Making the "Fruited Plains" Fruitful

The Economics of Private Prairie Conservation

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Introduction

One of the most threatened ecosystems on earth, the prairies of the Great Plains are in desperate need of conservation. Since the mid 1800s, agro-economic incentives have pushed land users to plow away the prairie for monocropping, leaving behind a fragmented prairie landscape with losses as great as ninety-nine percent in some areas. Increased levels of runoff, habitat loss, waterway pollution, and a massive release of previously stored carbon into the atmosphere have come as a result. Today, a combination of virtually unlimited federal and state crop insurance subsidies, high crop prices, and advanced agro-technology gives land users unmatched economic incentive to keep converting native prairie into cropland. In light of this, I set out to find what economic incentives exist that might motivate landowners in the state of Minnesota, one of the most affected states, to protect and possibly expand the remaining native prairie. I researched state and federal direct-incentive conservation programs to find those that could competitively compensate prairie conservation efforts. Additionally, because today's prairies need disturbance-centered management to maintain their integrity, I explored how various management techniques such as fire, grazing, and haying might provide an additional economic payback. If, in combination, these programs and management methods can provide a significant payback, I believe they could motivate landowners to stop converting prairie, especially in marginal farmland.

Program	Description
Native Prairie Bank Program	A land easement paying ~58.5% of the average per-acre value of cropland in the township in which the remnant exists. Land must have never been plowed, and must not be damaged during easement. Easement lasts a minimum of 20 years.
Native Prairie Tax Exemption Program	Relieves land taxes by exempting owner from paying the taxes on land that is kept in native prairie. Removes the assessed value of native land from total value of all the owners land. Land must have never been plowed, and it may be hayed, but not grazed. Employed on a yearly basis.
Conservation Reserve Program (CRP)	Pays landowners to remove land from agricultural practices. Contracts are 10-15 years. Payment based on average land value and average cash rent for land in the area. Very limited, though, as funding is being cut. Preference given to tree-covered land.
Grassland Reserve Program	Similar to CRP, but strictly for grasslands. Grasslands may be grazed under this contract. Contracts are 10-20 years, but may also be converted to permanent easement.

Useful websites for landowners interested in conservation:

National Resources Conservation Service: www.nrcs.usda.gov

MN DNR: www.dnr.state.mn.us/eco/prairies.html

The Nature Conservancy: www.nature.org

Methods

I considered four similar grassland-specific direct-incentive programs: Minnesota DNR's Prairie Bank (PBP) and Tax Exemption Programs and the USDA's Conservation Reserve (CRP) and Grassland Reserve (GRP) programs. I compared these programs based on attributes like their duration and payback rate to determine how closely these programs could compete with the payback potential of agriculture. I did this by comparing how much a farmer might receive per acre of cropland versus an acre of land under one of these programs. Further, I reviewed multiple academic reports, books, and market prices to explore how management techniques such as fire, grazing, and haying might be used provide an economic incentive to the manager. I also interviewed three top prairie conservation experts to help me understand the problems facing conservation efforts and potential solutions.

Conclusion

While I initially wanted to be able to decisively say that one program or management technique was the best, I quickly concluded that because every prairie conservation project is unique, it is entirely situational which program and management is best. However, one thing is certain: unless current federal farm policy changes to include better incentive for conservation, it is unlikely that farmers will voluntarily conserve prairie on land that could be productively farmed. The economic incentives of prairie conservation just can't come close to the payback of good farmland. Direct-incentive programs can, however, work on marginally productive soils. Because poor farmland is a gamble for farmers to plant, the Prairie Bank Program can be a good option, economically, for landowners. Due to its unique payback system, the PBP can actually provide nearly as much payback as rowcropping in some situations. Haying and Grazing can provide a significant economic payback, but are labor intensive and for small farmers, perhaps not feasible. To minimize the loss of prairie, programs like the PBP need to expanded and better advertised to make landowners more aware that conservation doesn't necessarily mean taking a large loss in profit. Further, promoting conservation for recreational, aesthetic, or altruistic reasons could be beneficial to the state of prairie today.