

Glen Canyon Dam Adaptive Management Program Adaptive Management Work Group Meeting May 19, 2021

Start Time: 8:00 AM Pacific Daylight Time (PDT)

Conducting: Wayne Pullan, Secretary's Designee to the Adaptive Management Work Group (AMWG) and AMWG Chair

Recorder: Carliane Johnson, SeaJay Environmental, LLC.

Facilitator: J. Michael Harty, Kearns & West, Inc.

Welcome and Administrative

Introductions and Determination of Quorum

[Michael Harty, Facilitator] Roll call was taken and a quorum reached with 17 members represented.

Opening Remarks

[Wayne Pullan, AMWG Chair] Welcomes Kerry Rae, Chief of Staff in the Office of the Assistant Secretary for Water and Science. [Tanya Trujillo](#) is the nominee for Assistant Secretary for Water and Science. Her confirmation hearing, as well as the confirmation hearings of [Robert Anderson](#) as Solicitor of the Department of Interior (DOI) and [Shannon Estenoz](#) as DOI Assistant Secretary for Fish, Wildlife and Parks occurred yesterday before the Senate Energy and Natural Resources Committee. It is important to note all the great work that was done during the spring disturbance flow. There remains a commitment that Reclamation will hire a Tribal Liaison. Expect more news on that within the next few months. Steve Wolff is moving on to a new position and will no longer be the Wyoming AMWG member.

Approval of February 10-11, 2021 meeting minutes

[Wayne Pullan, AMWG Chair] The draft was distributed on April 28; no edits were received. **[Steve Wolff, State of Wyoming]** Motion made to approve the February 10-11, 2021 minutes. **[Paul Harms, State of New Mexico and Richard Begay, Navajo Nation]** Seconded the motion. **[Wayne Pullan, AMWG Chair]** Minutes were passed by consensus.

Nominations and Appointments

[Wayne Pullan, AMWG Chair] A [45-day notice](#) was published in the Federal Register on April 28 to solicit nominations for the AMWG. Applications need to be postmarked or submitted electronically by June 14. [Any vacant positions or those with terms ending in 2021](#) should consider submitting their nominations.

FY 2021 Program Priorities Update

[PRESENTATION] **[Lee Traynham, Bureau of Reclamation (Reclamation)]** Details were provided on the following topics: Administrative updates for DOI, Reclamation, and U.S. Geological Survey (USGS). All the Fiscal Year 2021 (FY21) funding has been transferred to Reclamation. Deadline for member nominations is June 14, 2021. Updates on the [Action Item Tracking](#) will be discussed later in the meeting, while three other items (charter renewal, humpback chub, monitoring metrics) were highlighted. Additional updates were provided on staffing and support services, budget and funding, and program management.

Q&A and discussion

[Sara Price, Colorado River Commission of Nevada (CRCN)] Supports new members receiving an orientation on topics such as the budget and charter.

[Jeff Humphrey, U.S. Fish and Wildlife Service (USFWS)] Expresses gratitude on Reclamation's responsiveness to the Tier 1 early interventions on humpback chub.

[Larry Stevens, Grand Canyon Wildlands Council (GCWC)] What is the timing on decisions on actions for humpback chub? **[Lee Traynham, Reclamation]** Reclamation will be submitting a draft proposal to USFWS. Actions will depend on conditions and fish numbers. Potential positive responses to the metric (i.e. increased numbers of juvenile chub) are not likely to be immediate. Actions will be ongoing. **[Arden Kucate, Pueblo of Zuni]** Requests that the tribes are kept informed of the timing and the analysis. **[Lee Traynham, Reclamation]** The proposal will be in draft for input to be received. The actions associated with Tier 1 consist of enhanced conservation (i.e., doing more of what has already been done).

[Larry Stevens, GCWC] Natural larval variability of humpback chub is not well understood. It would be useful to compare this with other fish species. **[Lee Traynham, Reclamation]** Review of the five-year triggers or future research may include looking at humpback chub relative to other fish.

[Kurt Dongoske, Pueblo of Zuni] Will the draft monitoring metrics receive review by the science advisor? **[Lee Traynham, Reclamation]** Yes, they will review both the process document and the annual report, which will pilot the proposed metrics.

