

# Glen Canyon Dam Adaptive Management Program

## Technical Work Group Meeting

### July 31, 2024

#### Webinar

**Start Time:** 9:05 AM PDT

**Conducting:** Seth Shanahan, Southern Nevada Water Authority (SNWA) and TWG Chair

**Designated Federal Official:** Daniel Picard (Bureau of Reclamation)

**Meeting Recorder:** Beccie Mendenhall, SeaJay Environmental LLC

#### Welcome and Administrative

- **Introductions and Determination of Quorum (16 members)** A quorum was reached.
- **Administrative:** A few reminders for the webinar meeting format: audio conversation only, no video, use chat and hand raise for questions and comments, request all attendees to add their name and affiliation in the chat.

#### Development of Budget Recommendation to the Adaptive Management Work Group: TWG Members

**Seth Shanahan (Chair)** We have only one item on the agenda today which is finalizing the budget recommendation. We will start with GCMRC describing to the TWG what they have changed since the last meeting. We received several documents prior to the meeting today for review:

- A short description of changes made between Draft 3 and the July TWG
- A summary of changes made between July TWG and today titled “Key Post Draft Readjustments for GCMRC 2025-2027 TWP Budget” (aka “Adjustment Sheet”)
- Detailed TWP budget tables which include a breakdown of expenses for each project and each fiscal year reflecting the budget as presented today
- A summary of how project elements have changed over time through the revisions

What we do not have yet is the full draft version of the TWP reflecting the changes made to date. That is expected to come out soon.

**Mark Anderson (GCMRC)** I apologize to everyone that we do not have the full draft version available for today. We have drafts from all of the project leads, but it still needs one more round of edits and review before submission to the documentation team to publish the final document. This Friday, Aug 2<sup>nd</sup> is our target to complete reviews and submit to the document team to finalize. Are there preferences on how we jump into this? **Seth Shanahan** It would be useful for you to walk through the adjustments document reflecting what changed since the last meeting. After doing that, if you could then provide a summary of the dollar cost from the budget table. **Mark Anderson** Starting with the adjustment sheet, the overall budget is still over the \$30M by \$191K. They did get the fall LCR trip in Project G back into the budget as requested at the last meeting. Funding for this trip over the 3 years is roughly the amount we are over in budget (\$198K in cost over the 3 years). An external funding source was identified that fully covers Project I which allowed those funds to be returned to the budget for other areas. Andrew wanted me to point out that the previous workplan was \$200K over budget at submission. Given that fact, we are really hoping that we can keep the science plan as currently presented.

#### Q&A and Discussion

**Seth Shanahan (Chair)** There are several comments in the chat and perhaps some items in the draft that have been resolved. We will talk about these first to see if they have been addressed and then circle back to Leslie's comment suggesting we have another meeting. The draft recommendation said that GCMRC would include the fall LCR trip. Mark, can you confirm that element was added? **Mark Anderson (GCMRC)** Yes, that is restored.

**Seth Shanahan** I will bring up the draft language to review as we work through this. The first bullet seems to be addressed; we can remove that language. Next let's look at the bullet concerning the SBAHG. **Emily Young (State of Arizona)** We had a call last Monday where we reviewed the changes and discussed how funding should be covered by Reclamation in other ways. Based on that, I believe we can remove the SBAHG bullet from the recommendation.

**Seth Shanahan** Then let's look at bullet 4, which listed 5 projects recommended for funding. Mark, can you advise if any of these elements were able to be funded in this revision? **Mark Anderson** C4 is now funded. **Seth Shanahan** That means we could remove that project from the bullet 4 list? **David Dean (GCMRC)** I want to clarify, C4.2 is only partially funded because it requires a model developed in B4 which is not funded. Best to think of C4.2 as three quarters funded. **Bill Persons (TU)** You mention partial funding, can you elaborate? **David Dean** We hope to find funding for the model development elsewhere, then we will still be able to deliver all of element C4.2 **Bill Persons** Is there concern in prioritizing the data collection over development of the model which is required to use the data? **David Dean** C4.2 is modeling the roughness effects of different vegetation species. We will be able to model the roughness curves without the model. This allows us to determine which species are more effective at impacting stream velocity. **Seth Shanahan** You mentioned Paul may have something to add about B4 as it relates to C4. **Paul Grams (GCMRC)** There is no funding in the TWP for B4. What impacts C4 is the 2-dimensional stream flow model for lower Marble Canyon as well as habitat modeling for fish habitat. That was roughly one third of what B4 is about. We have this modeling for Lees Ferry region, we were trying to extend that farther down the canyon. **Kelly Burke (GCWC)** I am not happy that part of B4 is not funded. There was something in L1 that also impacted C4. **David Dean** C4.1 and L1 were linked together due to staffing. When L1 staffing was reduced, we reduced the amount of reach being covered by the analysis. C4.1 was reduced to align with the same area of the reach. They are still linked and aligned, just cover a smaller region of the reach. C4.1 without the model still lets us identify how different plants impact velocity and sediment transport. We just can't apply the modeling to a larger scale without the hydrodynamic modeling. You would have to double the funding for the B4 model development, and we just don't have that available. **Seth Shanahan** It looks like of the 5 projects, there continue to be unfunded elements. Only C4 was able to be funded in the revisions. **Helen Fairley (GCMRC)** At this time project elements D4, D5 and J3 are not funded.

