

Fact Sheet on Proposed Spring Barley Biofuel Pathway
National Wildlife Federation
May 28th, 2014

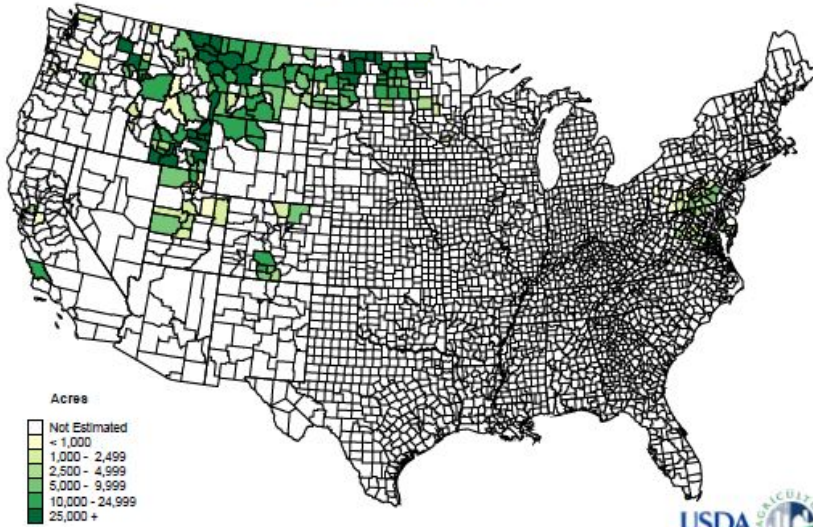
NWF is gravely concerned with the proposed barley pathway as an ethanol feedstock currently be proposed by the Environmental Protection Agency. Our wildlife and greenhouse gas concerns relate to the inclusion of Spring-planted barley, which is grown primarily on the northern Great Plains, not Fall-planted barley, which has a lower potential for environmental harm.

- I. As a feedstock, spring-planted barley would have very different impacts than fall-planted barley.
 - a. Spring-planted barley is grown as a main-season crop, in the Northern Plains
 - b. Fall-planted barley is grown as a double-crop, protects soil over the winter and reduces nutrient leaching, which is particularly important considering that it happens to be grown in the Chesapeake Bay watershed.
 - c. Whereas increasing production of Fall-planted barley would have significant wildlife, water quality, and GHG benefits, increasing production of spring-planted barley could have serious wildlife and GHG impacts.
- II. Increasing spring-planted barley acres will lead to the conversion of critical wildlife habitat
 - a. EPA modeling projects acres an additional 785,000 acres of spring barley as a result of the pathway
 - b. but assumes that this acreage will come only from crop switching and bringing idled land back into production
 - c. conversion of grasslands and wetlands result from significant increases in feedstock production
 - i. Empirical evidence including 2008 USDA **farmer surveys** found that 30% of the expansion of corn acres came from converting uncultivated hay ground, and **remote sensing**, Wright and Wimberly, Proceeding of the National Academy of Sciences, over a million acres of grasslands converted to corn or soy since 2007 in the western Corn Belt
 - ii. economic modeling, including USDA ERS and university economists have modeled how higher crop prices tilt the balance toward converting grasslands and other habitats to cropland
 - d. Conversion is likely in the ecologically-critical Prairie Pothole Region and the sage-steppe habitats of central and eastern Montana. (see map). Significant impacts are likely to occur on waterfowl and upland bird production and on sage grouse, which are presently being evaluated for listing under the Endangered Species Act.
- III. Our second set of concerns involve the carbon emissions from the increased Spring-barley production
 - a. Conversion emissions from native prairie are significant because of Soil Organic Matter from perennial grass roots (25-35 tons/acre over 10-20 yrs)
 - b. Because EPA assumed that all rangelands are too dry to farm, emissions from the conversion of rangeland to cropland were not included in EPA's Life Cycle Assessment modeling at all.
 - c. According to USDA NRCS data, In 80s and 90s, over 10 million acres of rangeland converted to cropland (Greene and Stager, 2001).¹
 - d. If included in EPA's Life Cycle Assessment of the proposed barley pathways, these carbon emissions will certainly decrease the GHG mitigation benefits of barley-based ethanol, and might even disqualify it as either conventional ethanol or as advanced biofuel.
 - e. Indeed, in its final Renewable Fuel Standard rule, EPA explicitly excluded rangelands as eligible cropland for feedstock production because converting rangelands to cropland would release significant GHG emissions and have a deleterious impact on biodiversity—both contrary to the stated goals of Energy Independence and Security Act.

