Using a Geographic Information System for Alabama Cave Shrimp Habitat Protection

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Abstract

The endangered Alabama Cave Shrimp (*Palaemonias alabamae*) is known to live in only two cave systems, both in Madison County, Alabama. The shrimp was last seen in the type locale (Shelta Cave) in the early 1970s. This population was presumed to be exterminated by decreasing water quality caused by the use of pesticides in the developing neighborhoods within the watershed. This study focuses on the Hering Cave population because of increasing pressure from development, logging, rural solid waste disposal practices, and agriculture. A Geographic Information System (GIS) model of the Hering Cave watershed integrates data from topographic maps, digital elevation maps, thermography, dye traces, and field studies. The GIS facilitates hydrological and contamination modeling of the area and permits assessment of the hydrological impacts of development and logging. It can also be used to assist modeling impacts of projected development in the watershed.