



# FARMING FOR WILDLIFE

## Creating a more sustainable future for farmers and wildlife

The Skagit Delta is a vibrant rural community – one of the last strongholds of family farming in Western Washington and a bread basket both regionally and nationally. At the same time, the delta is rich in wildlife. Though altered by human development, the delta continues to be a critical stopover site on the Pacific Flyway. More than 50,000 shorebirds touch down on the delta during fall and spring migrations. Here, the Conservancy is working with the farm community to develop voluntary, incentives-based conservation programs that make sense economically, benefit farmers, and create habitat for wildlife.

### Vital Habitat for Shorebirds

Worldwide, shorebirds have suffered dramatic population declines in the last decade. The greatest threat to shorebird habitats is the loss of wetlands. In the Skagit Delta, we've lost 70 percent of estuarine wetlands and 90 percent of freshwater wetlands. Despite that loss, the Skagit Delta still supports 70 percent of Puget Sound shorebirds during migration.

### Conservation That's Good for Farming

Skagit Delta farmers are testing the concept of incorporating wetlands into their crop rotations to create vital habitat for shorebirds, and at the same time improve the health of the fields for farming. By sheet flooding their fields during critical migration periods, the farmers are hoping to create new or improved habitat for shorebirds such as western sandpipers, dunlin, dowitchers and yellowlegs, while improving soil fertility and controlling plant diseases, thereby increasing crop productivity. In the Klamath Basin, farmers have discovered that wetland rotations have increased their yields by 25 percent and reduced costs by some \$200 an acre because they no longer needed expensive soil fumigants. Additionally, the weed source was practically eliminated and they gained a premium price for their organic crops.

### Creating Habitat and Benefiting Farmers

In the initial pilot project, three farmers—David Hedlin, Alan Mesman and Gail Thulen—participated in a three-year study aimed at creating habitat for migratory shorebirds. Baseline studies began in spring of 2006, and fields were first flooded in the fall of 2007. The intent of the experiment was to discover how wetland rotations compared to more typical crop rotations in the Skagit Valley, namely greenchop and grazing.

The three farmers each committed about 70 acres of land to the project. They employed three techniques on different portions of their land, and scientists have now started to evaluate the effects of each practice on soil fertility, microbiology and shorebirds. The Conservancy rigorously monitored use of the habitat by shorebirds, as well as the presence of weeds, invertebrates in the soil, and overall soil health. If significantly higher numbers of shorebirds are feeding in the wetland fields than in neighboring farm fields, and the soil health is measurably improved, and farmers realize higher yields subsequent to wetland treatments, that will spell success.



© Bridget Besaw

*"If 100 years from now there are fish, farms, and shorebirds in this valley, then everybody wins." – Dave Hedlin, farmer*

## What Have We Learned?

- Response by shorebirds to the wetlands was nearly immediate. In fall 2007 a state record was set at Mesman's farm for most number of yellowlegs west of the Cascades.
- 15 different species used the flooded fields, including short-billed dowitchers, lesser yellowlegs and western sandpipers, all species of high conservation concern. Only snipe and killdeer used the other crop rotations
- Response of aquatic vegetation was faster than anyone anticipated. By 2008, the overgrown flooded fields provided habitat for ducks and marsh birds, but very few shorebirds used the sites.
- Nitrogen levels increased by more than 50 pounds per acre while the fields were flooded, a significant value to farmers.
- Results of soil fertility and microbiology tests are very promising. However, true agronomic benefit will not be determined until the fields are re-cropped in 2010.
- Costs for establishing the wetland sites varied, but the sites could pay for themselves if productivity increases by at least 10 percent subsequent to the rotation.

## What Are The Next Steps?

- Collaborative research with Washington State University on the effects of flooding on crop pathogens is ongoing and will be completed in 2012.
- In 2009, two new wetland rotation sites will be funded as a special project under the federal Natural Resources Conservation Service's Wildlife Habitat Incentives Program (WHIP). The Conservancy will advocate for future Farm Bill programs to support these habitat rotations.
- More research is needed to understand how to manage wetland hydrology and vegetation to optimize both the ecological and agronomic benefits of wetland rotations.
- Economic feasibility analysis is ongoing.
- The Conservancy has started discussions about implementing Farming for Wildlife programs in other priority sites along the Pacific Flyway

*"This project really raised the bar in getting environmental and agricultural groups to work together in new ways."*  
– Dave Hedlin, farmer

## PARTNERS

Washington State University  
Ecostudies Institute  
Skagitonians to Preserve Farmland  
Western Washington Agricultural  
Association

## FUNDERS

U.S. Environmental Protection Agency  
National Fish and Wildlife Foundation  
(Puget Sound Marine Fund)  
Ag Pilot Grant (Washington Conserva-  
tion Commission, William D. Ruck-  
elshaus Center)  
Packard Foundation  
Pacific Coast Joint Venture  
Private donors

## NATURE CONSERVANCY

### CONTACTS

Kevin Morse  
North Puget Sound Program Manager  
(360) 419-0131  
kmorse@tnc.org

Julie Morse  
Ecologist  
(360) 419-7033  
jmorse@tnc.org

[nature.org/washington](http://nature.org/washington)

