

ATTACHMENT 4

Update on USGS Collaboration with Dr. Thom Hardy Jean Cochrane December 2008

On 16-17 December 2008, Dr. Thom Hardy met with Dr. Jean Cochrane to begin discussing how modeling of endangered species populations will be designed and conducted to help support FWS regulatory decision making in addition to EARIP critical flow analysis. They discussed a wide range of issues involved with 'getting started' on a major modeling effort with numerous partners, such as: how to approach development of the biological models (planned initially for Texas wild-rice, fountain darter and Comal Springs riffle beetle); how to design models specifically to investigate key management questions (e.g., avoiding jeopardy, critical flow identification, or species recovery); and the extent to which existing models and relevant data are available for the modeling team's use.

The first step for the biological modeling project is to develop the species' models in conceptual form that lay out the required modeling outputs (based on the questions that need to be investigated) and the essential biological, environmental and management parameters to represent in the models. The modeling work group will meet in San Marcos during the week of Jan 19, 2009, to develop first prototypes of these conceptual models or 'influence diagrams,' consider various technical issues such as modeling scale and spatial components, and to plan the next steps in model development and data collection. The team's short-term target is to present the prototype influence diagrams and some preliminary model examples at the March EARIP so all stakeholders have the opportunity to see, understand, and provide input into how the models are being developed.