

BAHG Call #1

The purpose of this call was to walk through all of the GCMRC and BOR TWP Projects and get feedback from BAHG Members on what information they would like from GCMRC at the February BAHG Calls.

- **General Thoughts**

- Larry Stevens: low flows and hot summers, relational question: would it be a good idea to pay attention to human health and bacteria as it relates to warming conditions
- Rob Billerbeck:
 - Potential for low flows with the SEIS and 6.0, we should look at all resources and all projects are considering 6.0 year
- Christina Noftsker: budget estimates for all of projects
- Craig Ellsworth: Would be helpful to take a moment to see what data that's being collected is being used for management decisions
 - IF we are not using data, is it time to transition away from that data?
- Larry Stevens: third party external review
- Kurt Dogonske: Does the sampling have an impact on the aquatic life we are monitoring?
- Review all projects to make sure appropriate relationships are drawn
- Jim Stroger: could we shift collection dates to ensure times that are less stressful for fish?
- Leslie James: Take a general look to all references of GCPA, getting into authorities of these descriptions might not be appropriate. Just make sure it's consistent.
 - Jeremy Hammen: Will get rid of references as it is just adding confusion at this point
- Colleen Cunnigham: Is there a way for GCMRC to shows us how these projects relate to each other? Some project components seem duplicative
- Clarity on how monitoring operational changes fits into TWP, whether that is exclusively Experimental Fund or if it needs to be it's own project after LTEMP SEIS
- Larry Stevens: don't seem to be very clear about the role of this program in fostering improved ecological conditions
 - Not sure where such a discussion would take place
 - What do we want to achieve in terms of ecosystem health?
- Christina Noftsker: would like to see more climate change considerations included in research projects.

Project Specific Dsicussions

- Project A:
 - Website and database currently unsupported, GCMRC working to hire staff
 - How is this website/database related to Project K efforts, and does it make sense for Project K support the website/database management?
 - Deb Williams:
 - Understanding what the total budget might be looking like, and what the budget request is for these specific projects?
 - David Ward:
 - Project A database and website, what exactly is not supported?

- Is that stuff contracted out and not being supported on web servers, what portion is the part that's not supported?
 - Andrew: Having hard time getting people to post and maintain the data on the website
 - What has been decided is that the process will be internalized
 - Hoping to bring computer scientist in to internalize that process
 - Rob Billerbeck: bread and butter for a lot of other resources
 - Craig Ellsworth: also going to be a couple of other places to collect water quality (12 mile slough)
 - Would that potentially come in on this project or one of the fish projects?
 - Bill Persons: 2nd bacteriology, would AZ Department of Water Quality help?
- Project B:
 - Looking to improve predictive modeling
 - Rob B: another key for understanding what happens in sediment
 - Larry Stevens: keep supported
 - Christina Noftsker: with HFE protocol change, will the budget change or remain similar based on the new protocol?
- Project C:
 - Two new proposed analysis
 - Analysis of vegetation as wildlife habitat (in C.1)
 - Phragmites research (in C.4)
 - Modified analysis
 - Greenhouse to include analysis on what would happen if Powell goes below power pool
 - Larry Stevens: shift from vegetation to habitat monitoring might be large for this program, does the staff know what that means?
 - See more fleshing out as to how they would take this topic on
 - Greenhouse experiments: can be interesting as basic science, but conducting in field is the way to do them
 - Might be better framed as field experiments
 - Rob Billerbeck: agree with Larry statements
 - Support new additions
 - Rod Buchanan: is this vegetation in the water or outside of the water?
 - Emily Palmquist: vegetation on the shoreline
 - Rod: might have an interest at some point knowing if veg in water is changing
 - Deb Williams: phragmites study, what is the why behind that?
 - Emily Palmquist: Possibility that we have the non-native lineage
 - Want to identify whether or not it is native, genetic tests in the region
 - Deb Williams: is there a management implication?
 - Emily: Right now it's just whether or not non-native exists
 - Management action needs close coordination w/ tribal partners
- Project D:
 - Consider new vegetation experimental activities to achieve LTEMP Goals
 - What exactly does GCMRC mean by this?

