

Conservation looks good too: Residents say soil-saving fields and valleys are more scenic

February 5 2015, by Seth Truscott



Images show increasing levels of conservation buffers on one of four landscape study sites on the Palouse, a rich but erosive wheat region in eastern Washington State. Residents preferred images with more conservation elements -- trees and shrubs that protect the environment and reduce erosion. Credit: Linda Klein

Researchers know that adding natural buffers to the farm landscape can stop soil from vanishing. Now scientists at Washington State University have found that more buffers are better, both for pleasing the eye and slowing erosion.

Linda Klein, a recent doctoral graduate in WSU's School of the Environment, worked with six other researchers at the university, plus one at the U.S. Department of Agriculture's Moscow (Idaho) Forestry Sciences Laboratory, to explore the role that buffers - strips or clumps of shrubs, trees and [natural vegetation](#) - play in the [landscape](#) and in people's visual preferences.

Klein surveyed Whitman County residents to see if conservation features made for more scenic fields and valleys. She found that residents of the Palouse, a vast and rich farm region in eastern Washington State, prefer more nature with their wheat fields.

The region's rolling hills have some of the highest wheat yields in the world, but they are also prone to erosion. Conservation efforts have helped stop some of the loss, but a mix of factors, including economics, means most farmers haven't adopted broad measures.

Plenty of data exist on the benefits of buffers on the small scale. To find out how they affect wider landscapes, Klein chose four sites along the Palouse Scenic Byway and used [soil erosion](#) modeling to measure how buffers stabilize stream banks, trap pollution and slow erosion.

Results showed that trees and shrubs on hillside drainages - shallow channels between hill slopes - have the greatest potential to slow erosion, compared to buffers along streams or on the steepest slopes.

To gauge visual appeal, Klein used image simulation technology and mailed survey booklets to 1,200 rural and urban residents of Whitman County, home to most of the Palouse. Respondents were asked to rate landscape images, starting with a baseline of mostly monoculture grain fields, then gradually altered to show more buffers - first on stream banks, then adding hill slope drainages and finally adding steep slope vegetation.

Klein found people preferred more buffers in the landscape. However, she found no statistically significant difference between their preference for landscapes with both stream and hill slope buffers - the second highest amount of natural vegetation - and those with buffers added to steep slopes.

"That surprised me a little bit," she said. That might mean that the differences were too subtle, she said: "I wanted the landscape to be realistic. I wasn't turning it into a forest."

Past research shows that people prefer park-like landscapes. Klein suspected respondents would lean that way - in spite of the Palouse landscape's iconic status.

"I did the study in a landscape that's renowned for being beautiful," she said.

One implication of Klein's findings is that visually appealing agricultural land may also be ecologically better.

"By looking at a landscape and seeing these buffers, you could imply the landscape is healthier," she said.

She plans to go deeper into the data, teasing out connections between demographics and scenic preference.

Implications for recreation, wildlife management

Her study could open the door for exploration of buffers in recreation, agrotourism and wildlife habitat. Research farms and landowners could put findings to work in the real world, spurring increased conservation efforts.

"Agricultural sustainability is not only providing food to feed people, but also protecting the resources we depend on to produce the food: the soil, the water," Klein said.

However, buffers are not a magic bullet, she added.

"Even with all three buffers in place, we still have erosion in excess of what's considered sustainable," Klein said. "Buffers are never intended as the sole conservation practice. They're tools in the tool box."

Provided by Washington State University

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