



MARCH 29, 2016 MEETING MINUTES

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As requested by the Edwards Aquifer Habitat Conservation Plan (EAHCP) Implementing Committee, the 2016 EAHCP Biological Monitoring Program Work Group (BioWG) and the 2016 EAHCP Expanded Water Quality Monitoring Program Work Group (WQWG) have been formed to produce final reports for review by the Implementing Committee providing their assessment of recommendations made for each of the EAHCP Monitoring Programs. The Work Groups are comprised of representatives from throughout the Edwards Aquifer Region. The second meeting for the **Biological Monitoring Work Group** was held **Tuesday, March 29, 2016, at 1 p.m. at the San Marcos Activity Center (Room 1), 501 E. Hopkins, San Marcos, Texas 78666**. The following members of the BioWG were present: Tyson Broad (Texas Tech University), Mark Enders (City of New Braunfels), Rick Illgner (Edwards Aquifer Authority), and Doyle Mosier (EAHCP Science Committee). Jacquelyn Duke (EAHCP Science Committee/Baylor University) was not in attendance.

At this meeting, the following business was considered by the Work Group.

1. Call to Order.
1:10 p.m.
2. Public Comment.
No comment or questions.
3. Recap of Work Group Meeting #1.
Rebecca Leonard provided an overview of activities and outcomes from Meeting #1.
4. Review and achieve consensus on revised basic operational principles and guidelines.
*Rebecca Leonard presented how the basic operational principles and guidelines were revised based on Meeting #1 discussions. Rick Illgner requested that "Does it enable long term trends?" be revised to: "Does it enable long term trend analysis?" **Meeting facilitators are to revise basic operational principles and guidelines to address this request.** Tyson Broad asked if being "budget neutral" is required by the group's charge. Nathan Pence clarified that it is not a required charge. Doyle Mosier stated that there is a limited source of money. Steve Raabe stated that the budget is a reality that will have to be considered. Tyson Broad stated that he would not like budget to be a limiting factor. He fears that important recommendations could be removed because funding is yet unavailable. Nathan Pence clarified that HCP staff is recording all of the Work Group recommendations; even those prioritized out due to budget constraints or other considerations. The Work Group unanimously approved the operational guidelines.*

5. Presentation and discussion of draft modifications to the Scope of Work for the EAHCP Biological Monitoring Program.
*Nathan Pence provided an overview of the background and work to date in creating the Biological Monitoring Program. It is a mature program. As such, HCP staff members are proposing minimal changes to the Biological Monitoring Scope of Work. The first change is modifying macroinvertebrate food source monitoring. HCP staff recommended substituting rapid bio assessment. Tyson Broad asked what is being done now. Ed Oborny (BIO-WEST) stated that vegetation-specific sampling is being conducted for seven species in the Comal system and six species in the San Marcos system (triplicate samples per system on each vegetation type). This is quite expensive. Doyle Mosier stated that the benefit of rapid bioassessment is that it allows you to sample a large area and provides an example of how these samples work in the field. Rapid bioassessment is effective, and TPWD has spent years developing it. Bob Hall stated that Option 2 will be more expensive than Option 1. Rick Illgner asked why Option 2 is being discussed, if Option 1 is more economical. Nathan Pence stated that HCP staff wanted to provide multiple options for the Work Group's discussion. Both options also represent potential cost savings from current practices, although Option 1 is more of a cost savings than Option 2. The Work Group requested that the second bullet point on the "Proposed Changes to Bio Monitoring Rapid Bioassessment" slide be changed to **include the verbiage "most economical methods."** Also, **include "clarify and simplify the number of reaches."** Meeting facilitators are to reformat the slide, so that the group can come to consensus on the wording at the next meeting. Nathan Pence asked the group if there is any additional information that they need to consider the Scope of Work modifications. Tyson Broad stated that the Work Group's charge is also to consider the National Academy of Sciences (NAS) recommendations. The Work Group agreed to hold discussion until they have received the NAS recommendations presentation.*
6. Presentation and discussion of National Academy of Sciences (NAS) recommendations.
*Nathan Pence provided an overview of recommendations from the NAS Report 1 for the EAHCP Biological Monitoring Program. HCP staff recommended continuing to utilize Intensive Study Reaches. In reviewing the NAS Report, HCP staff did not find reason to scale results to the entire spring system. Tyson Broad stated that the Work Group's focus is on compliance with the take permit, however, down the road, answering system-wide questions may prove beneficial. Rick Illgner shared a different perspective. He feels the use of adaptive management strategies should be to fix a specific problem identified through data, not just to do things differently. Doyle Mosier stated that rapid bioassessment is great for sampling vegetation, but it's less useful for sampling riffle beetles. They require specialized sampling. HCP agreed with NAS recommendations regarding the Cotton-lure. Looking at invertebrates would be a special study of the Applied Research Group. Does the Work Group have any strategies that are missing from the list? San Marcos is conducting PPCP study. Nathan Pence provided an overview of strategies discussed in Water Quality Work Group that may overlap with the Biological Monitoring Work Group, such as personal care products, and fish tissue sampling. A future joint meeting between Work Groups will focus on how to create synergies between the programs. Are there items that staff is missing that should be added to the list? **Tyson Broad is to share an article with HCP staff regarding the effects of hand sanitizer on water quality. No further comments or objections to the approach as written. The Work Group unanimously approves the inclusion of EAHCP staff recommendations for the draft report.***
7. Presentation and discussion of the Draft Report.
Rebecca Leonard presented a draft of the Work Group's final report. No additional comments.
8. Consider future meetings, dates, locations, and agendas.
Doyle Mosier requests that the April 27 meeting be extended to its full duration. The Work

Group agrees to meet from noon to 3:00 p.m., to be held at the Dunbar Recreation Center, 801 W. MLK, San Marcos, TX 78666.

9. Questions and comments from the public.
*Ken Diehl asks if there are ongoing efforts for gill species. Ed Oborny states that parasite monitoring is done by New Braunfels. **Each Work Group member is to email HCP staff any other articles about threats they may be aware of so that we can address and discuss at next meeting. HCP staff is to share with Doyle Mosier the recent report reviewing the NAS report.***
10. Adjourn.
2:52