**Larry Stevens (GCWC)** Is mapping of the LCR Blue Springs still in the budget? **Seth Shanahan** I don't think it was ever in the budget but will ask GCMRC. **Mark Anderson** I am not aware of this being in the budget. **Ryan Mann (AZGFD)** I believe that was covered in G8 and it is still unfunded. **Jeremy Hammen (BOR)** G8 was for sampling and monitoring of the HBC population that was discovered up there. There was no spring mapping involved in that project. **Seth Shanahan** Larry, does that answer your question? **Larry Stevens (via chat)** Yes, we are still interested in supporting that mapping project. **Seth Shanahan** We appreciate your offer to help with that mapping work.

**Emily Young (State of Arizona)** I put suggested language into the chat for the Experimental Fund and context to smallmouth bass, not a request from SBAHG but the State. Since there is a high dollar amount

proposed for the Experimental Fund and there is potential for multiple experiments that occur within a year, our concern is making sure we are prioritizing understanding smallmouth bass and SMB flows since they are a new experiment. We are proposing language to prioritize the experimental funds for SMB monitoring.

**Seth Shanahan (Chair)** I want to go back and discuss bullet 2 about the meeting with Zuni. **Mark Anderson (GCMRC)** We had a meeting at Pueblo of Zuni last Friday. Fantastic meeting, they were so gracious and welcoming! We had excellent discussions. We want to continue that type of coordination. The comments we have heard from Kurt over time are painful. We want to ensure all stakeholders are heard. I think we came a lot further in understanding each other's perspectives. **Seth Shanahan** It sounds like some conversation has occurred to address bullet 2. And the written comments from the Zuni council have been provided and shared with the full TWG. Kurt, do you want to share your thoughts on the meeting? **Kurt Dongoske (Pueblo of Zuni)** I will defer to Edward for his perspective on that meeting last Friday. **Edward Wemytewa (Pueblo of Zuni)** I had a brief conversation with Dr. Schultz (Andrew) yesterday. We will continue to send emails and provide our public statement to TWG. The purpose of the meeting was a face to face consultation. At our last meeting we discussed and clarified what a formal government to government consultation is. Dr. Schultz and I agreed that this consultation was with representatives of GCMRC and the Zuni tribe to enable open conversations in order to make sure this TWP will move forward. Comments submitted via letter we stand by, but we will make additions based on our meeting Friday. I will revisit the outcome statements and add comments to the governor's letter dated July 22, 2024. I agree with Mr. Mark Anderson, we had a candid meeting, enjoyed each other's company, had open conversation and look forward to more in the future. Kurt, do you have additional comments?

**Kurt Dongoske** During the meeting, no substantial progress was made on the issues with the TWP which Zuni have commented. Those issues still remain. Also, the executive orders have not been adopted. How is the TWG going to ensure tribal values are incorporated? Given that we are waiting for a formal response from GCMRC regarding the Zuni letter and for Reclamation to have a Government-to-Government consultation with the Zuni, I don't think we can support the recommendation today. **Seth Shanahan** Thank you Edward and Kurt, and also Kurt I want to acknowledge your chat text at the start of the meeting which is aligned with your point here.

**Seth Shanahan** I have started to modify the motion based on what I have heard. Emily submitted a recommended bullet change for SBAHG, which I have captured here. For the Pueblo of Zuni bullet, we have proposed language from Kurt to replace the original. Also, in the Pueblo of Zuni letter, Project J3 is specifically called out as something they do not want to support. I bring this up because we still have it listed as one of the projects we want to have funded in bullet 4.

