



NASWG2 MEETING MINUTES

May 12, 2017

Meeting attendees:

Workgroup members: Cindy Loeffler (CL), Texas Parks and Wildlife Department; Mark Enders (ME), City of New Braunfels; Kerim Jacaman (KJ), Bexar County; Patrick Shriver (PS), San Antonio Water System; Julia Carrillo (JC), Edwards Aquifer Authority.

Edwards Aquifer Habitat Conservation Plan staff: Nathan Pence (NP), Alicia Reinmund-Martinez (ARM), Daniel Large (DL), Chad Furl (CF); Jeannette Prado-Flores (JP)

Facilitators: Suzanne Schwartz (SS), Natasha Sekhon (NS) from Center for Public Policy Dispute Resolution.

Public: Ken Brooks (SAWS)

1. Call to order and introductions of Work Group members and staff.

Cindy Loeffler called the meeting to order at 9:05 a.m. Those in attendance introduced themselves. Introductory remarks by NP, CL and SS.

2. Public Comment.

There were no public comments

3. Presentation of the Work Group charge and possible endorsement of a timeline and strategy.

- SS presented a summary of the Work Group (WG) charge as approved by the Implementing Committee (IC).
- CL mentioned that the IC charge has the WG meeting a minimum of three times, and suggested that presentation of the WG's report in July to the IC could count as a third meeting if the WG is able to accomplish its task on May 12 and 26.
- The group discussed how the IC's original meeting schedule had been extended. CL noted that even the extended schedule initially proposed presentation of the WG report to the IC in June. This would have rushed the WG's review of its final report; therefore, the IC's consideration of the WG Report 2 was pushed back to July 20.
- SS went over the timeline for today's (May 12) meeting and the following meetings. June 9th was confirmed as the date for the third potential meeting.

The WG endorsed the proposed timeline and strategy document by consensus, and endorsed Cindy Loeffler as chair.

4. Discussion and possible endorsements of the operational guidelines to be followed by the Work Group in carrying out their charge (Attachment 3).

- SS went through the decision-making process with consensus.

- ARM went through the criteria for decision making.
The WG agreed by consensus to the operational guidelines.

5. Presentation and discussion of the draft *Report 2 Workshop Report* (Attachment 4).

- Following a short summary of the Report 2 Workshop Report, participants noted their appreciation for the detail of the break-out group summaries and of the written and oral transcripts. NP noted that he found the workshop to be very helpful, and modified his thoughts on some proposed elements of the implementation plan for NAS Report 2.
- Recommendations for any workshop held in conjunction with NAS Report 3: CL and ME suggested keeping the format the same. AR mentioned that the Science Committee attendance wasn't as high as for the NAS Report 1. The size of the breakout groups was generally good for a condensed conversation; larger groups should be avoided for future workshops.

6. Discussion and possible endorsement of the structure to be followed for the *Report 2 Implementation Plan* (Attachment 5).

- DL led the discussion for the proposed structure for EAHCP Report 2 Implementation Plan, that will be the WG's report to the IC, noting that content would be added to the report before the May 26 WG meeting (based on decisions today).
- Specific input to the report format included to note the support NASWG2 is getting from the EAHCP staff. Participants noted the role of NASWG2 is to review the recommendations made by staff, make possible modifications to those recommendations, and to assure the report is transparent in its justifications and understandable for the general public.
- NP emphasized that this document's main purpose is to provide the IC a suggested plan on how to move forward with the NAS recommendations.

The WG endorsed the proposed structure for the *Report 2 Implementation Plan*.

7. Discussion of possible modifications to the Applied Research section of the draft *Report 2 Implementation Plan* (Attachment 6).

- SS and ARM proposed a process for discussion of all the matrices as follows: (1) first review the bolded NAS recommendations from Report 2, followed by (2) those matrix recommendations for NO action and those considered not applicable, followed by (3) other recommendations of specific interest to WG members. The goal would be to determine what action to recommend to the IC for each element of NAS Report 2.
- ARM went over the process staff used to develop the matrices, noting that staff chose to bring forward very specific details in the matrices, but also to group the comments or recommendations via categories that are similar to the ones seen in Workshop.

Work Group review of NAS highlighted recommendations

#21¹ WG Recommendation: Agree with staff draft.

