



Finding value in wetlands

Wetlands could offer landowners more than \$500 net profit per acre

Can restored wetlands enhance the economic value of our land?

Projections on the relative profitability of traditional row crop farming vs. wetland-based “nutrient farming” suggest the potential for a higher net profit per acre with restored wetlands, as described below.

Farmers currently earn an estimated \$83 and \$136 net return per acre for corn and soybeans, respectively, according to the Iowa State University Extension.

The Wetlands Initiative estimates that a farmer could earn approximately \$357 net profit per acre for using restored wetlands to produce nutrient credits. (A nutrient credit is produced when a ton of nitrogen or phosphorus is removed from a river or stream or when carbon is removed from the air.) This includes approximately \$196 per acre for nitrogen credits, \$157 per acre for phosphorus credits, and \$4 per acre for carbon credits.

Furthermore, the same farmer could earn additional credit if he were to be compensated for additional ecosystem services, such as flood storage and recreation. The farmer’s total net return could equal more than \$500 per acre.

Nutrient farming is the Wetlands Initiative’s new model for wetland restoration that will pay farmers to “grow” wetlands on the floodplain rather than corn and soybeans. A nutrient farmer will manage restored wetlands to optimize the natural biological processes, such as denitrification, that clean the water. Nutrient removal “credits” could then be sold to cities or industries that need cost-effective and environmentally sound methods to reduce nutrients in our nation’s water and air. Payments for additional environmental services—including flood storage, recreational benefits, and wildlife habitat—could also generate income.

Assumptions and Sources

The Wetlands Initiative used the following assumptions and sources to estimate the net profit per acre depicted in the graph at left.

Corn and Soybeans

Net returns were estimated using the Iowa State University Ag Decision Maker Model (www.extension.iastate.edu/agdm) based on crop prices at the Chicago Board of Trade on 3/25/08: corn = \$4/bushel; soybeans = \$10/bushel.

Nutrient Farming

Sum of estimated nutrient credits generated by wetland nutrient farms. (See specific nutrient credits detailed below.)

Nitrogen and Phosphorus

Based on estimates computed in: Hey et al. 2005. *Nutrient Farming and Traditional Removal: An Economic Comparison*, Report #03-WSM-6CO by Water Environment Research Foundation. Prices assume that a nutrient credit market exists.

Carbon

Estimate based on credit prices at Chicago Climate Exchange in March 2008.

Flood Storage

Total benefit of \$87/acre includes benefits in two categories:

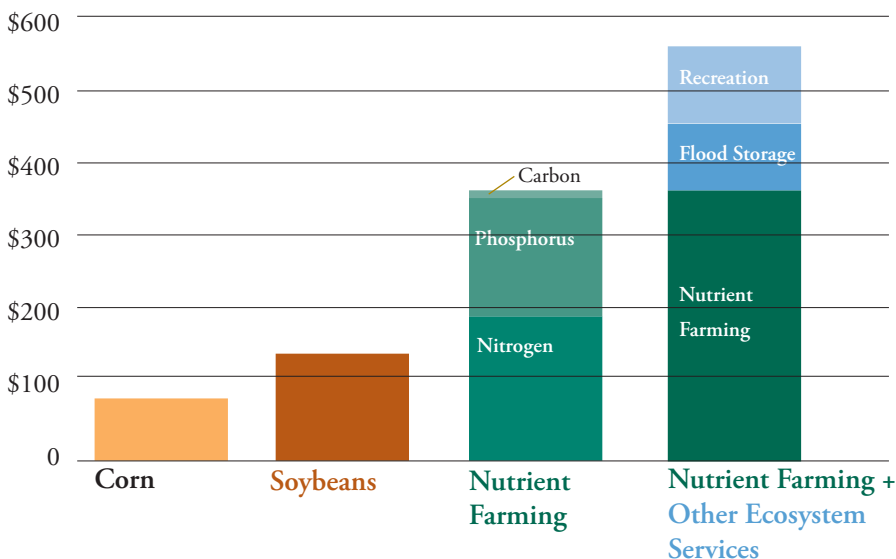
- Subsidy savings: Annual reduction in crop subsidies of \$24/acre due to conversion of cropland to wetland (computed by Tony Prato, University of Missouri-Columbia)
- Flood storage: Annual reduction in crop damages from flooding of \$63/acre. (Hey et al. 2004. *Flood Damage Alternative in the Upper Mississippi River Basin: An Ecological Alternative*. Report by TWI. www.wetlands-initiative.org/FloodDamage.html.)

Recreation

Total estimated benefit is \$97/acre, based on the average annual nonflood-related benefits of wetlands, including fishing, hunting, and recreation (Hey et al. 2004; computed by T. Prato).

Profit Potential of Alternative Land Uses

(Net profit per acre)



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