**Seth Shanahan** I want to add one more item, which may lead to whether we have a motion today or not. There is comment from the group that we are only receiving bullet changes and short summaries rather than the full document. To address that, I added a bullet pointing out this gap, that the full text was not available. I want to pause and ask the question of everyone – of all the changes we talked about, what outstanding items do you see that need to be resolved?

**Kelly Burke (GCWC)** We are still \$191K over budget across the 3 years. Is that what we can expect to see? Or do you anticipate getting this down to zero? If not, we might want to address that in this motion.

**Seth Shanahan** In the draft motion, the way we addressed the overage was to acknowledge it. Andrew, you are not expecting this to be lowered before it goes to AMWG right? **Andrew Schultz (GCMRC)** No. Bottom line, the requested fall LCR trip was brought back into the funding. That is why we are over. **Seth**

**Shanahan (Chair)** Jeremy, can you share the BOR perspective? **Jeremy Hammen (BOR)** The GCDAMP is a fixed \$10M per year, there will be no additional funding.

**Leslie James (CREDA)** We have had quite a lot of discussion about changes in the projects. Having read through that information, I can see the dollar changes in project J, but I cannot understand what J is anymore. I am not clear on what J1 and J2 are which makes me uncomfortable going forward with a motion. **Seth Shanahan** That's a good point Leslie, I think you are not the only one who is paused because of not seeing the full text.

**Jessica Neuwerth (State of California)** I am interested in seeing if we can task the BAHG with doing a deep dive/ postmortem on this process, so it is more understandable, more efficient, better for the next time. I think we have been struggling with the current TWP, with GCMRC making multiple edits to a very large document and with the iterative process to bring consensus. I am not sure if it needs to be in this motion we are considering but I want to get it on the table. **Seth Shanahan** We heard similar comments at the last TWG meeting. An action item was taken then to identify ways to improve the process. I suggest we make that a more robust action item to deep dive into the process. (July TWG Action Item updated) **Jeremy Hammen** Great point on improving the process, it has been on our mind. We thought about having it as an in depth discussion in the fall TWG meeting. We do hope to address this and find a different way to approach it. **Kathy Callister (BOR)** This is never an easy process when making recommendations on funding. This year was unique with multiple things going on. Within Reclamation we are going to take a deep dive internally on ways to improve the process moving forward.

**Jeremy Hammen** I have a concern about the bullet on smallmouth and the Experimental Fund. It will be really hard for Reclamation to decide which experiments should be prioritized over others in advance. The fund is for the experiments that need to happen based on triggers in the ecosystem. We cannot promise something for SMB when that flow may not even happen. **Craig Ellsworth (WAPA)** The Experimental Fund bullet could be removed if Reclamation is not supportive of prioritizing the SMB flows. These flows are an experiment, no need to call it out separately if all experiments are on equal footing. **Seth Shanahan** Emily, are you willing to remove that language based on what Craig said? **Emily Young (State of Arizona)** I think further discussion on the Experimental Fund would be warranted. We would prefer to keep that in, at least until further discussion has been done. **Mel Fegler (State of Wyoming)** We agree with that language and would like to see it kept as is. **Seth Shanahan** OK, we will keep it in, but the word prioritization has been removed. Maybe that addresses Craig's concern. **Craig Ellsworth** I support Emily's position that there is more work that needs to be done to understand SMB. Maybe it is not tied to the fund, but more research in general. **Jeremy Hammen** We do see SMB flows as equal footing with the other experiments. If there are more discussions needed on how the Experimental Fund works and which projects can use the fund then we would support that.

**Rob Billerbeck (NPS)** Going back to the discussion around B4 not being funded, do we want to add this to the project list bullet? **Seth Shanahan** These projects came to us because they were important to the tribal representatives. Also, the intent is these will be funded outside the TWP. **Rob Billerbeck** I guess I am asking the tribe if they want to also add B4. **Erik Stanfield (Navajo Nation)** Are you suggesting that we add B4 because the interaction with C4.2? I would support that but need feedback from others. **Jakob Maase (Hopi Tribe)** It makes sense since they are related. **Seth Shanahan** I hear that there is some support for including B4 in this list so I will add it. **Kelly Burke (GCWC)** GCWC would certainly support that and conversations I have had with Ben Reeder and Dave Brown are also in support of B4 being added here. That is where we all are. **Seth Shanahan** I want to fix a statement I made earlier in reference to the letter received from Zuni. I had indicated it was only J3 that had opposition, but I failed to pick up on the opposition to project D4 as well. I am going to go out on a limb and suggest because of

that we delete both of those items. I will just let folks think about that a bit. **Kelly Burke (GCWC)** One correction, B4 should be ahead of D5 in the last bullet. **Erik Stanfield (Navajo Nation)** I am not OK with removing J3 and D4. Four out of five tribal votes wanted that to remain. If that is going to be a decision, there needs to be discussion and agreement. **Jakob Maase (Hopi Tribe)** Hopi agrees with that position. **Seth Shanahan (Chair)** I will put them back in.