Discussion: ARM went over the matrix columns and highlighted that the project is continually underway with improvement. NP mentioned that in 2018-2019, all Applied Research projects will

¹ Numbers preceding a discussion represent the recommendation number found on the matrices in Appendix E.

be 2 years in length, with longer response times for RFPs and with RFPs distributed more widely. CL liked the workshop comment to fund graduate students for some of the research, and to ask for reduction in overhead costs from the universities. NP noted that EAA is pooling intern funding, which will better allow EAHCP to utilize an intern. He also discussed using graduate students who are seeking class credit and not monetary compensation. CL noted the HCP will be more impactful in the future if it engages younger folks now. PS mentioned that students are already working with professors as side projects. CF noted the need to use graduate student assistance wisely, and they may not be able to make the long-term commitments to projects. NP mentioned ways to secure commitments by focusing students on small projects/voluntary options/class projects where report is needed to get grade, and by working with universities to find ways to assure continuity.

#26 WG Recommendation: Agree with staff recommendation to implement, but changing language on: (1) fiscally responsible (to note that implementation must be within existing resources, or with prudent addition of funds including external funding sources; and (2) notation that recommendation is feasible.

Discussion: NP noted there is no line-item for a data management program, but that EAHCP can and does commit staff time for data entry and report input. Budget is limited to build new modules. While public interface is important, it is not as high a priority as getting information about aspects of the HCP that is unknown. WG members suggested seeking other funding (such as grant funds or private sector funding). NP noted the fact that EAHCP already has a funding source often makes securing such funding difficult.

#27 WG recommendation: Change recommendation to TBD; for fiscally responsible, explain that while budget is not identified/available for this item now within the HCP budget, it is a good idea.

Discussion: NP noted that EAA is working on relationship between aquifers through recharge and other parameters from the hydro model, an effort HCP does not need to duplicate. NP mentioned Charlie Kreidler's interest that certain aspects could be answered by the HCP, and noted that the HCP has done a lot of research specifically for the eco model. Future research will refine the model, add more species or make the components better. But budget isn't available to move to the next round of upgrade. The research did not specify anything for the ecological model. CL thought that the model development doesn't need improvement but to look at the model scenarios and using the applied research to do runs, to validate it. Similar to groundwater models. CF said that they are aware of the model shortcomings, has talked to science committee, and are still finalizing as models take time and talking specifically about the Eco model. CL noted that for hydro model, independent group is holding workshops. NP said there would be public involvement in the rollout of the Eco model, and suggested determining later if work groups are needed or just demos. CF noted they will engage in research for 2011-2015 drought with and without HCP results using MODFLOW for the Hydro Model. PS mentioned having a third-party review for Hydro and Eco model. Jeremy White from USGS has a lot of objective comments for the applied research. All of it is from EAA for model update. The HCP has not paid for it. CL suggested including language that EAA, Implementation Committee and others are working on this. We don't know where the funding is coming from but we would like to work on various

questions rather than just stating NO in the matrix. Add more details under Fiscally Responsible to note that while budget is not available at this time, acknowledge it is a good idea.

Work Group review where staff has said NO or TBD, or others of interest to WG members

The WG asked that a modification be made on page 1 of the Applied Research section to clarify that “N/A” (#4) means staff agreed with comments, but no action is needed to implement them.

#5 WG suggests revising to note efforts are underway by both New Braunfels and San Marcos rather than saying (or as explanation for) TBD.

Discussion: ME notes that New Braunfels and San Marcos are moving forward with the recommendation and hitting target. CL mentioned this issue is more complicated than the invasive species one-liner in the matrix. Revise matrix to make it clear that the study is already under way. Include riparian systems and all the other species listed in the HCP as appropriate for those locations and conditions. DL noted these comments are coming from a project where competition between *Ludwigia* and *Hygrophila* was specifically studied.

#7 WG suggests noting this effort is in process as well. No further discussion took place.

#6 WG in agreement that recommendation has been done and passed on to modeling team. No further discussion took place.

#10 WG in agreement with staff TBD recommendation.

Discussion: NP discussed this as a possible adaptive management action. NAS based this comment on a study where DO was artificially added. ME noted that aeration can be done by controlling the system. Large scale aeration is cost prohibitive, and would only be useful in a small area. NP suggested keeping it as TBD and continuing to look at aeration for its usefulness during hard times. CL suggested that perhaps aeration might be more effective after vegetation removal.

#12 WG in agreement with the staff recommendation, and asks that the matrix include language about the completed trophic study. Also, noted overarching recommendation to provide NAS with work plans for the final year of their Report 3 study, so NAS understands what work is being done by the HCP after it stops gathering information.

