

THE IMPACT OF PRAIRIE STRIPS: MORE THAN JUST “MORE”

STRIPS* researchers calculated average values for surface water runoff, soil, nitrogen and phosphorus export off field sites cropped entirely in corn (on left), compared to field sites enhanced with 10 percent prairie strips (right).

They also measured various indicators of biodiversity, including plant and bird species and abundance. This *infographic* compares the average values for both types of fields.

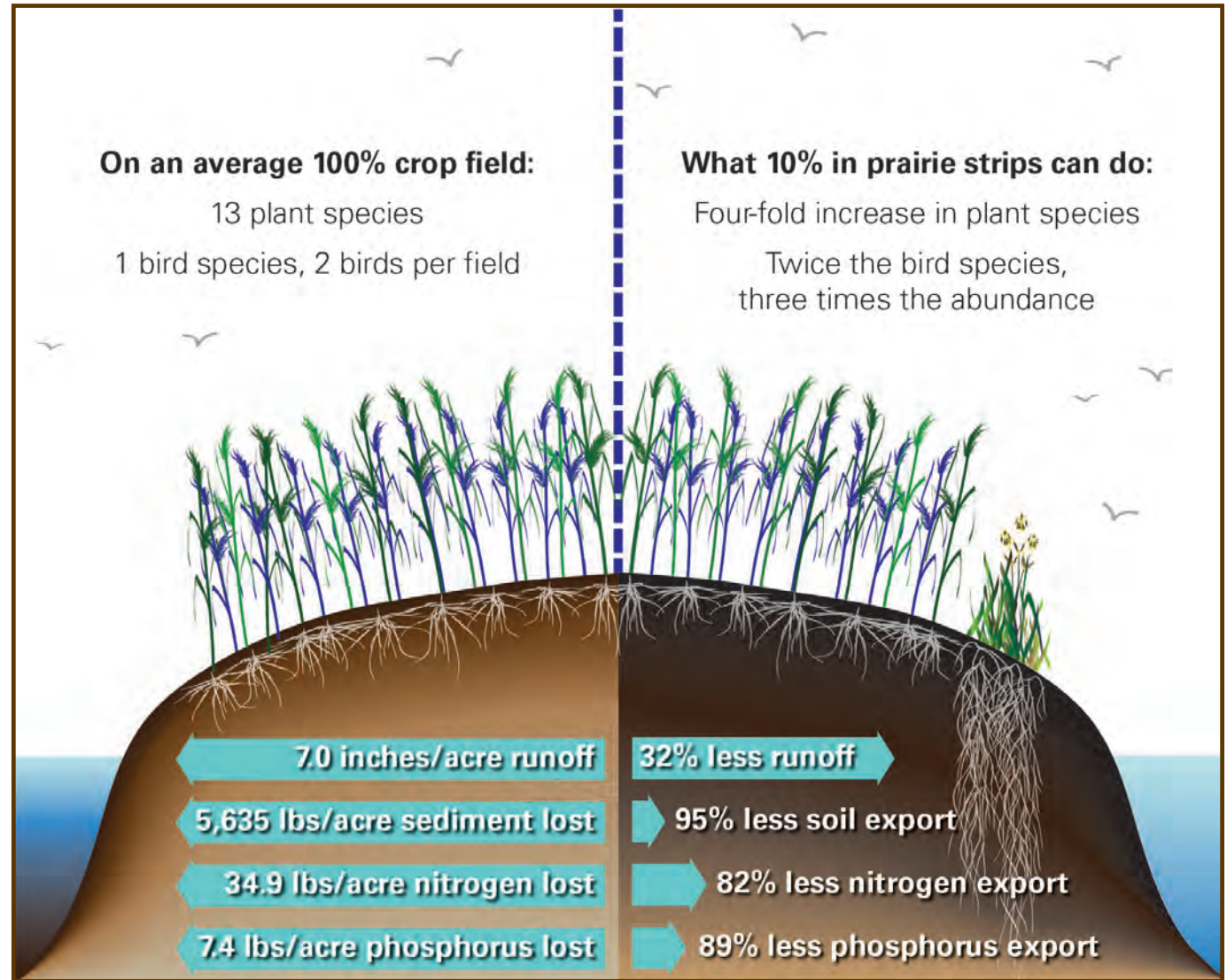
On a 100 percent row-cropped field, each arrow illustrates average export values off the field into waterways. A field planted entirely in crops is “leaky,” losing much of its natural resources through erosion. It also has little ecological diversity.

On a field with 10 percent in prairie, all biological and environmental indicators measured by the STRIPS team showed improvement. The lengths of the arrows are proportional to the measured improvements in natural resource retention on the field.

Apart from the 10 percent taken out of crop production, there is no appreciable loss of crop yield on the rest of the field. A field enhanced with prairie strips also shows increases in biodiversity. A diverse ecosystem is better able to withstand climate extremes and other variables.

*Science-based Trials of Row-crops Integrated with Prairie Strips

This document adapted from *Small Changes, Big Impacts: Prairie Conservation Strips*, Mary Harris, ISU Natural Resource Ecology and Management, and Geetha Iyer, Leopold Center for Sustainable Agriculture. More at: www.prairiestrips.org and www.leopold.iastate.edu/strips-research-team.



The values listed in the figure above come from the following sources:

- Zhou, X., M.J. Helmers, H. Asbjornsen, R. Kolka, M.D. Tomer, and R.M. Cruse. 2014. Nutrient removal by prairie filter strips in agricultural landscapes. *Journal of Soil and Water Conservation* 69(1):54-64. doi: 10.2489/jswc.69.1.54
- Hirsch, S.M., C.M. Mabry, L.A. Shulte, and M. Liebman. 2013. Diversifying agricultural catchments by incorporating tallgrass prairie. *Ecological Restoration* 31(2):201-211. doi: 10.3368/er.31.2.201
- Helmers, M.J., X. Zhou, H. Asbjornsen, R. Kolka, M.D. Tomer, and R.M. Cruse. 2012. Sediment removal by perennial filter strips in row-cropped ephemeral watersheds. *Journal of Environmental Quality* 41(5):1531-1539. doi:10.2134/jeq2011.0473
- MacDonald, A.L. 2012. *Blurring the lines between production and conservation lands: Bird use of prairie strips in row-cropped landscapes* (Masters thesis). Retrieved from Dissertations and Theses database. (UMI No. 1531486)