NWF urged the EPA to model two distinct pathways, one that includes only winter barley and the other that includes only spring barley. In these analyses, EPA should clearly include estimates of native grassland conversion.

¹ Greene, RP and Stager, J. Rangeland to cropland conversions as replacement land for prime farmland lost to urban development. *The Social Science Journal*. 38 (2001). 543-555.

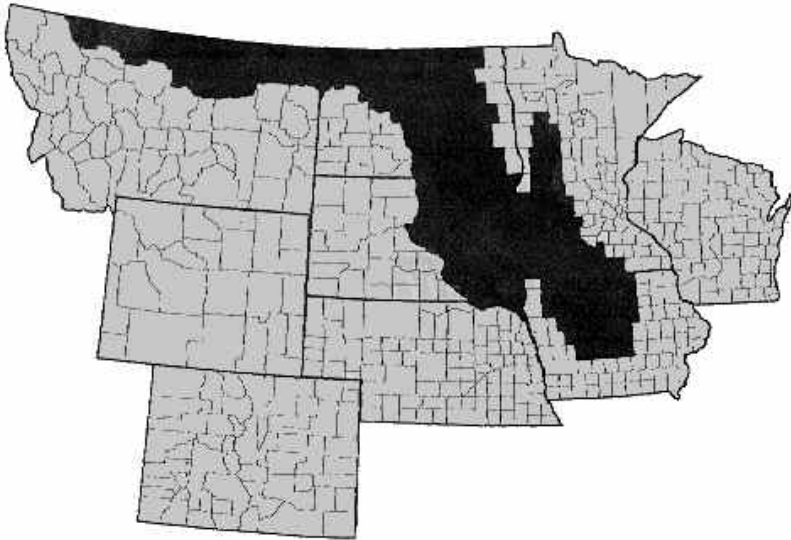
Barley 2012
Planted Acres by County
for Selected States



U.S. Department of Agriculture, National Agricultural Statistics Service



PRAIRIE POTHOLE REGION U.S. PORTION



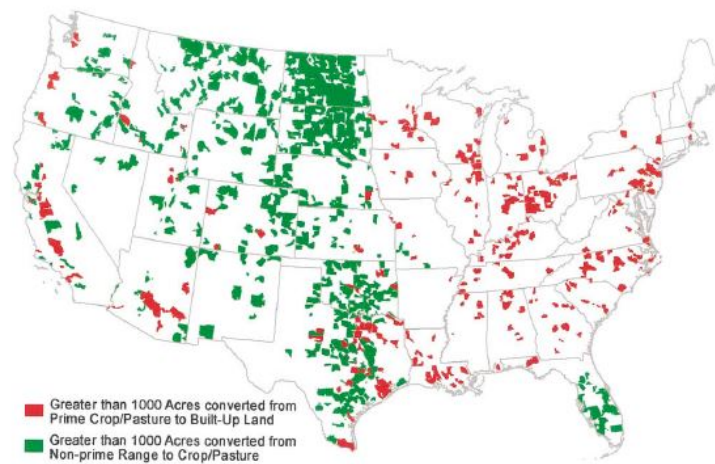


Fig. 2. Quality of Cropland and Rangeland Conversions, 1982 to 1997. Source: 1997 National Resources Inventory, NRCS, 2001.

Greene and Stager (2001)

shows the concentration of conversions in the NGP (see Figure 2, below), which roughly corresponds to the main growing areas of spring barley. This rangeland-to-cropland conversion is likely to continue in NGP as a result of the large increase EPA forecasts for spring barley production in the NGP.