

# Creative Partnerships for Water Quality in Karst Areas

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## Abstract

Partnerships are helpful, if not essential, for karst protection. As the use of such areas is on the rise, particularly in the way of development, increased efforts need to be made to protect it. This can pose a challenge, mainly as those involved may see things differently. However, steps can be taken to help bridge the gap. Education is a valuable tool in this endeavor as it has the potential to assist parties in reaching understandings without feeling threatened. Thus, increasing cooperation, decreasing duplication of effort, and inviting camaraderie. For example, Lindberg has brought many together for their mutual benefit by presenting them with the knowledge they need to understand karst areas and how and why it is important to work together for its, and their, protection. She has found that working with them has produced positive results. Serving as a liaison between area agencies, land trusts, planners, developers, the public, etc., she has helped them see how karst areas function—just because their features may be out of sight, they should not be out of mind. In the City of Bloomington, Indiana, efforts are being made to help all understand the way karst fits into daily life. For example, inter-related programs involving natural (karst) and man-made (storm drain) drainage systems have been developed and are being implemented. They include initiatives with Hoosier Riverwatch, Project Underground, storm drain marking programs, and so on. Viewers will learn not only what is being done but also how to go about doing it.

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Lindberg has brought many together on all levels—federal, state, and local government, businesses, individuals, etc—for their mutual

benefit by presenting them with the knowledge they need to understand karst areas and how and why it is important to work together for its, and their, protection. Not all may see eye-to-eye at first, but a mutual trust can be established, diversity can be an ally. She has found that working *with* them has produced positive results. Just because karst features may be out of sight, they should not be out of mind.

Take for instance the City of Bloomington, Indiana: efforts are being made to help all understand the way karst fits into daily life. For example, inter-related programs involving natural (karst) and man-made (storm drain) drainage systems have been developed and are being implemented. They include initiatives with storm drain marking programs (stenciling and/or placing “buttons” near storm drains with messages such as “Dump no waste, drains to stream”), Hoosier Riverwatch (water quality

monitoring in streams), Project Underground (cave and karst conservation education), Adopt-a-Trail (trail maintenance to alleviate erosion), and so on. These “service-learning” or “citizen scientist” programs give members of the public a chance to get involved in their community while learning about the resources they are protecting. This can create or enhance a feeling of ownership and hence drive to protect the resource; therefore, making ordinances such as those involved in zoning more palatable and more likely to be followed.

Serving on an environmental commission can also help with the karst protection process. Lindberg was appointed to the Bloomington Environmental Commission by the Mayor of the city. Bloomington lies in a transition zone with karst being primarily on the west side. In addition, she now serves on the Commission’s Planning Subcommittee. This committee interfaces directly with the Planning Department. City and state inspectors are involved as well, including an Indiana Department of Natural Resources, Division of Soil Conservation, Storm Water Specialist. All work together in order to review petitions from developers and

make recommendations that ultimately protect karst areas.

Speaking of drainage, a group of local agencies has been put together by Monroe County to work on the Environmental Protection Agency’s Phase II (storm water quality) requirements. This focus group includes the county as well as the City of Bloomington and Indiana University. A committee has been formed to address the educational component—the Storm Water Environmental Education Team (SWEET). It is invaluable for us to work together on these and related efforts. By doing so, we do not duplicate efforts but rather draw upon each other’s strengths to create a whole that is stronger.

The City of Bloomington’s karst conservation and education park, Leonard Springs Nature Park, is used extensively in these efforts. It is a model park for karst, showing visitors a window in karst systems—cave entrances, springs, streams, and the like. For more information on the park, see Lindberg’s NCKMS 1991 and 2001 presentations. The current presentation is an outgrowth of development of the park, a natural evolution.

## City of Bloomington - Planning/Environmental Commission



Other lands, such as the Hoosier National Forest, are also helpful. A karst inventory program has been underway there for the past decade. Much has been learned about karst on the forest and a good partnership has been established. Rare, endangered, and new species have even been discovered. As a result, additional acreage has been purchased and proposed roadways have been steered away from sensitive karst areas. The Indiana karst Conservancy and The Nature Conservancy partnered with the USDA-Forest Service on many of these accomplishments. Awards for the project were received in 1998 (Environmental Protection) and 2003 (For Protecting and Enhancing the Nation's Natural Resource Base). Positive education and outreach such as the above has a positive effect on karst protection.

It is our hope that folks will learn from our positive examples on the local level and use them where applicable on their own areas, wherever they may be. Future presentations and papers will focus not just on what can be done, but how to do it.

It takes many to accomplish what we do. Thanks to everyone that has helped. Special thanks to IKC's Don Ingle and Bob Vandeventer, Ray Sheldon of the Indiana Cave Survey,

and agency partners Steve Grubbs, Josh Campbell, Steve Cotter, Joey Fagan, Lynne Friedmeyer, Sam Frushour, Sharon Hall, Kelle Reynolds, Todd Stevenson, and Carol Zokaites.

### **About the Author**

Kriste Lindberg has been an active member of the caving community since 1992, mainly in the fields of conservation, education, and inter-agency cooperation, having been introduced to it while working with the Chicago Academy of Sciences after receiving BGS and MSED degrees in natural resources. She has served on the Indiana Karst Conservancy board as a Director, Secretary, and President, is currently a Director and Chairman of the Education and Outreach Committee, which she created. She is employed by both the City of Bloomington's Parks and Recreation and Utilities Departments as an Education Specialist, has recently been appointed by the Mayor to serve on Bloomington's Environmental Commission, and has done numerous articles and presentations for cave-related venues, including the NCKMS 1999, 2001, and 2003. In 2002, she received the NSS Conservation Award and was honored as Fellow of the NSS. In 2003, she was elected to the board of Project Underground.