Discussion: Trophic study has already been completed. CF noted they are doing a trophic study where the food source of the beetle is coming from a trophic study, and not a sampling method study. Put in comments about the standard protocol for the trophic study, to capture information NAS may not know about. KJ suggested providing NAS with work plans so they can see where the HCP is heading for that last year’s period during the Report 3 review. The WG noted this as an overarching recommendation.

#15 WG in agreement with No recommendation, but suggests adding language to explanation.

Discussion: Not needed for compliance and not feasible. HCP has been focusing on the beetle and it’s very well known that the amphipod eats the beetle as they are cannibals. CL suggested making a clear statement that the study is not justified or needed or a priority. It might be more

useful to look at the trophic study and see what would happen if the amphipods ate all the beetles might be more useful (NP).

#16 WG in agreement with No recommendation.

Discussion: Similar to number 15, not needed for compliance for ITP and HCP. HCP is not doing all the beetle studies; other researchers have also done field studies regarding beetles.

#17, 18 WG recommends changing recommendation to TBD, and the notation under Feasible to Yes, and mention in comments that while it's feasible to do the study, there is concern about scope creep. Also, talk to EAA, Science Committee and IC about how to respond to recommendation.

Discussion: There is no good distribution study regarding CSRB, which has been regarded as the concern. People always fishing. What would the next step be? Discussions with TPWD to answer that. It is not in the scope of HCP to do a population study of the 11 Covered Species and hence staff responded with No (NP). PS suggested this should be a “no” under the criteria established. CL suggested starting with a distribution study that would help answer how in the future the distribution will change. Insert distribution instead of density for comment 18. Maybe change 17 and 18 to TBD? With an explanation of what we are thinking about and how we would achieve it rather than just No. NP noted this is not a bad scientific question; while not part of the HCP charge, it might be relevant in a rollout of the permit renewal? If CSRB can be used as a surrogate, we can only focus on this specific specie as opposed to all of them. Can talk to EAA, Science Committee TPWD and IC about it to determine which way to go? There is a placeholder on distribution/abundance in the 2018/19 applied research schedule; this could be a longer-term study. NP said before deciding, a conversation needs to happen, and we need to put some boundaries on what we undertake. AR summarized the discussion and recommendation noted above, including noting that it is only feasible to do a surface population study under comments.

19 WG recommends a TBD recommendation, and changing to a Yes under the feasible criterion, and making more detailed comments about what HCP is doing.

Discussion: CL/NP discussed unknowns about cotton-lure - whether they are “ice cream” and artificially luring the population, or an accurate representation of the population. First step was creating standardizing protocol to allow an apple to apples comparison between locations. CF noted it's difficult to know good sampling without knowing the population. Could be a three-year project. The method developed by HCP is something that we've tied down to. WG acknowledged this is feasible, and should lump 17, 18 and 19 together. Change the No to TBD. We are in the 2nd year of studying the CSRB and done a lot of research on it. Highlight these points under comments that a lot of work has been already done regarding CSRB.

#23 WG recommends noting this as Done rather than No, and to document what has been done.

Discussion: FAB has resolved the problem through retrofits. This issue has been fixed, although the cause has not been identified. Add documentation about the work from the website.

#24 WG recommends noting this as Done rather than No, with comments reflecting studies funded over multiple years.

Discussion: Also done. Include comment about funding that is spanning multiple years. Important to highlight.

#25 WG recommends changing this to Yes (with caveat that some studies from applied research might be appropriate) from its current TBD. Include a list of Applied Research studies in Report.

Discussion: CL- This would be a N/A? CF- It is a good idea but no specifics surrounding it. WG agreed it was appropriate to monitor effectiveness through long-term research projects sometimes, but that generally monitoring should be long-term and not necessarily Applied Research. Recommendation is a “Yes, but...”

Include a summary of applied research projects in the report.

8. Discussion of possible modifications to the Monitoring section of the draft *Report 2 Implementation Plan*.

AR went over the general details of the Monitoring report. The WG then discussed the specific recommendations to NAS comments.

Work Group review of NAS highlighted recommendations

#36 WG agrees with Yes recommendation; suggests an explanation for the No recommendation under Fiscally Responsible criterion, along with a notation that the strategy would be deferred, and that the monitoring work group would explore it further.

