



## April 8<sup>th</sup> Science Committee Minutes

Members of this committee include: Tom Arsuffi, Doyle Mosier, Charles Kreidler, Jacquelyn Duke, Jackie Poole, Floyd Weckerly, Chad Norris, Glenn Longley, Janis Bush, Miguel Acevedo, and Robert Mace. At this meeting, the following business may be considered and recommended for committee action:

1. **Call to Order-** 9:03 am

2. **Public Comment**

No comment.

3. **Approval of minutes from the February 26, 2014 Science Committee meeting**

(Attachment 1).

No conversation. Doyle Mosier motioned to approve the minutes. Glenn Longley seconded. All were in favor.

4. **Receive Report from the EAHCP Program Manager.**

Nathan Pence, HCP Program Manager, provided the following updates:

- The Science Committee's role at the May 12, 13 NAS meetings: May 12 is an official SC meeting date and a chance for the National Academy of Sciences (NAS) to ask the Science Committee (SC) about the Applied Research and general system questions. Additionally, South West Research Institute (SWRI) will be presenting detailed information about the EAHCP Finite Element Model.
- Mr. Pence mentioned the Applied Research exercise and asked the committee to turn in the provided form to staff for project scoring.
- Bio-Monitoring will likely begin in April due to flow level triggers. Also, City of New Braunfels had begun restoring culverts in the old channel of the Comal. The Committee discussed the bank restoration project currently taking place in New Braunfels as being a city project, not a HCP project. The committee emphasized the differentiation between New Braunfels bank restoration and bank stabilization projects.
- Freeman Aquatic Building's renovation was completed and ready to support HCP Applied Research Projects.
- Implementation Flow Diagram and Gantt Chart presentation: Input and or questions were welcomed and encouraged from all committee members. Robert Mace mentioned inputting the SC on Groundwater and Hydrological research and modeling sections on the Gantt Chart and Flow Diagram. Additionally, there was a desire to have increased clarity on how Ground Water and Hydrology impacts the HCP. Discussion followed.

5. **Approval of Year-2 Predictive Ecological Model Scope of Work** (Attachment 4).

The Science Committee received a presentation from BIO-WEST on the new Ecological Model scope of work. Tom Arsuffi asked about secondary productivity. Discussion followed. A question was asked as to why there was so much emphasis on aquatic vegetation and scouring. Discussion followed on the combination of low-flow and scouring events occurred. Dr. Arsuffi had a comment about “Disturbance Theory” and the effects on Comal System. Discussion followed. Dr. Arsuffi motioned to proceed, Longley seconded. No objections.

**6. Presentation of and possible action related to the proposed design plans for the New Braunfels Bank Stabilization project (Attachment 5).**

Freese and Nichols made the presentation for the City of New Braunfels. They stated the purpose of the project was to minimize earth and slide failures of the river bank in Comal springs old channel.

- Presentation of Geomorphic Assessment- what material would provide the best support for bank stabilization? Dr. Arsuffi was interested in specific literature used in engineering methods. Additionally, the SC expected an intensive literature review to support the approach. Freese and Nichols assured that the literature used to create this approach (which will be resent to EAHCP Staff and to Science Committee) has been collected and reported upon in various portions of this project design.
- Presentation of Riparian Vegetation- A committee request for a list of the invasive species that will be replaced by native species was made. Jackie Poole requested more comprehensive list and analysis of the established study. The recommendation by Freese & Nichols was to completely replace invasive vegetation in dormant season and replace with native species. Dr. Duke was interested in the specific strategy used in replacement. Dr. Arsuffi was specifically interested in the strategy for elephant ears.
- Presentation of Bank Stabilization- presentation of multiple different strategies that could be used to successfully stabilize the river bank. Robert Mace asks if there is another more “natural” method that will provide an aesthetically pleasing environment. Chad Norris requested Freese and Nichols bring back specific details of how things will be done before it goes into effect.

Robert Mace motioned for approval of the work plan as presented but on the condition that the design proposed will come back to this committee for certain study aspects: (1) specifics of removal and re-vegetation, (2) a plan to make the design as natural as possible and (3) the literature to support those methods before construction begins. Motion was seconded by Charlie Krietler- No objections. Motion passed.

**7. Presentation of the study methods for the Extended Low-Flow Period Effects on Comal Springs Riffle Beetle (CSRB) (Attachment 6).**

Lauren Loney discussed the literature review and methods of the project. Committee questions about CSRB and its life cycle were answered. Discussion about the lack of information we have for CSRB. Nathan Pence mentioned that the Refugia contract with San Marcos Aquatic Research Center (SMARC) will look at the life cycle of the CSRB. The committee had a discussion about the questions being asked in the study. Primary importance of this study was to measure mortality. Secondary information will be the specific behavior connected to food and flow.

**8. Presentation of the revised study methods for the CSRB Baseline Population Estimate (Attachment 7).**

Butch Wekerly discussed occupancy estimators for more appropriate counting of species that are there but are not counted. The population count will take place in areas known to inhabit beetles. Chad Norris would like to see more areas sampled, including Spring Run 4 & 5 and possibly deeper areas among Landa Lake. Chad would not limit sampling by not using areas previous assumed to be absent. Chad Norris and Dr. Arsuffi discussed the 60 micron bag idea and it being too small to be colonized. It may be worth thinking about a secondary way of collecting.

**9. Presentation of the Applied Research Process for 2015 (Attachment 8).**

EAHCP staff summarized the process. The projects were given a high, medium, and low rating from each of the committee members. These ratings were assigned points of 3, 2, and 1 to quantify their importance. From this exercise a clear distinction between projects seen as most important to the Science Committee were provided.

**10. Presentation and prioritization of potential 2015 Applied Research projects based on current need for the Ecological Model (Attachment 9).**

Chad Norris discussed the possibility of morphing the spring connectivity and CSRB but it may be more important to simply replace it with something else. A discussion about differences in interpreting Algae Dynamics took place. Charlie Krietler discussed the lack of Hydrological studies in 2015 Applied Research Study proposals. Nathan Pence spoke about the lack of Hydrological studies built into the HCP and how staff will be looking into different possibilities. The purpose in building the model and updating the other model was to appropriately determine the solution for Phase II decisions.

The Science Committee generally agreed with how the projects had been ordered.

**11. Presentation from HDR of “Bottom up Package” of minimum springflow evaluation of water management programs and alterations adopted by EARIP Steering Committee.**

HDR presented an overview of the model adopted for the EARIP Steering Committee. A discussion about stage I-IV and stage V changes and what it would require for adjustment.

How does population increase and pumping increases affect the “drought of record” or one more sever? A discussion about how the Edwards Aquifer Authority (EAA) - Aquifer Storage and Recovery program (ASR) and the San Antonio Water System (SAWS) – ASR program. There was discussion on the program differences and interactions with each other.. Additionally, questions on how the Voluntary Irrigation Suspension Program Option (VISPO) affects ASR numbers were expressed.

**12. Update and review of the Science Committee by-laws (Attachment 10)**

Charlie Krietler mentioned that he will be absent for three months during the summer. Butch motioned to approve the by-laws, Mr. Mace seconded. There were no objections.

**13. Consider future meeting dates and locations.**

The next Science Committee meeting has been scheduled for Thursday, May 8<sup>th</sup>.

**14. Questions from the public.**

**15. Adjourn**