

MEMORANDUM

To: EARIP Steering Committee Members and Stakeholders

From: Robert L. Gulley
Program Manager

Date: June 23, 2010

Subject: **Background for Items 2-5, 6-9 in Agenda for June 29-30, 2010 EARIP Meeting**

At the June 29 and 30 meeting, the EARIP will continue to discuss issues related to getting water to the species during a severe drought such as the drought of record and begin to discuss issues related to the Endangered Species Act and the development of the Habitat Conservation Plan (“HCP”). This memorandum provides background information for the issues we will be addressing related to getting water to the species when the species need it (Agenda Items 2-5, 6-9).

Attachment 2A discusses issues we will be discussing related to the Endangered Species Act and the development of the HCP (Agenda Items 11-12, 14-16, 18-19).

COVERED ACTIVITIES – How Do We Get Water to the Species When the Species Need It?

1. Reports from Dr. Hardy and HDR, Agenda Items 2-4

Much of the morning on June 29, 2010 will be spent receiving reports from Dr. Hardy and HDR. Dr. Hardy will report on his determination regarding the initial flow numbers that he will use in his modeling. HDR will report to us on the scale optimization runs and assumptions it intends to use for each of the programs that we agreed to have analyzed on June 15. HDR will also report on how it intends to proceed with respect to the Drought 1 and 2 issue.

As these are issues we have asked the consultants to resolve, we will not need to make any decisions, but we need to be sure we understand the approaches Dr. Hardy and HDR will use.

2. Mitigation and Restoration Measures, Agenda Item 7

We need to reach a decision at this meeting on a list of mitigation and restoration assumptions to be used by Dr. Hardy in his modeling. In addition, we need to get cost estimates on some of the measures. Any decision on the measures will only be an interim decision. I assume that we will finalize the list at the end of the summer when we make decisions on the covered activities.

In order to receive an Incidental Take Permit, the ESA requires the applicant to “minimize and mitigate the impacts” of any take that is authorized “to the maximum extent practicable.” 16 U.S.C. § 1539(a)(2)(B)(ii). The mitigation and restoration measures are important to the EARIP in at least two other ways. First, because these measures will increase the viability of the species, they can improve the likelihood of their survival during extreme drought. Thus, as we have discussed before, such measures can decrease the risk to the species and perhaps support lower flow requirements. Second, the early implementation of a robust suite of such measures will be essential for ensuring that the species will not be jeopardized until any engineered solution can be implemented.

I suggest that we use three sources to put together the initial list of assumptions. First, at our April meeting in Schertz, we decided to accept the recommendations of the Ecosystem Restoration Subcommittee with respect to highest priority mitigation measures. Agenda Attachment 3. The Subcommittee recommended that we consider adding other high priority measures. We touched very briefly on such measures but did not reach any decision as to what those measures should be.

Subsequently, the Ecosystem Restoration Subcommittee came up with a recommended list of additional high priority items. Agenda Attachment 4. However, because of time constraints, it has not been possible for Nathan Pence to present those measures to the EARIP. This list would provide the second source for the list of initial assumptions.

Third, in San Marcos, Ed Oborny introduced a list of “Major Assumptions” that he believed were essential for any flow regime used in the HCP.¹ This list included the following mitigation measures:

- Water quality of the spring flow will have the same chemistry and biological components as Edwards Aquifer water.
- Mitigation activities will control (not eliminate) exotic plant and animal species including the gill parasite.
- Recreational impacts to species will be addressed and managed to limit impact.
- Intensive Management Areas (“IMAs”) are in place on both the Comal and San Marcos systems.
- The IMA will be established in advance in preparation for severe drought and will include a total coverage of wild rice approximately 1,000 meters squared.
- Flow split between the new and old channels at Comal will be part of the management strategy.

This list overlaps with the measures on the other lists. I will try to have a combined list of the potential mitigation assumptions for distribution before the meeting.

¹ Oborny PowerPoint, Slides 18 and 19
http://earip.tamu.edu/EARIPMeetings/May1810/Drought_Regime_EARIP_May_2010.pdf.

