



NOTICE OF OPEN MEETING

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MINUTES

As requested by the EAHCP Implementing Committee, the **Applied Research Work Group** has been formed to recommend a holistic Applied Research Project Schedule that will take into account all possible research necessary to better understand our Covered Species in order to achieve the EAHCP's Biological Goals and Objectives. The Applied Research Work Group is comprised of representatives from throughout the Edwards Aquifer Region. A meeting of this Work Group for the Edwards Aquifer Habitat Conservation Plan Program is scheduled for **Friday, September 25, 2015, at 9 a.m. at the Dunbar Recreation Center, 801 Martin Luther King Drive, San Marcos, Texas 78666**. Lunch will not be provided; the meeting is expected to end before lunchtime. Please RSVP to dlarge@edwardsaquifer.org.

Members of this Work Group include Tom Arsuffi (Texas Tech University), Janis Bush (The University of Texas at San Antonio), Bob Hall (Edwards Aquifer Authority), Chad Norris (Texas Parks & Wildlife Department), and Ken Ostrand (San Marcos Aquatic Resource Center).

All members were present.

At this meeting, the following business may be considered and recommended for Work Group action:

1. Call to Order.
9:05 a.m.
2. Public Comment.
Mr. Steven Bereyso explained that he may need to take personal calls during the meeting. He apologized for the inconvenience, and for the interruption this may cause.
3. Approval of Minutes (Attachment 1).
The minutes were approved without discussion.
4. Program Manager Update:
 - Draft Applied Research Work Group Report (Attachment 2)
Mr. Bob Hall requested for the report to be revised to state "all currently identifiable research" rather than "all possible research." Staff will circulate a Word file copy of the draft report for the Work Group's input.
 - Updated Workgroup Timeline & Strategy (Attachment 3)
No discussion.
5. Presentation of Applied Research categories (Attachment 4).
Applied Research Categories

ATTACHMENT 1

- *Recommended to rephrase “Quantitative sampling methods” to “Standard sampling methods;” also recommended to rephrase “Habitat quality” as “Habitat quality and requirements.”*
- *Dr. Arsuffi recommends reviewing literature for precedents related to data management. Staff will follow-up with him concerning an article he found discussing data management issues similar to those faced by EAHCP.*

Categories Not Fitting

- *Regarding reaches, point made that study reaches may not link up with Species issues. Also, only if species’ distribution extends beyond reaches may there be some merit to extrapolating to greater segments of the system. Arsuffi states reaches cannot be extrapolated unless done as stratified random sampling.*
 - *For bio monitoring, Arsuffi suggests additional locations for sampling to be replicated might be worthwhile to identify whether restoration is having “trickle down” effects in non-restored parts of the system.*
 - *Dr. Ostrand emphasized that it will be extremely important to confirm links between water quality and stream species—without that direct link, people will continue to throw stones at glass house.*
 - *No comments on “Eco-model” or “Basic biology...” categories.*
6. Presentation of revised EAHCP Applied Research Project Schedule (Attachments 5 and 6).
No discussion.
7. Presentation of Applied Research Project Matrix (Attachment 7).
Presented project matrix; group discussed each category and particular focuses for each.
- *Gill parasite is not a huge focus right now. Parasites are not as detrimental to species as once thought.*
 - *TWR enhancement program is doing well. Chad asked whether we know which plants have been planted vs. gardened, etc. Nathan replied that we do have GIS data on planted species. Ken Ostrand commented on the long-term research that other agencies are doing with TWR. The goal is to maintain genetic diversity. Ostrand mentioned the increase of surface area of TWR. There are still differences in mapping methods. Either way, there is a positive trend.*
 - *Access points...Chad stated the need to continue to watch construction impacts to TWR. Wants construction to be completed and done. Ostrand asked what the goal for the species was in relation to the access points. Nathan answered that we want to remove the impacts to the banks caused by recreation.*
 - *Sessom’s Creek sand bar removal...Nathan felt it was important to evaluate the effects of the removal of the sand bar. Sand bar is still coming back. Upstream causes need to be addressed. No consensus on why it had to be done. Not sure that the money spent was worth the benefit to the species.*
 - *Non-native removal...lots of things to consider. Arsuffi wondered if TWR or other species expanding or improving due to other habitat restoration projects.*
 - *Mgmt. of public recreation...Nathan stated that existing mapping probably picked up impact to SSAs. Chad asked how we are demonstrating improvement since mapping did not take place prior to HCP?*
 - *Invasive animal removal...lots of positive impacts to species removal. Ostrand suggested modeling effort to measure impacts to native spp. Arsuffi said that each species will react differently to improvements. Suggested determining thresholds that are fixed or capped.*
 - *Control on non-native plant spp...Nathan felt that those spp are monitored thru existing programs*
 - *Riparian restoration...difficult to measure. Chad stated that western shoreline is very difficult to improve due to existing habitat. Nathan asked about other measures (e.g., terracing,*

