



The Iowa Policy Project

20 E. Market St. • Iowa City, Iowa 52245 • (319) 338-0773
www.IowaPolicyProject.org

May 2012

EXECUTIVE SUMMARY

Wetland Restoration in Iowa

Challenges and Opportunities

By William Crumpton, Arnold van der Valk, Will Hoyer and David Osterberg

Iowa was once a land rich in wetlands, especially in the north central part of the state in the portion of the prairie pothole region known as the Des Moines Lobe. Over time those wetlands were drained and filled to make way for agriculture. Now, government agencies, non-governmental organizations and individuals have realized the important functions that wetlands play and are looking at ways to restore or create new wetlands. Wetlands are seen as a key in helping improve water quality, reduce flooding and provide wildlife habitat.

Some people might take a “something is better than nothing” approach to wetland restoration, thinking that having a wetland, any wetland, is better than not having one. There might be some validity to this notion, but is there a way to make existing wetland restoration programs better? How successful have restoration programs been? What obstacles exist to successful restoration? This report looks at the importance of wetlands, the history of wetland policy, existing restoration programs, and several wetland restoration case studies. It closes with policy recommendations.

As agricultural cropping systems began changing in the 1960s and 1970s, nitrogen levels in Midwest waterways began to rise significantly, likely exacerbated by the lack of wetlands. These high nitrogen levels can pose a risk to public health and ecosystem function and have been implicated in the Gulf of Mexico’s so called “Dead Zone.” The restoration or creation of wetlands is one tool that can help to reduce excess nutrients.

Aside from helping to remove excess nutrients, wetlands can be important for other reasons. Wetlands provide important habitat for waterfowl, whose populations have declined in Iowa because of the lack of habitat. As bird populations have fallen so, too, have hunting and other recreational opportunities. In addition, many people point to the potential of wetlands for flood control, although there is limited evidence that prairie pothole wetlands of north-central Iowa are effective for large-scale flood control. The effectiveness of some wetlands at removing nutrients can also be limited. To improve water quality at a watershed scale, wetlands must be located appropriately and be sufficiently large. Unfortunately, neither of these is always the case in wetland restorations.

There are different classifications and types of wetlands and it can take an expert to distinguish among them. However, in Iowa, it is especially important to distinguish historic, or remnant, wetlands; restored and created wetlands; and cropped wetlands. Historic wetlands are those that have never been completely drained although their hydrology, vegetation and animal communities have typically been altered. Cropped wetlands are wetlands that have been drained for agriculture and fall into two distinct categories — prior converted cropland and farmed wetlands. These categories are based on the 1985 Farm Bill definitions, with only farmed wetlands having any protections under the U.S. Department of

Agriculture's "Swampbuster" provisions. Restored and created wetlands differ in whether the site was historically a wetland but typically function very similarly.

Re-creating wetlands with all of the characteristics of natural wetlands is difficult — as is avoiding degradation of remnant natural wetlands. Restored wetlands can function much like natural wetlands with respect to bird use and water quality. However, studies have shown that the vegetation of restored wetlands seldom matches that of natural wetlands and that the vegetation of most remnant natural wetlands in Iowa has been altered. It takes active and extended vegetation management to prevent wetlands from becoming dominated by invasive plants like reed canary grass and cattails. Few property owners or land managers have the time or money to take such an active approach. As a result, many wetland restorations fail to achieve the vegetation quality of natural wetlands and the quality of remnant natural wetlands is at risk.

Many restored wetlands are restored through government programs under limited-term contracts and often revert back to cropland after the contracts expire. Furthermore, many restorations, because they are often small and located higher in a watershed, fail to improve water quality because they intercept a very small percentage of the watershed's total water. Thus, the water-quality benefits from many restorations are limited.

Because wetland acreage has actually increased in recent years through a variety of programs and because wetlands have been recognized for their great importance in helping corn-belt states reach their nutrient reduction goals there are many important policy issues that should be discussed in the state and nationally. Iowa needs:

- A comprehensive state wetlands policy that deals with wetlands on both public and private land, including constructed and restored wetlands.
- Transparent, publicly available information for wetland projects using state and federal money so that USDA, other government agencies and researchers can evaluate and assess the effectiveness of wetland programs. A great deal of public money has gone into building or restoring wetlands through various programs, but there is little publicly available information accounting as to their cost, location and success.
- Consistent and clear expectations, guidelines and treatment of mitigation sites in Iowa under various state and federal policies. Formal guidelines are needed for evaluating the success of restored or created wetlands including those being used to mitigate wetland losses in Iowa.
- More public information about cropped wetlands and realistic, transparent and objective guidelines for mitigating the loss of cropped wetlands. Clarification is needed as to how cropped wetlands will be treated and under what legal jurisdiction. Policies should recognize the substantial differences between drained agricultural wetlands (cropped wetlands) and intact wetlands.
- Certainty as to how any changes in federal legal jurisdiction will affect the application of water quality standards to isolated wetlands including cropped wetlands.