**Seth Shanahan** We have 19 minutes left. We have gotten a lot of clarification on changes, there are new dollar amounts, and certainly there are some issues that remain. We could take Leslie's recommendation, finish the meeting today, wait for the final document to come out and then think about a budget motion. Or we could push on through with what we have right now. What does everyone think about our two options?

**Craig Ellsworth (WAPA)** we would prefer to see the final draft and have another call. **Jeremy Hammen (BOR)** If we are talking about having another call, I want to note that further changes may not be included in the draft that goes to the AMWG. GCMRC is up against a deadline. **Jamescita Peshlakai (BOR)** I just want to point out that Hualapai are not on this call and so have not had a chance to weigh in on the changes. They will need to weigh in.

**Seth Shanahan** Let me ask the opposite. Are there objections to having another TWG call to develop a recommendation for the AMWG? **Sinjin Eberle (American Rivers)** (via chat) No Objection. **Jessica Neuwerth (State of California)** Do we have time to do that in a way that our input would be incorporated in the draft that goes to the AMWG? **Seth Shanahan** Well let me ask Andrew and Mark – by what date can we receive the full document? **Andrew Schultz (GCMRC)** We are targeting August 7<sup>th</sup>. All milestones are set for that date. **Seth Shanahan** That means two things happen: 1) AMWG would not receive their document 2 weeks in advance of the meeting and 2) the TWG meeting to finish the recommendation on Aug 8<sup>th</sup> would NOT have ability to change the TWP draft, only the recommendation. Is the TWG willing to have an end of day Thursday meeting on August 8<sup>th</sup>, with the AMWG getting their draft on August 9<sup>th</sup>? **Kelly Burke (GCWC)** I feel like it is the only way we can make a meaningful motion. (lots of agreement in chat)

**Seth Shanahan** Here is the proposal then:

Wed Aug 7<sup>th</sup> – final version to TWG by COB  
Thu Aug 8<sup>th</sup> – end of day TWG webinar 3 PM PDT / 4 PM MDT  
Fri Aug 9<sup>th</sup> – TWP Draft and Recommendation to AMWG

**Seth Shanahan** Andrew, can GCMRC support this timeline? **Andrew Schultz** Yes, we can have the final workplan by COB Aug 7<sup>th</sup>. Do you want us to email the final document directly to the TWG or follow the usual channel via send to BOR and BOR distributes to TWG? **Seth Shanahan** Let's follow the usual process.

**Seth Shanahan (Chair)** A couple of other things to add. Per Kurt's comment, there will not be a Government-to-Government consultation by next week. We should acknowledge that a potential revised motion includes the text about the Zuni position. What would be useful to prepare us for Aug 8<sup>th</sup> is to take the revisions discussed today and have that sent to everyone as well. Then maybe folks can work together on further revisions, for instance Emily, Craig and Jeremy to work on the Experimental Fund. And I would encourage folks to talk about J3 and D4 under the project list. Then maybe we will be in a better position for the meeting on August 8<sup>th</sup>. Are there any further questions or comments? (None received) We have accomplished what we needed to for today. If you have revisions to the recommendation that you want to propose, please send them back to Jeremy in advance of the meeting on August 8<sup>th</sup>.

## Public Comment:

None

**Meeting adjourned at 11:02 PM PDT**

## Participants

### TWG Members, Alternates, and Leadership

Betsy Morgan (State of Utah)	Jeremy Hammen (BOR)
Bill Persons (TU)	Jessica Neuwerth (State of California)
Brent Powers (Navajo Nation)	Kelly Burke (GCWC)
Brian Hines (BOR)	Kurt Dongoske (Pueblo of Zuni)
Christina Noftsker (State of New Mexico)	Larry Stevens (GCWC)
Colleen Cunningham (State of New Mexico)	Leslie James (CREDA)
Craig Ellsworth (WAPA)	Mel Fegler (State of Wyoming)
Dani Greene (State of Nevada)	Michelle Garrison (State of Colorado)
Daniel Bulletts (Southern Paiute Consortium)	Rob Billerbeck (NPS-GLCA)
Deb Williams (USFWS)	Ryan Mann (AZGFD)
Emily Young (State of Arizona)	Seth Shanahan (State of Nevada)
Erik Skeie (State of Colorado)	Shane Capron (WAPA)
Erik Stanfield (Navajo Nation)	Sinjin Eberle (American Rivers)
Jakob Maase (Hopi Tribe)	Ted Rampton (CREDA)

