ATTACHMENT 4

Report of the Biological Modeling Workgroup

Background

As directed by the Steering Committee, the Program Manager requested USGS to develop by May 23, 2008, a brief scope of work and cost estimate for review by the Biological Modeling Workgroup and EARIP. The requested scope of work would outline the specific steps that could be completed by March 31, 2009, to develop the biological analysis necessary for FWS to make the "take" and "jeopardy" determination for the fountain darter at both the San Marcos and Comal Springs and the "jeopardy" determination for Texas Wild Rice.

On May 14, 2008, George Ozuna notified Robert Gulley that USGS would not be able to submit the requested proposal because its other commitments would not allow it to dedicate the full-time effort that would be required to complete any significant work by that time.

On May 16, Robert Gulley spoke with Adam Zerrenner and Joy Nicholopoulis, and George Ozuna regarding USGS's decision not to submit a scope of work. George Ozuna explained that key personnel would not be available until later in the year, possibly December to begin that work. In addition, Joy made it clear that FWS requires that USGS does the project and would not allow a project to be started by someone else and handed over to USGS at a later date. Robert emphasized that the EARIP needed to begin the process immediately to stay on track with the requirements of S.B. 3. After some discussion, Joy agreed to consider allowing the EARIP to use someone like Thom Hardy, in collaboration with other scientists, to develop the biology information and prepare an influence diagram so long as USGS had project oversight, participated in the process, and subsequently assumed the primary role. She agreed that FWS and USGS would talk to Jean Cochrane and her supervisor, Mike Runge, to see if this approach was acceptable.

On May 27, 2007, Joy Nicholopoulos, Adam Zerrenner, and George Ozuna called Robert Potts and told him that FWS wants USGS take full responsibility from the outset for developing the biological modeling. FWS believes that this approach is necessary to enable FWS to have confidence in the study results. In addition, Joy is willing to go to Senator Hegar to explain why FWS believes it is necessary to extend the S.B. 3 deadlines to allow this process to occur. Lastly, FWS does not have the funds to pay for USGS's work but will support our efforts to get federal grants to defray some of the costs. At Potts' suggestion, Joy will make a presentation to the EARIP on June 12 explaining FWS's position and answering any questions from the group.

Biological Modeling Workgroup Meeting on May 28, 2008

George Ozuna attended the workgroup meeting on May 28. In response to questions from the attendees, he provided the following information regarding the USGS's biological modeling work.

- He anticipates that the work could begin in October or November as Jean Cochrane becomes available. By July, USGS would set out the process that would be followed and provide a cost estimate.

- It would be late spring 2009 before the process started considering the biology. The winter/spring would be spent in establishing the basis for the Structured Decision Making (SDM) process - defining goals and objectives.
- The work will probably take two-to-three years to complete.

In addition, George estimates that it will probably be about two years before we have enough information from the work for the expert science subcommittee to use in addressing the (j) criteria (related to withdrawal reduction levels and critical period management) and for the EARIP to use in developing a specific proposal for action. He was not prepared even to estimate how much the project would cost. When asked whether it would eat up a good chunk of a § 6 grant for $1 million, George said "probably".

The workgroup also discussed a conceptual proposal from Dr. Thom Hardy to develop biological information that could provide a basis for the FWS to make the jeopardy and take determination. Dr. Hardy is currently Director of the Institute for Natural Systems Engineering (INSE) and Associate Director of the Utah Water Research Laboratory at Utah State University, and the principal author on two studies on the impacts of in-stream flows on the fountain darter at Comal and San Marcos Springs and the fountain darter at Comal Springs. Dr. Hardy is currently in discussions with Texas State University and TWPD to move to Texas State University. He recently spent a year at Texas State. Our possible use of Dr. Hardy for this work would be independent of the results of those discussions.

Dr. Hardy proposes to update and extend the conceptual model he used previously for the Comal and San Marcos Springs and to incorporate all of the new data such as that developed by Ed Oborny, with BIO-WEST. His analysis would cover the fountain darter, Texas wild rice and the riffle beetle. Dr. Hardy would use a team of technical experts including persons such as Tom Brandt from the USFWS, Ken Saunders and Jackie Poole from TPWD, Dr. Timothy Bonner from Texas State, and Dr. Miguel Mora and perhaps one other scientist from Texas A&M. Dr. Hardy estimates that this project can be completed by September 2009 if the work begins by early July. He characterized that estimate as “reasonable and pragmatic” but indicated that the schedule would be highly dependent on the availability of the technical team. Dr. Hardy is in the process of developing a cost estimate for this work. We would have to pay for Dr. Hardy’s time and that of the other university scientists’ time and at least a portion of Mr. Oborny’s time. Based on a discussion between Dr. Gulley and Dr. Hardy, the cost of Dr. Hardy’s time, which would make up the bulk of the project cost, is likely to be less than $120,000.[1] George Ozuna guessed that USGS’s oversight of the Hardy process, in order to maximize the potential for the USGS to get information that it could use, would cost somewhere between $10 and $50K.

Suggested Action

The Biological Modeling Workgroup determined that it did not have sufficient information to formulate a specific recommendation for the EARIP. More information is needed regarding the

[1] Subsequent to the meeting, at the request of the Workgroup, the Project Manager obtained rough estimates of the cost of the university scientists ($32,500) and Ed Oborny ($25,000).

proposal by Dr. Hardy as well as firm cost estimates. In addition, more information is needed regarding the openness of FWS to the use of the information developed from the Hardy process.

In the absence of a full recommendation, the Biological Modeling Workgroup recommends that following steps and considerations.

The presentation by Joy Nicholopoulos to the full RIP on June 12 will be critically important for achieving a better understanding of the implications of the various options. FWS is responsible for making the decisions on "take" and "jeopardy" issues, and we need a process that will provide information that might be used in those decision processes.

The Workgroup has concerns that waiting for the development of the SDM biological model will result in significant delay both in the Expert Science Subcommittee's work on the important (j) charges and on the development of a proposed action by the EARIP. Those delays likely would result in missing the S.B. 3 deadlines. An effort to extend the deadlines likely would be contentious and could threaten the ultimate potential for the success of the EARIP process.

Accordingly, the Workgroup suggests that the EARIP consider attempting to get FWS agree to a process that would rely on Dr. Hardy and other scientists to develop biological information that would allow the EARIP to proceed with its obligations under S.B. 3 and that could provide useful input to the SDM biological modeling that FWS wants the EARIP to employ to assist FWS in making the "jeopardy" and "take" determinations.

Dr. Hardy's work would be done with the oversight of the USGS, including coordination to maximize the likelihood that the information is compatible with future work on the biological model by USGS. The EARIP would retain USGS to develop the model and begin the initial SDM work when USGS is prepared to proceed. If USGS begins the SDM process at the beginning of 2009, under George Ozuna's projected schedule, the model should be available by early 2012 when FWS needs it to prepare its biological opinion on any proposed action by the EARIP.