Implementing wetland conservation on working farms presents challenges to farmers and conservationists alike. A pilot effort by The Nature Conservancy’s Washington Chapter attempts a new approach at paying farmers to flood their fields and provide habitat for wildlife.

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One of the greatest opportunities and biggest challenges to wetland conservation on a relevant scale is implementing conservation actions on private working lands. The conservation community has learned that regulation alone is not enough to achieve our wetland conservation and restoration goals. Habitat protection, even with unlimited resources, will account for less than 10% of conservation lands around the world (Chape et al. 2003). New methods, tools, and incentives that meet the bottom-line needs of private landowners and create ecological successes are needed. By engaging private landowners, we can impact wetland conservation on an unprecedented scale and at a pace needed to conserve species that are dependent on these habitats. Farm Bill conservation programs delivered by the U.S. Department of Agriculture’s (USDA’s) Natural Resources Conservation Service (NRCS) and the Farm Service Agency (FSA) are a driving force in these efforts and have been used by innovative landowners and organizations around the country to demonstrate that wetland conservation can be an economic opportunity rather than a non-performing asset (USDA 2010).

U.S. farm policy, as implemented by the NRCS through the 2008 Farm Bill and its predecessors, provides $23 billion worth of opportunities to conserve the nation’s water, soil, energy, and air resources (Gray 2009, Weldon 2010). Several provisions in the Farm Bill can be used to restore, enhance, protect, or create wildlife habitat on private lands in ways that are compatible with the overall goal of maintaining a strong and healthy agricultural sector and rural communities (Weldon 2010). As a result of the common goals of the Farm Bill and the conservation community, numerous partners in conservation, including state and federal agencies and private organizations, have cooperated with the NRCS to implement projects that use Farm Bill resources to achieve conservation goals for wildlife. One such project is Farming for Wildlife, implemented by the NRCS, The Nature Conservancy (TNC), the Western Washington Agriculture Association, and Washington State University (WSU) in the Skagit River Delta, Washington (TNC 2010).

The Farming for Wildlife project aims to replace lost freshwater wetlands in the Skagit Delta by incorporating wetland habitat into crop-rotation cycles on privately owned farmlands. The coastal zone of the Pacific Northwest is a critically important wintering and migratory stopover area for waterfowl and shorebirds. Most of these species depend on freshwater wetlands for feeding and roosting for at least some part of their daily life cycle. Studies have demonstrated losses of up to 90% of these wetlands in parts of the Pacific Northwest, which has greatly diminished habitat quantity and quality for migratory birds (Collins 2000).

The Farming for Wildlife project has partnered with local farmers in the Skagit Delta to implement this project on a pilot basis. Participating farmers incorporate a flooded field as part of their normal crop-rotation cycle in various units on their farms. The flooding is timed to coincide with the spring or fall migration of shorebirds, and fields remain wet throughout the winter during periods of highest usage and habitat need by waterfowl. Normally, crops rotated in the Skagit Delta include forage harvest, wheat, peas, barley, and grazing pasture. The project includes extensive monitoring of avian use of the flooded fields, soil fertility, microbiology, and crop yields by TNC and WSU.

Early results of the pilot studies suggest a strong positive response to field flooding by migratory birds, with thousands of waterfowl and shorebirds of numerous species using the flooded fields; species that otherwise would not have been present on the farms. Data indicate flooding may increase some soil nutrients, such as nitrogen, at a similar or even faster rate as compared to the traditional rotation practices of grazing or haying (Slater & Lloyd 2010). Studies of crop yields and crop pathogens in response to the incorporation of flooded fields are underway. Preliminary greenhouse experiments have demonstrated that flooding can significantly decrease the survival of some crop pathogens by sustaining anaerobic soil conditions, yet has no effect on other common pathogens. Pending the analyses of these ongoing studies, the pilot studies indicate an
opportunity to create a win-win situation: creating habitat for birds while improving soil health for the farmer’s benefit. Ultimately, the success of the project will hinge on simple economics: can the practice of field flooding reduce costs for fertilizers and other inputs and result in higher yields for some crops, thereby creating a favorable economic scenario for farmers?

A similar program, called Walking Wetlands, has demonstrated just that in the Klamath Basin National Wildlife Refuge of northern California, where refuge land is leased for farming. Following short-term, two-year wetland rotations on the refuge, crop yields increased as much as 25%, fumigant costs were reduced, problematic nematode populations were essentially eliminated, and farmers commanded a higher price by marketing organic produce (Shennan & Bode 2002). As these benefits have been realized, the cost of leasing land coming out of a wetland rotation is now substantially higher than other land in the refuge. The success of the Walking Wetlands program has motivated a few private landowners in the area to implement wetland rotations. However, the startup costs are high, and benefits for farmers are not realized for years to come, hence the need for programs, such as Farming for Wildlife, that utilize Farm Bill funding.

As more data are accumulated by the Farming for Wildlife project on both the responses of soil health and migratory birds to the wetland rotation process, the project partners’ plan is to distill this information into an easily usable format that can be exported to other sites and geographic areas. Conservation practices, such as field flooding, berm construction, and soil fertility management, used by this project can be a model for how to cooperatively work with both farmers and conservationists in many parts of the country, especially those heavily agricultural areas that are extremely important for wetland-associated migratory birds, particularly in the spring and fall. Geographic areas particularly amenable to such an approach, in addition to western Washington, might include the Willamette Valley in Oregon, California’s Central Valley, and rice-growing regions of the southeastern United States. Similar techniques incorporating bird habitat among a crop rotation might also serve as useful and dynamic conservation tools in a broad array of settings, including those where non-wetland habitats are in short supply—for example, in deserts, grasslands, and other arid environments.