Proposed FY 2022 Budget and Work Plan

[PRESENTATION] **[Seth Shanahan, Technical Work Group (TWG) Chair]** The TWG is following a process that was approved in 2019 to provide an annual budget recommendation to AMWG by the August meeting. The Budget Ad Hoc Group (BAHG) and TWG are currently considering potential changes to FY2022 of the triennial work plan (TWP).

[PRESENTATION] **[Lee Traynham, Reclamation]** Reclamation's modest budget shortfall in FY22 is expected to be made up from overage in FY21 and FY23. A detailed breakdown was shown of the FY22 budget. The only change that Reclamation is proposing is for the Technical Service Center to complete its work in FY22 on dissolved oxygen monitoring and risk assessment.

[PRESENTATION] **[Mark Wimer, Acting Chief, Grand Canyon Monitoring & Research Center (GCMRC)]** Details of GCMRC's budget and how the allocations will meet project plans were discussed.

Q&A, Discussion, and Action

[Leslie James, WAPA] It is recommended, given the extreme drought conditions, that consideration be given for holding onto carryover funds because of the unprecedented implications to the Basin fund.

Basin Hydrology and Operations Update

[PRESENTATION] **[Heather Patno, Reclamation]** Starting to see an increase in storage in some reservoirs, but others are decreasing. Peak snow water equivalent inflow occurred on March 30 at 89% of median. Dry antecedent soil moisture conditions preceded record warm temperatures and dry precipitation, which began in April 2020 and have continued through today. Dry soils will soak up the runoff prior to it reaching the reservoirs, thereby decreasing runoff forecasts and potential this spring.

The expectation is for significant dry conditions to continue through 2021. In January, Reclamation projections triggered activity under the Drought Response Operations Agreement (DROA), which involves enhanced monitoring and coordination, but not operational changes. No adjustment to balancing occurred in April and 8.23 million acre-feet (maf) will be released for WY2021. The tier determination is set in August and if the projected elevations are observed, Powell will be in the Mid Elevation Release Tier with 7.48 maf released in WY2022 under both the most and maximum probable forecasts. This will put Lake Mead in Level 1 shortage for the first time since the 2007 Interim Guidelines were implemented. The minimum probable unregulated inflow forecast scenario projects Powell going into the Lower Elevation Balancing Tier in WY2022 with a release of 7.0 maf. This projection would put Mead in a Level 2 shortage beginning in WY2023.

A new slide has been added to the presentation to show Lake Powell release temperature to track this metric as requested at the February AMWG meeting. Projected most and minimum probable temperatures are for record warm releases downstream into the Grand Canyon. Dissolved oxygen levels will be a concern in the future with decreasing elevations at Powell and the potential for low DO levels with increased inflows and elevations.

Q&A, Discussion, and Feedback

[Leslie James, WAPA] How much flexibility will there be within the months of October, November, and December during the releases? **[Heather Patno, Reclamation]** Normally, that flexibility has been exercised during high flow events. Reclamation will have to discuss this with WAPA.

[Paul Harms, New Mexico] If Lake Powell is at Lower Elevation Balancing Tier in water year 2022, is there much chance for balancing and thus a higher release, or will Mead have more volume than Powell that will limit the release? **[Heather Patno, Reclamation]** There is a lot of uncertainty, but once the lower balancing tier is entered, there is the potential for releases above 7.0 MAF.

Water Year 2021 LTEMP Experiments & Flow Adjustments - Bug Flows, Overflight, and Spring Disturbance Flow [\[PRESENTATION\]](#)

[Lee Traynham, Reclamation] The presentation provides an overview of the Long-Term Experimental and Management Plan (LTEMP) experiments for water year 2021. High Flow Experiments were not triggered due to insufficient sediment accumulation. The macroinvertebrate production flows (“bug flows”) experiment was not recommended for a fourth year.

[Mike Moran, GCMRC] Next step on bug flows will be for GCMRC to submit a draft synthesis report later this year. A review panel would then likely be convened with the hope that results will be available by early 2022 in time for possible project implementation that year. The remote sensing overflights, which are expected to start on May 29, 2021 are not considered an experiment, but the flow action and data collection is critical for GCMRC research. Monitoring was completed during the spring disturbance flow to assess effects of the flow action.