### Other Members and Interested Parties

Andrew Schultz (GCMRC)	Jamescita Peshlakai (Reclamation)
Brian Healy (GCMRC)	Kathy Callister (Reclamation)
Bridget Deemer (GCMRC)	Noe Santos (Reclamation)
David Dean (GCMRC)	Teo Melis (GCMRC)
Helen Fairley (GCMRC)	Alyx Richards (UCRC Commission)
Joel Sankey (GCMRC)	Beccie Mendenhall (SeaJay Env)
Maria Dzul (GCMRC)	Christina Kalavritinos (DOI)
Mark Anderson (GCMRC)	Craig Dengel (WAPA)
Paul Grams (GCMRC)	Edward Wemytewa (Pueblo of Zuni)
Ted Kennedy (GCMRC)	Emily Zmak (CWCB)
Tom Gushue (GCMRC)	Jess Newton (USFWS)
Alex Pivarnik (Reclamation)	Melissa Trammell (NPS)
Bryce Mihalevich (Reclamation)	Michelle Kerns (NPS)
Daniel Picard (Reclamation)	Warren Turkett (CRCNV)
Heather Patno (Reclamation)	

## Acronyms

ACHP - Advisory Council on Historic Preservation	KAF - Thousand Acre Feet
ADWR – Arizona Department of Water Resources	LCR - Little Colorado River
AHAHG – Administrative History Ad Hoc Group	LTEMP – Long-Term Experimental and Management Plan
AHG - Ad Hoc Group	MAF - Million Acre Feet
AMWG – Adaptive Management Work Group	mm – millimeter
AZGFD – Arizona Game and Fish Department	MOU – Memorandum of Understanding
BAHG – Budget Ad Hoc Group	NEPA – National Environmental Policy Act
BIA – Bureau of Indian Affairs	NMISC – NM Interstate Stream Commission
BO - Biological Opinion	NPS – National Park Service
BOR – Bureau of Reclamation	NPS-GLCA – NPS Glen Canyon National Recreation Area
C° – degrees Celsius	NPS-GRCA – NPS Grand Canyon National Recreation Area
CBRFC - Colorado Basin River Forecast Center	P&I Team – Planning and Implementation Team
CFS – Cubic Feet per Second	PDT – Pacific Daylight Time
CRBC – Colorado River Board of California	Reclamation – Bureau of Reclamation
CRCNV – Colorado River Commission of Nevada	RM - River Mile
CREDA – Colorado River Energy Distributors Association	ROD - Record of Decision
CRSP – Colorado River Storage Project	SEAHG – Socioeconomic Ad Hoc Group
CWCB – Colorado Water Conservation Board	SEIS – supplemental environmental impact statement
D.O. – dissolved oxygen	SHPO - State Historic Preservation Office
DOI – Department of the Interior	SMB – smallmouth bass
DROA – Drought Response Operations Agreement	SNARRC – Southwestern Native Aquatic Resources and Recovery Center
DSA - Deliverable Sales Amount	SNWA – Southern Nevada Water Authority
DWR – Department of Water Resources	SWE - Snow Water Equivalent
EA – environmental assessment	TRGD – Trout Recruitment and Growth Dynamics
EIS – environmental impact statement	TU – Trout Unlimited
FFI – Fly Fishers International	TWG – GCDAMP Technical Work Group
FLAHG – Flow Ad Hoc Group	TWP - Triennial Work Plan
FY – Fiscal Year	UCRC – Upper Colorado River Commission
GCD - Glen Canyon Dam	UMPA – Utah Municipal Power Agency
GCDAMP – Glen Canyon Dam Adaptive Management Program	USFWS – United States Fish & Wildlife
GCMRC – Grand Canyon Monitoring & Research Center	USGS – United States Geological Survey
GCPA – Grand Canyon Protection Act	USU – Utah State University
GCRG – Grand Canyon River Guides	WAPA – Western Area Power Administration
GCROA - Grand Canyon River Outfitters Association	WY - Water Year
GCWC—Grand Canyon Wildlands Council	YoY – Young-of-Year
HFE – High Flow Experiment	