The utility and long-term success of conservation projects, such as Farming for Wildlife, depend critically on numerous factors, most importantly the application of Farm Bill provisions as conservation tools. Although legislative support for farmers and agricultural production dates back to 1933, it was not until the Farm Bill legislation of 1985 that specific conservation provisions, or titles, were included, and they have expanded in scope and level of funding ever since. In the most recent edition of the Farm Bill, passed in 2008, the conservation titles accounted for about 7% of the mandatory spending in the multi-year legislation (Gray 2009). These provisions and their expansion have created new opportunities for conservation on private lands that have only recently begun to be prioritized by conservation-oriented organizations and agencies. The complexity of Farm Bill programs, partially explained below, requires that integrated projects, such as Farming for Wildlife, be utilized to maximize benefits for both the landowner and wildlife habitat.

Farm Bill titles can be broadly divided into two types of programs: land protection and land improvement (restoration). Both sets of programs have some titles that are exclusively for wetland conservation, as well as more general titles that include conservation of wetlands as one of multiple objectives. In all cases, landowners attempting to receive Farm Bill benefits must demonstrate compliance with the “sodbuster” and “swampbuster” provisions of the 1985 Farm Bill, which address soil loss and wetland conversion, respectively.

Land protection programs conserve land through either permanent or term easements or shorter term rental contracts. In the wetland context, the Wetland Reserve Program (WRP) is the key Farm Bill program that leads to long-term conservation of private lands. The WRP, established in the 1990 Farm Bill, provides assistance for the protection of wetlands to owners of farm or converted wetlands and adjacent areas. Eligible lands have high wildlife and wetlands values and a high probability of successful restoration. As of 2008, over 2,000,000 acres had been protected through the WRP across the United States; the 2008 Farm Bill authorized more than an additional 1,000,000 acres in the program through 2012 (Weldon 2010). In addition to this national cap, the total amount of WRP acres in any given county is restricted to 10% of the cropland acres in that county.

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With a WRP easement, the landowner gives up most rights, except for recreational use. Compensation is paid to the landowner based on the lower of a certified appraisal or market analysis, geographic area rate cap, or the landowner’s offer to the NRCS (the agency that will hold the easement). The landowner must also agree to a restoration plan, for which costs can be also paid for by the WRP. The WRP has been an enormously successful program in protecting wetlands on private and tribal lands in the United States; some individual projects have been over 10,000 acres in size, demonstrating its applicability to wetlands at numerous scales. In addition to the WRP, other Farm Bill land protection programs that can protect wetlands by protecting larger landscapes include the Farm and Ranch Lands Protection Program (FRPP; established in the 1996 Farm Bill) and the Grassland Reserve Program (GRP; established in the 2002 Farm Bill). The WRP and the FRPP are administered by the NRCS; the GRP is jointly administered by the NRCS and the FSA.

The land improvement programs of the Farm Bill are also extremely important for wetlands conservation across the country. Chief among these is the Conservation Reserve Program (CRP), established in the 1985 Farm Bill, which is the largest conservation program in terms of funding and acreage and is administered jointly
by the NRCS and the FSA. The CRP was originally established to help private landowners remove erodible land from production by establishing vegetative cover. It has been subsequently modified over the years to vastly increase its applicability for wildlife conservation, including wetlands habitats. The benefits of the CRP for wildlife, especially waterfowl and grassland birds, have been well-documented through scientific research. In 2008, the acres enrolled in the CRP reached a high of 34.7 million, though the exact amount at any one time depends on the mix of new acres being enrolled versus existing acres coming out of the program (the current amount of acres is less than 32 million; Gray 2009).

A participant in the CRP typically signs a contract for 10-15 years to participate in the program and receives an annual rental payment, along with cost-share assistance to establish the particular vegetative cover or other wildlife-friendly practice. In addition, certain practices are eligible for extra incentive payments. Land eligible for inclusion in the CRP must have been owned by the owner for at least one year, have been used to grow an agricultural crop for four of the previous six years, be capable of being farmed, and be either highly erodible, about to expire from a previous CRP contract, or located in a national CRP conservation-priority area.

Numerous Farm Bill initiatives and practices are used to promote wetland ecosystem and associated wildlife conservation. These include: the Wetland Restoration Initiative, to restore wetlands converted to agriculture within the 100-year floodplain; the Wetland Restoration Non-Floodplain Initiative, to restore wetlands outside the floodplain, including playa lakes; the Duck Nesting Habitat Initiative, to restore non-floodplain wetlands that benefit nesting ducks in the Prairie Pothole region; and the Bottomland Hardwood Initiative, to restore floodplain bottomland hardwood forests.

Other Farm Bill land improvement programs that are applicable to wetlands and wildlife conservation include the Wildlife Habitat Incentives Program (WHIP) and the Environmental Quality Incentives Program (EQIP). The WHIP provides financial and technical assistance on a cost-share basis to private landowners for the restoration or enhancement of priority habitats and species. This is typically done with a five- or ten-year agreement and the development of operations for the subject property. Some of the priority species and habitats for the WHIP include: declining fish and wildlife and their habitats; state or federally listed endangered, threatened, or candidate species; and invasive species that impact priority native species. The WHIP has enrolled over four million acres to date through more than 25,000 contracts (Weldon 2010). The EQIP is a similar cost-share program providing financial and technical assistance to address threats to air, soil, and water resources. In addition, it makes payments to replace lost income from implementing a conservation practice. It has supported conservation practices on more than 143 million acres to date through over 300,000 contracts, making the EQIP one of the most important Farm Bill programs (Weldon 2010).

The Farming for Wildlife project illustrates how farmers can receive payments under these programs for implementing important conservation actions. Through state and local NRCS offices, the project has been successful in adapting WHIP payment sce}

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