Q&A and discussion

[Sara Price, CRCN] Given the synthesis work, is there a way to keep planning of the FY22 bug flow experiment on track? **[Lee Traynham, Reclamation]** Next steps recommended in the Planning and Implementation Team report are being worked on now, including a synthesis report and external review. If there is interest in revising the hydrograph, that might be an appropriate task for the TWG and

the Flow Ad Hoc Group (FLAHG), but is there enough information for the FLAHG to work with if the GCMRC synthesis or WAPA's projected costs are not yet available? **[Brian Sadler, WAPA]** WAPA has an action to look at purchase power and how the flows might affect hydropower. WAPA will be discussing this with the TWG this summer. WAPA will also be assessing the 7.48 MAF as well as a potential high flow experiment (HFE). **[Jan Balsom, National Park Service (NPS) Grand Canyon National Park (GRCA)]** NPS recognizes the funding concerns, but ultimately Glen Canyon Dam Adaptive Management Program (GCDAMP) is charged to monitor and reduce impacts to natural resources. **[Lee Traynham, Reclamation]** If there is interest in tasking the TWG, please propose a recommendation for AMWG consideration prior to the August meeting. **[Larry Stevens, GCWC]** One discussion topic would be for GCMRC to help us understand what environmental concerns can we learn from the drought? **[Lee Traynham]** Is this different from the 7.48 MAF discussions? **[Larry Stevens]** It would be important to understand the larger conceptual issues about how river ecosystems change in response to drought. **[Arden Kucate]** We need to give full consideration to learning more about the drought and its impacts to natural resources.

Federal Agency Updates

GCMRC Leadership Update

[Scott VanderKooi, Acting Director at Southwest Biological Science Center (SBSC)] Mike Moran became acting GCMRC chief following Mark Wimer's detail, with assistance from Ted Kennedy.

GCDAMP Program Funding (BOR, WAPA)

[PRESENTATION] **[Kathy Callister, Reclamation]** This presentation highlights the FY22 federal budget process. **[Brian Sadler, WAPA]** Purchase power projections have increased by \$15 million for the rest of this fiscal year. The 7.48 MAF expected next year is going to affect WAPA in many ways. It is dry across the entire basin with Lake Powell elevations continuing to drop. Projected revenues have dropped by 3% and it is getting worse. WAPA is going through a process now to evaluate rate and expenses.

ESA Update: Humpback Chub Status And Proposed Downlisting

[Jeff Humphrey, USFWS] The Upper Basin Office is currently reviewing comments on the downlisting, but no deadline is known at this time. The Kanab ambersnail delisting is undergoing taxonomic considerations with a determination expected soon. An expert panel for the razorback sucker will be established later this summer to better understand augmentation of the Lake Mead population and overall recovery of the species.

Expanded Non-native Aquatic Species Management Plan

[Ken Hyde, NPS] NPS is continuing the incentivized harvest program and getting results back from the Brown Trout Bonanza, which was meant to attract more anglers, catch more brown trout, and expand outreach efforts. A presentation about the program will be given at the June TWG. NPS is pleased with the program, but still not harvesting the number of fish that had been expected.

LTEMP Litigation

[Rod Smith, DOI Solicitors Office] The status has only moved slightly since last update. The court is currently deciding on some factual issues such as questions on the scope of the Administrative Record. Briefings are at least 30 days out from when the Administrative Record is decided. Another update will be provided at the next AMWG meeting.

Interim Guidelines

[Valerie Deppe, Reclamation] Reclamation is working internally to prepare for this process and will reach out to stakeholders as part of that preparation. Will also be hiring a senior water advisor to work with leadership in both the Upper and Lower Colorado Basin regions, as well as the Commissioner's Office, to help facilitate this work. Contact with the tribes on best methods for engagement and any capacity building they might need has begun.

Other

[Kathy Callister, Reclamation] An invitation will be extended to Secretary Haaland for the stakeholder river trip in the Grand Canyon.

