Greater Edwards Aquifer Alliance

Member Organizations

Alamo Group of the Sierra Club
Aquifer Guardians in Urban Areas
Austin Regional Sierra Club
Bexar Audubon Society
Bexar Green Party
Cibolo Nature Center
Environmental Stewardship Committees of the Episcopal Church of Reconciliation & Episcopal Diocese of West Texas
Environment Texas
First Universalist Unitarian Church of San Antonio
Friends of Canyon Lake
Fuerza Unida
Government Canyon Natural History Association
Hays Community Action Network
Helotes Heritage Association
Hill Country Planning Association
Guardians of Lick Creek
Kendall County Well Owners Association
Kinney County Ground Zero
Medina County Environmental Action Association
Northwest Interstate Coalition of Neighborhoods
Preserve Our Water-Blanco County
San Antonio Conservation Society
San Geronimo Valley Alliance
San Geronimo Watershed Alliance
San Marcos Greenbelt Alliance
San Marcos River Foundation
Santuario Sisterfarm
Save Barton Creek Association
Save Our Springs Alliance
Scenic Loop/Boerne Stage Alliance
Sisters of the Divine Providence
Smart Growth San Antonio
SEED Coalition
Texas Water Alliance
Travis County Green Party
West Texas Springs Alliance
Wildlife Rescue
Wimberley Valley Watershed Association

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July 11, 2008

Cyndee Watson
Wildlife Biologist
U.S. Fish and Wildlife Service
10711 Burnet Road, Suite 200
Austin, Texas 78758

RE: COMMENTS ON BEXAR COUNTY KARST INVERTBRATES DRAFT RECOVERY PLAN

Dear Ms. Watson,

We are grateful for the opportunity to submit these comments on the Bexar County Karst Invertebrates Draft Recovery Plan ("Recovery Plan") on behalf of the forty-two member organizations of the Greater Edwards Aquifer Alliance.

We support the expeditious adoption of this Recovery Plan for the nine endangered Bexar County karst invertebrate species in hopes that its implementation will begin as soon as possible. In general, this Recovery Plan makes some solid recommendations that, if followed, offer expert guidance for the recovery of the karst invertebrates. The emphasis on habitat protection in the form of "preserves" is of particular importance given that two of five listed threats to these species involve habitat deterioration (1.5). Indeed, the primary cause of species endangerment in North America is habitat destruction through irreparable damage or complete loss (Hagen and Hodges 2006). Additionally, the prioritizing of recovery actions (4.0) serves as a procedural aid to those entities with the authority to create policies and programs that would implement the Recovery Plan.

While we strongly support the adoption of this Recovery Plan, we have some additional recommendations that we urge the Fish and Wildlife Services (FWS) to incorporate into the Final Draft.

1) In addition to their value as living beings, it should be stated that the endangered karst invertebrates serve as "indicator species" for the overall health of the Edwards Aquifer, the drinking water source for over 1.1 million South Texans. The same risk of contamination from urbanization that threatens the endangered invertebrates also threatens the water quality in the Aquifer. Therefore, protecting these species will have the added advantage of preserving an essential natural resource. This fact should be stated given that many are likely to question why society should allocate scant resources to protect rare, "uncharismatic" cave insects.

(Continued…) Certain species have been used since the early 1900s as surrogates, known as "indicator species", to monitor anthropogenic impacts on the environment (Noss 1990; Carignan and Villard 2001) and, more recently, to evaluate water quality (Carignan and Villard 2001; Niemi and McDonald 2004; Raymond and Curran 2006).

While it is acknowledged that a direct correlation between environmental condition and indicator response (e.g. population loss) can be difficult to ascertain, some studies show that invertebrates are particularly good indicators because they are generally more sensitive to specific changes in their environment than other organisms (Carignan and Villard 2001; US EPA 2007).

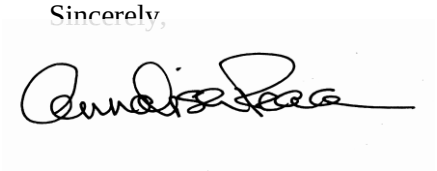
In a review conducted by Carignan and Villard 2001, six criteria are listed for selecting good indicator species. The endangered karst invertebrates fulfill three of the six characteristics listed: they are: 1) "dispersal-limited" in that they are endemic species that fulfill all life functions in a defined area, 2) "resource-limited" in that they require specific identifiable resources for survival (e.g. surface material, trogloxenes, etc.), and 3) "process-limited" in that they depend on identifiable environmental processes (e.g. laminar water flow into caverns, climatic homeostasis, etc.).

2) A limit on impervious cover within the Karst Faunal Regions (KFRs) should be included in the section on Recovery Strategy (2.1). Impervious cover amounts in excess of 10-15% within a watershed are known to increase the volume and velocity of stormwater runoff, which in turn causes erosion and the degradation of water quality as pollutants are flushed off paved areas into surface and groundwater supplies (Beach 2002; Brabec et al. 2002). Within the KFRs, an increased volume of contaminated runoff could potentially enter caves and other features known to contain the endangered karst invertebrates. This change in water quality and quantity associated with increased area urbanization will negatively impact the karst invertebrates that rely on relatively stable environmental conditions.

3) A review of the Recovery Plan should be conducted within the first five years of its adoption in order to evaluate its effectiveness at securing the long-term survival of the karst invertebrates. Given the rate of urbanization in northern Bexar County, significant habitat loss is likely to occur in the coming years, and changes to the Implementation Schedule might be necessary to achieve maximum recovery.

The Greater Edwards Aquifer Alliance thanks the Fish and Wildlife Service for considering our recommendations.

Sincerely,



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Technical Research

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