



Case Study 9

Karst Habitat Restoration in Arkansas

The Ozarks region of Arkansas, Oklahoma, and Missouri is well-known for cold-water springs, sinkholes, caves, and forested hills. These features are made possible by the limestone and dolomite that underpins this region, known as karst geology. Like other valuable natural resources, this water-rich system is threatened by human activity, but the damage is not so obvious. The bellwether of change, like the canary in the coalmine, is the rich variety of underground species (e.g., crayfish, bats, and cavefish) that reside in the caves and underground streams.

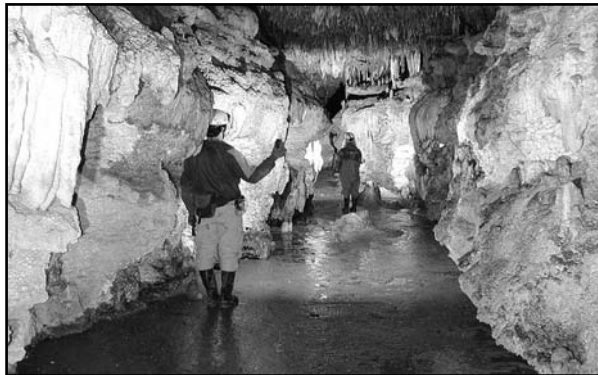


Photo courtesy of, U.S. Fish and Wildlife Service

The Ozarks feature unique karst topography with caves, sinkholes, and springs.

These underground aquatic habitats are threatened by a host of above-ground activities. Nutrients from chicken farms and septic tanks, pollutants from chemical spills, and volatile organics from leaking gas tanks can travel through the fissures in the bedrock and contaminate underground streams within hours of their release. As communities around Fayetteville expand, the effects could be devastating.

The U.S. Fish and Wildlife Service's Arkansas Field Office (FWS) began working on restoring the karst habitat in the northern third of the

state through an outreach campaign that linked citizen health and welfare, groundwater quality, and karst resources. They began by identifying the stakeholders who should be a part of the campaign: private landowners of property containing karst resources, citizens who use karst landscapes, federal and state agencies with karst-related responsibilities, karst geologists elected officials, industry, agriculture, and caving clubs. They also developed a vision for the outreach program, aiming to achieve conservation goals without regulations. Their mission: work cooperatively with others to plan, implement, and monitor karst conservation in the Ozark Plateau.

The FWS team created a name for their effort, aiming for simplicity, memorability, and unique identity: Karst Resources Support Team (KaRST). Their next step was to win administrative support within the FWS at the local, regional, and national levels. A series of presentations, fact sheets, and a bumper sticker were delivered to each participant.

After gaining internal FWS support, project coordinators began talking to other agencies, conservation groups, universities, caving clubs, and private landowners. The basic presentation was modified for each group, emphasizing the ways they could be involved in the program. University scientists learned about funding opportunities for research, biological surveys, and recharge area delineations. When presented to caving clubs, the presentation highlighted how the participants could help with mapping projects. At each presentation participants were asked to join the effort and become a member of the Karst Resources Support Team.

Photo by: David Kampwerth



A number of stakeholders have been organized to help restore and monitor the karst habitat.

Team members were eligible to attend meetings, held throughout the three-state region. Information on karst issues was presented at meetings and groups were encouraged to discuss conservation strategies that could be employed locally. Some teams planned and implemented cave gates, sinkhole cleanup, and habitat restoration on private land. Ideas moved from teams to agencies in proposals for funding. More landowners were invited to participate and provide input. Once funding was available for assistance, the word spread.

Today the program has broadened to include more partners at the state and federal level, including U.S. Forest Service, National Park Service, Missouri Department of Conservation, Arkansas Game and Fish Commission, Oklahoma Department of Wildlife Conservation, Neosho National Fish Hatchery, Speleological Society, The Nature Conservancy, University of Arkansas, Arkansas State University, Arkansas State Parks, Ozark-St. Francis National Forest, and others.

Like most programs, this one was not without its share of challenges. Efforts to compile a regional database to designate high-priority conservation areas were squelched by data-sharing issues. Some partners were reluctant to share data and were uncomfortable with a perceived loss of control. Lack of trust led to the

abandonment of certain projects and reduced the program's overall ability to fulfill its original objectives. Despite these challenges, KaRST continues to serve as an informal, technical-information exchange network.

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