I believe we are generally in agreement with the measures on the three lists with the possible exception of the use of Intensive Management Areas (“IMA’s”). The IMAs are intended to address two concerns: (1) it provides the ability to explore low and high flow responses of the endangered species and their habitats in order to better inform future adaptive management decisions; and (2) it provides the ability to maintain habitat and endangered species within the river systems themselves under severely reduced discharge conditions. IMAs may be particularly important with respect to the second function because FWS currently cannot raise the invertebrate species the San Marcos National Fish Hatchery & Technology Center.

I recognize, however, that concern exists that the availability of IMAs as refugia might affect the management strategy for the aquifer. I am personally of the opinion that the use of refugia as a substitute for a protective management strategy would be inconsistent with FWS policy. FWS guidance on controlled propagation makes clear that refugia are intended to be used as “safety nets” not as “a substitute for addressing factors responsible for an endangered or threatened species’ decline.” 65 Fed. Reg. 56,916, 56,919 (Sept. 20, 2000). Regardless, if the principal concern is that the IMAs would be used to influence future aquifer management, we simply make clear that the use of IMA’s as refugia is limited only to providing a safety net for the species during periods of low flow in the event that other strategies prove not to be as protective as we assume they will be.

Thus, I suggest using all of the combined elements from the three lists described above for our mitigation assumptions for Dr. Hardy’s work making clear that the use of IMAs as refugia is only intended to provide a safety net for the species during periods of low flow. In addition, I suggest we ask the Ecosystem Restoration Subcommittee, working with Bio-West to get cost estimates on some of the measures. Finally, I suggest that we agree to finalize the list of the mitigation and restoration measures at the end of the summer when we make decisions on the covered activities.

3. Pilot Study Regarding Snail Control, Agenda Item 8

One of the more significant measures for mitigating the effects of low flows involves controlling gill parasites. The primary concern is that these parasites may flourish during periods of low flow and, thus, affect the viability of the fountain darter. Uncertainty with respect to the ability to control this parasite is likely to be an important consideration by FWS in evaluating any proposed flow regime. The Ecosystem Restoration Subcommittee determined that the efficacy of mitigation measures to control required further study. *See* Agenda Attachment 3.

You will recall that I put together a small group Mike Montaine, Tom Brandt, and Kevin Connally from FWS, Ed Oborny, Nathan Pence, and Ken Diehl to propose an approach for determining the efficacy of measures to address the gill parasite problem. They believe that

control of this parasite is probably best accomplished by controlling the snail that is the intermediate host for the parasite. They are in the process of coming up with a limited pilot study to evaluate the efficacy of dredging hot spots where the snails are concentrated as a mechanism to control the parasite.

The proposed study will cost approximately \$40,000. I expect the proposal will be ready for distribution at the June 29-30 meeting.

The study may need to be delayed to evaluate whether sufficient hot spots remain after the recent flood event in New Braunfels. Based on a visual survey, FWS believes that sufficient hotspots remain for the study to go forward. Bio-West has a team sampling through next Wednesday and will have the results soon. Ed Oborny's initial impression is that there will be enough hotspots left that the study can be conducted this summer.

I recommend that the EARIP put together a small work group (Steve Raabe, Rick Illgner, and Cindy Loeffler plus two "volunteers") to evaluate and make recommendations regarding the proposal when it is ready and the effects of the flood event on the hot spots are known. If we want to go forward with study, we need to begin the process immediately. If we were to approve the study in July, the earliest that the study could be started would be very late summer because of the time needed to get all of the contracts put in place. If the study is started in the late summer, it could be completed and the results available in the late fall in time to be included in the HCP as a mitigation measure.

We currently have approximately \$250,000 remaining in the legislative appropriation to TWDB that could be used to fund the pilot study. As a general matter, I do not recommend using any of the remaining TWDB money until we know what additional work will be needed to firm up the covered activities. However, I believe that this project deserves your consideration because it may be necessary to give FWS confidence that we will be able to mitigate the effects of the gill parasite problem.

The remaining "covered activities" items on the Agenda (Items 5 and 9) are largely informational and self explanatory.