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PRIORITIZING CAVES FOR KARST INVERTEBRATE RECOVERY IN CENTRAL TEXAS

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Abstract

Prioritizing caves known to contain endangered karst invertebrates in central Texas is more challenging than one may think. Here, we outline a strategy to achieve this goal while thinking of what is best for these species including addressing future impacts from climate change, and what works for landowners that are bound to permit restrictions. For example, there are two entities in the Austin, Texas area that hold regional Section 10(a)(1)(B) incidental take permits issued by the U.S. Fish and Wildlife Service. When developing the Habitat Conservation Plan for one of these permits several years ago, they listed several caves that they would either acquire or establish management agreements for. Since that time, they have acquired thousands of acres. Some of the caves listed on their permit occur on these lands. However, there are other newly discovered caves on these lands that contain endangered karst invertebrates that are not listed on their permit. Also, some of the caves that are listed on their permit are surrounded by development. This begs the question of which caves should they focus on for long-term preservation? Should they be limited to what their permit says or take a wider approach and look at what is best for the species while considering new cave discoveries? To answer this question from a species perspective, several aspects of these caves should be assessed including but not limited to the cave depth, cave size, species diversity and abundance, and the amount of development etc. around these preserves. Cave size and depth are important because deeper caves may provide more protection from ambient surface fluctuations in temperature and humidity. This approach should provide a more holistic pathway to long-term karst invertebrate conservation. By assessing what is best for the species and acknowledging new cave discoveries, perhaps minor amendments could be made to 10(a)(1)(B) permits that would provide higher species benefits.

