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# Natural Heritage data links conservation practice benefits to rare, at-risk species

**A** pilot project in Missouri by NatureServe holds promise that existing data sets can be used to assess effects of conservation practices on at-risk species.

While NatureServe researchers found the lack of comprehensive geospatial digital data on conservation practices makes it difficult to quantify practice effects on wildlife, they also found that Natural Heritage data on species occurrence and geospatial models for predicting species distribution show promise in linking conservation practices and at-risk species.

If the Missouri pilot practice-to-species relationships data can be shown to apply nationwide, 89 percent of conservation practices nationwide have positive, neutral, or mixed effects on most land-based wildlife species, and 79 percent have expected positive or neutral effects on most aquatic species.

Many of these species, especially those listed as threatened or endangered, have severely restricted ranges, and their habitat requirements and rarity of occurrence present special challenges in quantifying how and where conservation practices affect them.

The pilot area studied was Spring River Watershed in southwestern Missouri. The most precise of four data sets used to examine terrestrial species occurrence was the Missouri Natural Heritage Program occurrence records.

Georeferenced data on conservation practice locations consisted of digitized common land units (CLUs) containing conservation practices applied from 2002 to 2005. Though many more practices have been applied in Missouri, data from these 4 years were all that were available for spatial analysis.

Results from this pilot indicate that conservation effects assessments could be conducted at watershed, State, regional, and national scales.

However, a primary constraint is the lack of digital data on where practices have been applied on the landscape.

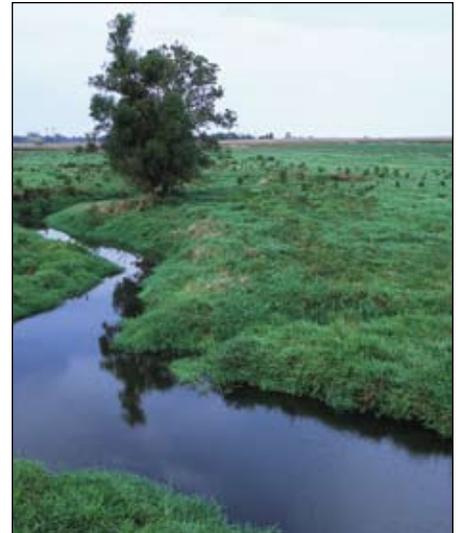
Recommendations for future analyses using the Missouri pilot approach developed include:

- Species-practice matrices should be refined and regionalized to accurately fit the scale of future analyses.
- It is essential to have more comprehensive geospatial data on where conservation practices have been applied on the landscape, along with information on the plant materials used, specifications, management regimes, etc.

This project directly supported the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Conservation Effects Assessment Project (CEAP), a multiagency effort to scientifically quantify the environmental benefits of conservation practices used by private landowners, according to Charlie Rewa, a biologist with the NRCS in Beltsville, Maryland. Rewa facilitated the study for the NRCS.

The work was carried out in cooperation with Missouri NRCS, the Missouri Resource Assessment Partnership at the University of Missouri, and the Missouri Department of Conservation. Funding was provided by the NRCS Agricultural Wildlife Conservation Center (AWCC).

The AWCC is a fish and wildlife technology development center for the NRCS located in Mississippi.



*NRCS photo by Lynn Betts*

**Small stream in pastureland**

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