- Would more like to get to all 40 sites on the three year cycle
- Rob Billerbeck: what we saw was a large number of sites moving out of type 1
 - Project to help identify where veg management occurs to help Aeolian transport
 - Good result to see that not 100% of veg needs to be removed
- Craig Ellsworth: there could be cross over with previous project, are there certain types of riparian veg species that would better allow wildlife habitat and Aeolian process?
- Kurt Dongoske: has there been any thought given to transplanting veg that has been removed on top of the sites to keep the sand in place as protection for arch site?
 - Joel Sanky: looking into that
- Kurt Dongoske: project talks about national register integrity, only identifies location. Would like to see the other integrity qualifiers more discussed
 - These sites are vital for zuni to see and interact with
 - Burial is fine for integrity, but affecting Zuni ability to interact with cultural identity
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- Project E:
 - GPP modeling linked with Project A
 - E.3 trying to get E.3 analysis done this summer
 - Larry Stevens: core to understanding how ecosystem works
 - Kinds of things that need to be done with careful field experiments
 - Having Lees Ferry as site could be game changer
 - Big question
- Project F:
 - Make invertebrate drift sample timing the same as fish monitoring
 - Will this affect the budget?
 - Want to continue bat monitoring
 - How does bat monitoring help decision making?
 - Christina Noftsker: Was there a question about whether or not bug flows would be attempted, was it no?
 - Jeremy: not at the process yet to determine whether or not we would do that again. Will be discussed in a larger context in the coming months
 - Bill Persons: also want to know why we're looking at bats
 - Well suited to citizen science
 - Personally would be more interested in monitoring benthic community not always in the drift over bats
 - Had been done in the past
 - Does monitoring the benthic community help us with trophic levels?
 - Craig Ellsworth: important to continue the monitoring regardless of whether or not bugflow occurs
 - Need a good way to analyze that data statistically
 - Look at data streams used to make those kind of decisions
 - Haven't seen drift data report in a while
 - Monitoring trout might be a better use of time than drift (trout are better drift catchers than drift net)

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- Project G:
 - Bill Persons: David Ward finding humpback chub further upstream in LCR than we've sampled raises questions
 - Would it be worth mark recapture?
 - Larry Stevens: we need to understand whether or not chub could exist in paria, and why/why not
 - Jim Stroger: agree with looking at upper reaches of LCR
 - Important to see situations with non-natives up there as well
 - Deb Williams: G.6 WGC should monitoring be a little more wide or broad in WGC?
 - Ryan Mann: a lot of the monitoring programs are not duplicative, JCM west is fixed site with intended purpose of understanding dynamics by mark recapture
- Project H:
 - Proposal to discontinue H.3
 - Fish ultrasounds
 - We have a general idea now that BRNT are "Spawning Capable" in Nov. and RBT in Jan, why is additional sampling necessary for decision making?
 - David Ward: DO trends didn't show up in trout populations, would like to make sure we are really keeping track of DO (either here or in water quality sections)
 - Ryan Mann: second this comment, add that monitoring DO is important but need to understand DO dynamics within 5 miles of dam
 - Larry Stevens: is it possible to aerate turbines?
 - Jeremy Hammen: Small review a couple of years ago
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- Project I:
 - Looking to expand parasite monitoring in I.1
 - Addition of SMB modeling
 - Addition of using sonic tags to better understand predation of native fish
 - Links to SBAHG Work
 - Larry Stevens: questions remain about comparable life history model for fish species
 - Do we have enough data to model response to warming temps in the system?
 - Dan Leavitt: would be valuable to get a sense of where we are on the invasion curve for warm water species
 - Critical to budgeting
 - Colleen Cunningham: can we get enough information in I.1 for species response to flow changes to control invasive. If not, that is something that should be considered. Need to be collecting the data to know whether or not it's working.
 - Kim Dibble: it's mostly monitoring by AZGFD, not really about making conclusions about that
 - Systemwide monitoring looking at broad trends, harder to assess direct response
 - Bill Persons: highlights tension b/w research and management
 - Feeling is we need to remove SMB, but if we want to learn about the species we would want to pit tag them