Discussion: AR notes that monitoring programs already have been determined for 2018-2019 from last year’s Bio and water quality monitoring work groups, and are locked in with contracts. Changes are not possible until 2019; at that time we can address any changes in strategy. Change the fiscal column to note not implementable till the contracts change in 2019. NP said getting M&M integrated into one of the long-term monitoring programs (for example bio and water monitoring) is a good idea. We are already over budget for bio and water quality monitoring. So while the idea is feasible, we don’t have that money. JC indicated a need to clarify the purpose of monitoring: is it to determine the success of the project or something else? CL said they don’t prescribe what the monitoring scheme should be. There is agreement that monitoring is good idea and not to have one conceptual monitoring idea. AR suggested forming a standard working group as a way to get at monitoring and call the group back together for future implementation strategy. Can put in photon parameters for water quality. The WG discussed the pros and cons of combining both systems (San Marcos and New Braunfels) and both programs. CL brought up the point of integrated monitoring rather than combined monitoring. Recommendation is still yes with further exploration.

#34 WG agreed with TBD recommendation, with a notation the determination will not be made until eco-monitoring begins, and changing Fiscally Responsible to a notation that there is no budget at this point.

Discussion: CL needs more explanation for why fiscal is a “No.” NP said this area is over budget. WG discussed adding a note – No/Not in the budget at this point. There is no identified budget for it. DL asked if the definition of “fiscally responsible” needs to include the idea of stewardship

of funding public dollars. The WG determined this will be redefined as “fiscally feasible” rather than “fiscally responsible.”

#35 WG agreed with TBD recommendation.

Discussion: ME noted this is not part of routine monitoring. Rather, following 2014 low flow situation in Landa Lake, the City of New Braunfels had the contractor set out DO recorders to get data throughout the Lake. It’s possible to tie deployment of these to a defined spring flow trigger during low flow period. The instruments already are purchased, just need to be deployed. This is just for the City of New Braunfels. Not part of the overall EAA but just for New Braunfels. ME said this might not be done every year but just when the flow is low.

#30 WG agrees with No recommendation, but suggests an explanation that the source of PAH is known and work is being done it address it.

Discussion: CF noted there has been a lot of PAH monitoring and PAHs are not found at levels that are extremely concerning. HCP also is monitoring fish tissue to check the bio-availability of PAHs. NP notes that PAHs tend to be found at the same location, and at the same concentration, so it’s better to look at sampling fish tissue. Sediment sampling can be done every two or so years to catch any movement in PAHs. CL asked if there had been any attempt to find the source of PAHs. NP reported that PAHs are from roadways, and noted that San Marcos has banned the substance in parking lot surfaces, and New Braunfels will similarly consider this. Worthwhile to mention the measures that are being taken to address PAH.

Work Group review where staff has said NO or TBD, or others of interest to WG members

#28 WG agrees with No recommendation, but with a better explanation.

Discussion: NP - GBRA does the ambient water quality monitoring under a very regimented program mandated by TCEQ. It can’t be modified for the HCP. NAS is concerned that coordination in time and space should be exact for bio and water quality monitoring. However, that would take an exorbitant amount of money. ME mentioned that water quality data is consistent and constant except in storm flow conditions. WG agreed to add a better explanation. The group discussed how the HCP has partnered with GBRA to obtain and query its data. CL suggested NAS should see the Aquarius system to be able to see trends - that NAS might change their recommendations.

9. Discussion of possible modifications to the Minimization and Mitigation (M&M) Measure section of the draft *Report 2 Implementation Plan* (Attachment 8).

Work Group review of NAS highlighted recommendations

#38 NP noted this related to the discussion of mapping of SAV.

#41 WG agreed with “No” recommendation, but wanted to reflect a “Yes,” under Compliance-oriented criteria, and a better explanation.

Discussion: CL asked if there were challenges with replanting native species. NP responded negatively, that the amount of SAV in the report has been reduced. The original amount was

incorrect and, in fact, exceeded the space available in the river. Explain this better in the comments. Hydrilla and Hygrophila also serve as habitat. CL suggested considering the scale of time for the program, with sustainable habitat results being achieved over the long term. Mention that SAV regime has gone through the US Fish and Wildlife. NP mentioned the corrected amount of space is essential, and the group discussed highlighting this in the comment section for people who have not read the SAV/NAS report. PS asked if there was a discussion about the planting going beyond what was recommended with the permit requirement? NP, not really – but it's an important concept for NAS and the casual reader.

#48 WG agrees with staff recommendation, but should note that focus will be on sediment prevention rather than removal.

Discussion: DL noted the shifting the emphasis to prevention.

#49 & 50 WG agrees with TBD recommendation for 49, wants to change 50 to note it has been done and is ongoing through New Braunfels work plan.