Technical Work Group Chair Report

[PRESENTATION] **[Seth Shanahan, TWG Chair]** There is a possibility to have the October meeting in person, but no decision has been made. One action the BAHG is working on now until October is to develop workplan prioritization criteria for the TWG's consideration. A panel will convene at the next meeting to discuss Lake Powell elevation. The TWG heard a presentation on Benthic & Hyporheic Anoxia (BHA) in April that highlighted an issue not many had known about and its potential implications. Another study presented to the TWG in April was on macroinvertebrate egg-mass desiccation and its impacts on population dynamics. The TWG also heard from the NPS about their LTEMP riparian vegetation project plan. Ryan Mann from Arizona Game and Fish Department (AZGFD) reported on concerning findings from their brown trout and rainbow trout monitoring at Lees Ferry.

Stakeholder Updates

States: Arizona Department of Water Resources (ADWR), AZGFD, CA, CO, NM, NV, UT, WY

[Scott McGettigan, UT] The Lake Powell Pipeline supplemental environmental impact statement continues to move forward. **[Steve Wolff, WY]** This is his last AMWG meeting with a new position at the [Southwestern Water Conservation District](#).

Tribes: Hopi, Hualapai, Navajo Nation, Pueblo of Zuni, Southern Paiute Consortium

[Jakob Maase, Hopi Tribe] The Hopi Tribe has moved on to Phase 2 opening. The office is open although the entrance is still closed. Should be in Phase 3 in a few months, if numbers continue to go down.

[Peter Bungart, Hualapai] Less restrictive with field meetings and catching up with consultation requests. The majority of tribal members are vaccinated. **[Erik Stanfield, Navajo Nation]** Will be submitting a nomination package. The monitoring trip has been scheduled for August 5-13. All Navajo Nation offices are open with some travel restrictions but expected to ease with increasing vaccinations.

[Arden Kucate, Pueblo of Zuni] Contact tracing has flat lined. Anyone over 12 can get vaccinated.

[Daniel Bullets, Southern Paiute Consortium] Everything is open with a river trip scheduled in June.

NGOs: Environmental, Federal Power Purchasers, and Recreation

[Larry Stevens, GCWC] GCWC is moving forward next winter on a vegetation project at Paria Beach to replant with native plant species. **[Leslie James, CREDA]** No update except for the drought concerns.

[Kevin Garlick, Utah Municipal Power Agency (UMPA)] UMPA is assessing drought and federal power costs on market conditions.

Public Comment

None.

AMWG Next Steps

[Wayne Pullan, AMWG Chair] Acknowledges Mark Wimer, GCMRC Acting Chief, whose last official day was May 17. Steve Wolff, who has been with the AMWG since 2014, is also appreciated for his service.

[Lee Traynham, Reclamation] The August meeting will not be in person. Reclamation will be considering future in-person meetings and will provide sufficient advance notice.

Next AMWG Meeting: August 18-19, 2021

- Major agenda topics:
 - FY22 budget and workplan
 - GCMRC science updates
 - Stakeholder's perspective
 - Tribal liaison report
- Please send your suggestions for additional agenda items to Kearns & West (talpaugh@kearnswest.com) with a cc to Reclamation by June 30, 2021.

Meeting adjourned at 11:31 PST

Meeting Attendees

AMWG Members, Alternates, and Leadership

Jan Balsom, NPS-GRCA

Cliff Barrett, UMPA (Alternate)

Richard Begay, Navajo Nation

Peter Bungart, Hualapai Tribe

Charlie Ferrantelli, State of Wyoming (Alternate)

Kevin Garlick, UMPA

Michelle Garrison, State of Colorado (Alternate)

Paul Harms, State of New Mexico (Alternate)

Jeff Humphrey, USFWS

Leslie James, CREDA

Arden Kucate, Pueblo of Zuni

Jakob Maase, Hopi Tribe

John McClow, State of Colorado

Jessica Neuwerth, CRBC

Wayne Pullan, AMWG Chair

Daniel Picard, Designated Federal Officer

Sara Price, CRCN

Peggy Roefer, CRCN (Alternate)

Brian Sadler, WAPA (Alternate)

William "Billy" Shott, NPS-GLCA (Alternate)

