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K-STATE RESEARCH SHOWING THAT NATIVE ECOSYSTEMS ARE MORE VALUABLE THAN RESTORED ONES COULD INFLUENCE LAND USE POLICY

MANHATTAN — In some communities, getting permission to develop on a wetland can be as easy as creating a new wetland in its place. Research by a Kansas State University professor and a group of graduate students shows that second best may not be good enough for delicate ecosystems.

"Some laws governing wetlands say it's OK to develop as long as there's not a net loss of the ecosystem," said Walter Dodds, K-State professor of biology. "So developers will create an artificial wetland and pave over the old one. But if the two wetlands don't have the same value, maybe the no net-loss policies are somewhat misguided."

The research done by K-State showed that native ecosystems that have been preserved retain more of their economic and social values than habitats that have been restored. A paper on the research appears in the October issue of the journal *Bioscience*.

"I think the most significant finding shows that you should conserve first," Dodds said.

The research began in 2004 with graduate students in Dodds' environmental issues class. Using government surveys and other documents, the researchers looked at how much is left of the United States' native ecosystems and how much has been restored. Dodds said it was the first broad survey of its type.

"A lot of little publications have been done, but it is very scattered literature," he said. "The whole picture wasn't there."

The researchers evaluated the goods and services provided by both native and restored ecosystems. These goods and services included how ecosystems regulate water and take out greenhouse gases, the market value of products like hay or lumber, as well as the value of ecosystems recreationally and aesthetically.

Dodds said the research found that wetlands and grasslands were able to recover their value more quickly than old-growth forests or desert soils that take 100 years or more to become fully restored.

"Overall, natural ecosystems had a higher value," Dodds said. "For instance, people will pay more to go to an old-growth forest than to one that's just been logged."

This research could help paint a clearer picture of conservation, Dodds said, helping decision-makers set conservation policy and helping the public understand its importance.

"Traditionally, ecosystems have not been assigned value in an economic sense but rather in their value to humanity. You can't put it all into dollars and cents," Dodds said. "But our research offers a more specific way to quantify. If people can understand the economic value of ecosystems or understand why their tax dollars go to conserving them, it can affect policy."

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