2014 Fall HFE
- The 2015 Fall HFE was canceled due to the discovery of **green sunfish** in Glen Canyon

WIKI

Page Discussion

| Administration | Communication | Learning | Documents |

GCDAMP- HFE 2013

Contents [hide]
1 HFE DETAILS
2 SUPPORTING DOCUMENTS
3 COMPLIANCE
4 CONCERNS
5 SEDIMENT
6 ADDITIONAL

HFE DETAILS [edit]

- Dates: **November 11-16, 2013** (Water Year 2014)
- Start Upramp: **November 11, 9am**
- Open Bypass Tubes: **November 11, 1pm**
- Full Capacity: **November 11, 8pm - November 15, 8pm**
- Finish HFE: **November 16, 3pm**
- Total HFE duration: **5 days, 3 hrs**
- Sediment in the system: **1.5 Million metric tons**
- Units available: **6**
- Powerplant capacity = **~19,100 cfs**
- Peak CFS: **~34,100**
- November volume = **670 kaf**
- Estimated acre feet of water bypassed during HFE: **approx. 129,000 af**
- Hourly Releases before and after HFE: fluctuate between **5,000 to 8,000 cfs**
- Initial estimate of costs to Hydropower: **$1.74 million**
- Actual cost to Hydropower: **$2.593 million**
- Direct expenses for removal of concession assets: **$9,961**

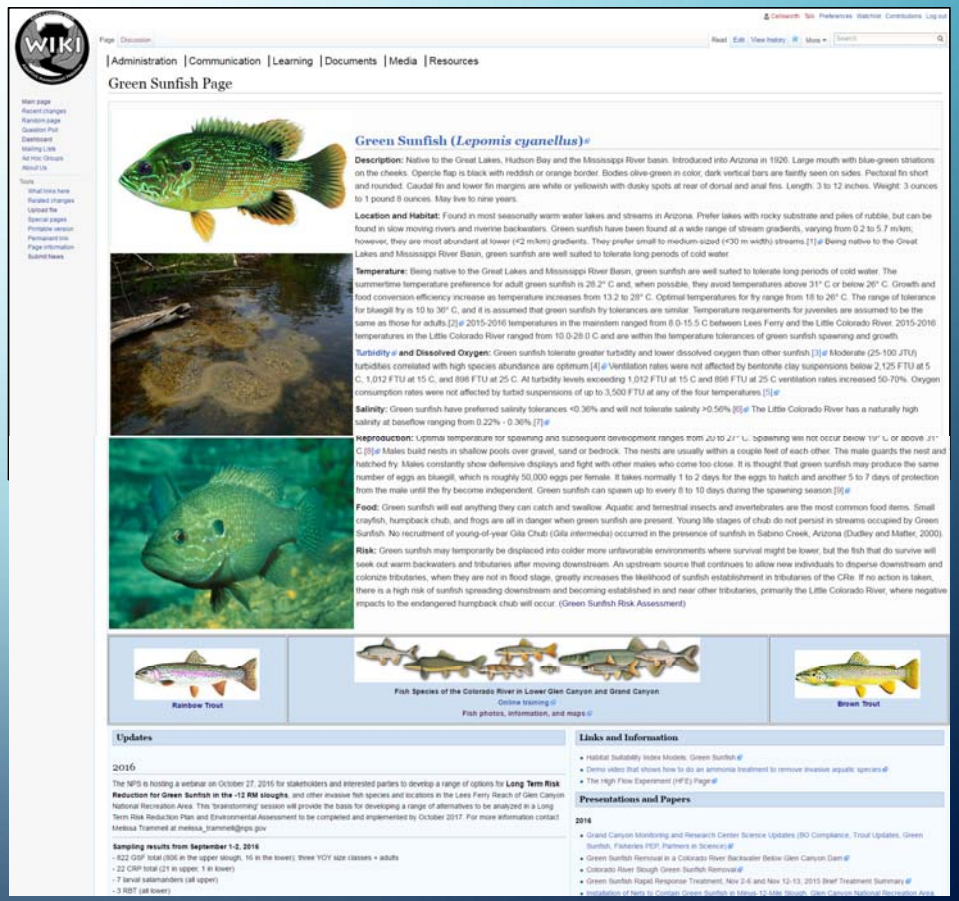
SUPPORTING DOCUMENTS [edit]

- Financial analysis of experimental releases conducted at Glen Canyon Dam during Water Year 2014 (i.e. the 2013 HFE)
- Final HFE Memo to Larry Walkoviak 10-25-13 with attachment
- Fall 2013 HFE Protocol Decision Process
- 2013 HFE Locations and dates of hydrograph routing
- System Overview to Basin States- USGS Schmidt
- USGS Science Overview- Fisheries and Aquatic Ecology to Basin States- SVanderkooi

THE WIKI WORKPLACE

Green Sunfish Page

- Notes
  - Temperature
  - Turbidity
  - Salinity
- Updates
- Links
- Presentations
- Papers
- Photos



… and we can have fun

- Humpback Chub Page

  http://gcdamp.com/index.php?title=Humpback_Chub_Page

- Other Stuff
- “Songs of the humpback chub”

Other Stuff

LCR remote PIT tag arrays

- What happened to humpback chub after the 2009-2012 Fall Steady Flow Experiment?
- Photos of talus shoreline habitat used by humpback chub

- Humpback Chub Translocation in Little Colorado River 2015
- Colorado River Humpback Chub Aggregation Monitoring 2015
- AZDGF monitoring in the LCR
- Grand Canyon National Park translocations (more information)
- NMSU Student Researches Humpback Chub in Grand Canyon
- Lower Colorado River Multi-Species Conservation Program (LCR MSCP)

- Songs of the humpback chub (NPR interview)

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Host: www.hostgator.com

Storage: Unlimited

Wiki Custodian: Colorado River Commission of Nevada

Cost: $250 / 2 years (donated by CRC)

Wiki Lead: Craig Ellsworth (WAPA)

Technical support: Joe Dabrowski (CRC)

AMP Historian:

Also, just a little shout out to Jason... who's great idea this was.

GLEN CANYON DAM
WIKI
ADAPTIVE MANAGEMENT PROGRAM