ATTACHMENT 1

- sediment traps, watering, etc.) Arsuffi cautioned against comparing western shoreline riparian system against other systems. Not all are the same.*
- *Litter and floating veg...no response.*
 - *Mgmt. of golf course...really related to water quality and runoff, etc.*
 - *Sediment removal...definitely yes to evaluate success. Arsuffi again cautioned against the issue of natural runoff vs. anthropogenic sediment increases.*
 - *Quantitative sampling or standard sampling methods...need to do it for CPRB, not for Gambusia or non-listed spp. At some point it's important to do it for all species, but right now would focus on listed first.*
 - *Ostrand wanted to know the goal...Nathan related existing goals. HCP doesn't require physical numbers. Arsuffi questioned the take estimate vs. populations. Feels that take is or should be based on population estimates. HCP doesn't have a pop. metric requirement. Discussion followed. Norris felt that some invertebrates could be "clumped" together in pop estimates. Ostrand disagreed. Bob Hall asked that collection of Comal or SM salamanders is known, but not much is known about blind salamanders. Need categories and which spp need to be worked on. SC can assist in furthering the sampling methods.*
 - *Habitat quality...maybe we need to determine the criteria that defines habitat quality. Need to create habitat for each spp using things like temp, DO, flow rate, etc. Some spp are well known, but still a lot of gaps in data.*
 - *Data analysis...funds dependent. Need to prioritize, especially for listed spp. Long-term trend analysis is needed.*
 - *Arsuffi wanted categories... long-term and short-term analysis of specific questions. Ostrand wanted to address standard methods. Is sampling method effective or not?*
 - *Arsuffi – mentioned control or reference sites. Difficult to find a reference site that hasn't been manipulated. Ostrand mentioned a stat method called BACI to use when there is no define control. Norris wants to study spring runs. Ostrand commented that riffle beetle still the priority research spp.*
 - *Nathan summarized what would be provided to the group.*
8. Identify what additional stakeholder and/or expert input (e.g., agencies, committees, permittees) is desired to be solicited for informing Work Group proceedings.
- *Weston Nowlin, Randy Gibson, and Ed Oborny were mentioned as experts to consult regarding riffle beetle research; however, Dr. Arsuffi suggested it may be inappropriate to tap Nowlin or Oborny due to conflicts of interest as they are contractors.*
 - *Arsuffi would like to obtain a report by Cindy Loeffler regarding the NAS Recommendations Review Work Group's recommendations. Nathan offers presentation on NAS RRWG instead.*
 - *Andy Gluesenkamp suggested (salamanders); discussion followed.*
 - *Group will evaluate spreadsheet and send suggestions to Nathan, who will then later be invited to answer questions. Asks group to e-mail specific questions they wish to ask which experts before next time.*
9. Future agenda items.
- Discuss possible Applied Research projects
 - Receive input from experts
- Dr. Ostrand stated he did not think it would be appropriate to invite outside experts until the fourth meeting to ask questions about specific projects.*
10. Questions and comments from the public.
- None.*
11. Adjourn. - 11:39 a.m.