Larry Stevens, GCWC

Steve Wolff, State of Wyoming

Department of the Interior Staff

Kerry Rae

Rod Smith

USGS/GCMRC Staff

Lucas Bair

Darrin Thome

Ted Kennedy

Scott VanderKooi

Michael Moran

Mark Wimer

Reclamation Staff

Tara Ashby
Kathy Callister
Valerie Deppe
Erin Foraker
Clarence Fullard
Dave Isleman
Heather Patno

Dave Isleman
Kerri Pedersen
Shana Tighi
Lee Traynham
Nathan Watson
Nicholas Williams

Interested Persons

Terra Alpaugh, Kearns & West
Rob Billerbeck, NPS
Daniel Bulletts, Southern Paiute Consortium
Kevin Bulletts, Southern Paiute Consortium
Shane Capron, WAPA
Julie Carter, AZGFD
Kevin Dahl, NPCA
Kurt Dongoske, Pueblo of Zuni
Craig Ellsworth, WAPA
Sheri Farag, Salt River Project
Alicyn Gitlin, Sierra Club
Jessica Gwinn, USFWS
Michael Harty, Kearns & West
Amy Haas, Upper Colorado River Commission
Brian Healy, NPS
Ken Hyde, NPS
Carlaine Johnson, SeaJay Environmental
Kristen Johnson, ADWR
Sara Larsen, Upper Colorado River Commission
Mike Lyndon, NPS
Ryan Mann, AZGFD

Kevin McAbee, USFWS
Scott McGettigan, State of Utah
Craig McGinnis, ADWR
Betsy Morgan, Utah
McKenna Murray, Utah
Lisa Meyer, WAPA
Liz Payton, Colorado State University
Bill Persons, FFI/TU
Ted Rampton
Shana Rapoport, CRBC
Shane Sanders, AZGT Cooperatives
Gene Seagle, NPS
Seth Shanahan, TWG Chair and SNWA
Caroline Schmiedt, Platt River Power Authority
Erik Skeie, State of Colorado
Russell Smoldon, Arizona Power Users
Erik Stanfield, Navajo Nation
Zach Stevens, DRLawFirm
Jim Strogon, FFI/TU
Mary-Ellen Walsh, Arizona State Historic Preservation Office
Jeffrey Woner

Abbreviations

AMWG – Adaptive Management Work Group
ADWR – Arizona Department of Water Resources
AZGFD – Arizona Game and Fish Department
BAHG – Budget Ad Hoc Group

maf – million acre-feet
MDT – Mountain Daylight Time
NGO - Non-Governmental Organization
NHPA – National Historic Preservation Act

BHA – Benthic & Hyporheic Anoxia
 BIA – Bureau of Indian Affairs
 CRBC – Colorado River Board of California
 CRCN – Colorado River Commission of Nevada
 CREDA – Colorado River Energy Distributors Association
 CRSP – Colorado River Storage Project
 DOI – Department of the Interior
 DROA – Drought Response Operations Agreement
 FFI – Fly Fishers International
 FY – Fiscal Year (October 1 – September 30)
 GCDAMP – Glen Canyon Dam Adaptive Management Program
 GCMRC – Grand Canyon Monitoring & Research Center

 GCRG – Grand Canyon River Guides
 GCWC – Grand Canyon Wildlands Council

 GLCA – Glen Canyon National Recreation Area

 GPP – gross primary productivity
 GRCA – Grand Canyon National Park
 LTEMP – Long-Term Experimental and Management Plan

 NPCA – National Parks Conservation Association
 NPS – National Park Service
 PI Team – Planning/Implementation Team
 PDT – Pacific Daylight Time
 Reclamation – Bureau of Reclamation
 ROD – Record of Decision
 SBSC – Southwest Biological Science Center
 Secretary – Secretary of the Interior
 SNWA – Southern Nevada Water Authority
 SPC – Southern Paiute Consortium

 TU – Trout Unlimited
 TWG – GCDAMP Technical Work Group
 TWP – Triennial Budget and Work Plan
 UCRC – Upper Colorado River Commission
 UMPA – Utah Municipal Power Agency
 USFWS – United States Fish & Wildlife Service
 USGS – United States Geological Survey
 WAPA – Western Area Power Administration
 WY – Water Year