Discussion: ME noted that New Braunfels is doing manual breaking up and removal, (#50). It is an ongoing effort through the City of New Braunfels in the 2018 plan. Mats are floating downstream under most conditions, but might need to be manually removed during low flows as part of the DO management plan. #50 is going from TBD to Done through the City of New Braunfels, and #49 remains at TBD.

#51 This will be discussed during the May 26 consideration of the hydrologic model.

#56-59 WG agrees with staff recommendations, but would like more comments about forbearance and ASR added.

Discussion: PS suggested analyzing and replying to the NAS comments with a two-prong approach. ASR involves both (1) compliance and forbearance, which the HCP is doing; and (2) the ASR itself, which is the responsibility of SAWS. ASR is stored water in a drinking water aquifer, which should give people comfort regarding water quality and safety. The NAS comments seemed to wonder if the ASR water would be available when needed from the aquifer. Background on ASR should be provided in response to the NAS comments. CL suggested comments could address the dependability of the ASR system. PS also noted the NAS recommendations missed the boat on forbearance. An action item was added that PS will be writing a short comment to include in the matrix.

#60 WG agrees with staff recommendations, to note that the implementation strategy will be based on a review of past action. Information should be gathered, and the item highlighted for IC consideration.

Discussion: ARM noted that this was a good idea. The group discussed what kind of an audit would be appropriate. Some ideas included: ARM, compliance with the HCP, plus is the HCP operating as expected; CL, operational audit; PS, audit it in the sense of how did they perform for the spring flow protection; DL, financial and importance of the spring flow prevention and their importance to the HCP's success. The WG discussed information it need to determine an implementation strategy, including verifying EAA's review for the irrigators for VISPO compliance. CL asked if someone at EAA has done an internal program manager audit and could

provide more information on this. PS mentioned the audit system carried out in SAWS. NP said this is a good idea; the budget group has already started doing internal audits to see for optimization. The IC would need to determine if it wanted to hire a third part auditor. NP liked the idea of having an audit, suggesting the matter should be brought to the IC for discussion. PS will talk to auditors in SAWS to get more information.

Work Group review where staff has said NO or TBD, or others of interest to WG members

#45 WG wants recommendation for implementation to note “yes, but not meant to be a long-term strategy,” and to indicate Yes on feasibility criteria. Also, note that USFWS agrees with HCP approach.

Discussion: Similar to 41. NP stated that what non-native species are in the system right now is what is being carried out. DL, yes, it is feasible and US Fish and Wildlife has approved the SAV program.

#46 WG agrees with No recommendation, but should note that real-time logger data is being deployed.

Discussion: NP indicates HCP needs to monitor for depth, and other parameters but we don't want to use bank pins and turbidity loggers. Working with Ben Schwartz to get the before picture. CF noted HCP is currently in the early stages for this step. The WG determined to maintain a No to specific NAS recommendation, but note that real time-logger data is being deployed.

#47 WG agrees with staff's No recommendation, but wants to add comments for better understanding of programs. No further discussion occurred.

#52- 56 WG agrees with staff's No recommendation.

Discussion: Took the NAS on a tour of the ASR facility. SAWS use of ASR has no effect on HCP, and will still have to forebear. PS will draft comments to include in the matrix similar to that for comments 52-59.

10. Discussion and identification of any possible additional information that may be needed by Work Group members to carry out their charges.

- SS went over information needs that had been recorded during the meeting. These are noted in the table at the end of the meeting notes.
- NP wants to see a comprehensive list of points that will be discussed with IC. Maybe even a separate section in the report.
- Parking Lot – Number 51 to be discussed with Hydro

11. Recap of day's progress and discussion of next steps for the Work Group

Meeting review:

- Positives: lunch was awesome, Cindy was a great chair, good format for discussion, pre-meeting preparation, room temperature control.
- Change: Get salad dressing

12. Questions and comments from the public. There were no questions from the public.

13. Adjourn. The meeting adjourned at 1:36p.m.

ACTION ITEM LIST/ INFORMATION NEEDS		
What	Who	When
Draft comments on NAS recommendations 52-59.	Patrick Shriver	May 26 meeting
Gather information from SAWS audit department about what form #60 audits might take	Patrick Shriver	May 26 meeting
List items identified during the meeting for discussion with IC; Consider as separate section of report.	HCP and CPPDR	May 26 meeting
Verify EAA review of VISPO compliance	HCP staff	May 26 meeting
Get PAH information	HCP staff	May 26 meeting
Past compliance review on “audits” in #60	HCP staff	May 26 meeting
PARKING LOT: #51 to be discussed with hydrologic model on May 26		