- At the stage where we feel like we have to do something that does not include research
 - Colleen: if we are doing operational changes, we need to be doing the research to show effectiveness (is that here or somewhere else?)
 - Deb Williams: agree that we should be monitoring effectiveness of these flow changes
 - Craig Ellsworth: echoing those last two comments
 - This demonstrates are lack of nimbleness to adjust
 - Would like to see a SMB specific element in this project
 - Why focus on channel catfish if no SMB?
 - David Ward: we kind of know now about channel cats, and it might be time to swap out that project and swap it out for SMB
 - Emily Young: great point to think more forward especially as final year is new operational guidelines
 - SMB monitoring and analyses
 - Rob Billerbeck: I.2 might be the way to address SMB as green sunfish are also a threat
 - Kim Dibble: maybe use some eDNA to look at channel cat diet
 - There had only been 10 or 12 in the previous workplan, so things have shifted in the system and GCMRC will address that moving forward
 - Craig Ellsworth: study ways to reduce entrainment or generate ideas of how to reduce
- Project J:
 - Lucas suggested breaking up into specific goals and developing reporting metrics for recreation
 - Potential for Project J to be an integrated model (ask Leslie more about this)
 - Leslie James: recommend that the reference in this write up to hydropower be pulled from J and that hydropower work be included as BOR responsibility
 - Deb Williams: don't want to see the model for hydropower go away, it might need more collaboration
 - Leslie James: not sure that revenues are one of the key metrics so there might be some disconnect
 - Something that the SEAHG will be discussing
 - Rob Billerbeck: Lucas' presentation was a clear method to understand, this program should have a clear metric for hydropower
 - Lucas Bair: SEAHG is 2/1
- Project K:
 - Clarity on whether or not this is meant to be the one stop shop for all GCMRC data
 - If not, would that be beneficial?
 - Colleen Cunningham: yes, we should get some clarity
 - Deb Williams: how does K relate to Project A and their website challenges?
 - Maybe some relation to project L
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- Project L:
 - Would like to see inclusion, potential for May 2026 overflight
 - Discussion of including LiDAR collection
 - How beneficial would this be for the other projects?

- Christina Noftsker: when we get cost estimates, would we get a breakdown of LiDAR vs. not
- Deb Williams: very costly, the more data we can snag all at once the better
 - Would be good to understand why the 3-4 yr timeline is a thing
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- Project M:
 - Not sure how/if we can provide comment on it
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- Project N:
 - SEAHG
 - Jeremy Hammen: were discussions on what was produced in N might fit potential new project for screening tools in Project J
 - Craig Ellsworth: have issue with developing hydropower tools that have not been reviewed, many assumptions that have come up
 - Need to get those assumptions discussed
- Table of Projects:
 - Colleen Cunningham: this table could also help us cross walk information and dates regarding project overlap
 - Table type of format to help visualize and resolve potential duplicative efforts
 - Some visualization that would answer whether or not there is duplicative efforts
 - Might also help answer how much stress is being put on the fish if we knew when they were occurring and by what groups in some sort of table or matrix
 - Craig Ellsworth: frequency would be helpful (what is current frequency, what frequency do we need to answer these questions?)
 - Bill Persons: duplicative efforts are a concern as not sure what and when is being done
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- BOR:
 - Kurt Dongoske: a lot of these projects are tied to BOR PA, would like to hear from Reclamation on where they think they stand in terms of that agreement