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Title: Economic Analysis of Wetland Restoration Along the Illinois River

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Abstract:

The objective of this paper is to evaluate the economic efficiency and impacts of restoring a wetland along the Illinois River. As an example, it uses the Hennepin and Hopper Lakes Restoration Project at an estimated cost of \$15 million. This project converted 999 ha (hectares) of farmland to forest, backwater lakes, and floodplain wetlands. These types of landscapes, among other benefits to the streams, will help with the reduction of nitrogen that flows into the Mississippi River and eventually decreases the size of the "dead zone" in the Gulf of Mexico. A related study found that to achieve a 3.0 mg/l (milligrams per liter) total nitrogen level in the Illinois River, 71,300 ha of treatment wetlands would be needed at a cost of \$2,041/metric ton of total nitrogen. In comparison, reducing the nitrogen level using conventional water treatment plants would cost \$7,375 per metric ton.

The estimated median annual economic value of wetlands is \$2,577.48 per ha, which summarizes the various uses (recreational, fishing, hunting, etc) provided by the wetlands to the project area. In comparison, the annual gross value of a corn-soybean rotation (the predominant crops in this area) is \$750.88 per ha (which is an average of the values of both crops). Therefore the project is economically efficient because the benefits of wetlands is positive at \$1,827 per ha, or \$1.83 million for the entire project area. The total positive economic impacts of the project area are a \$2,894,513 rise in total output, a \$1,448,876 increase in household income, and a 56 person increase in employment.