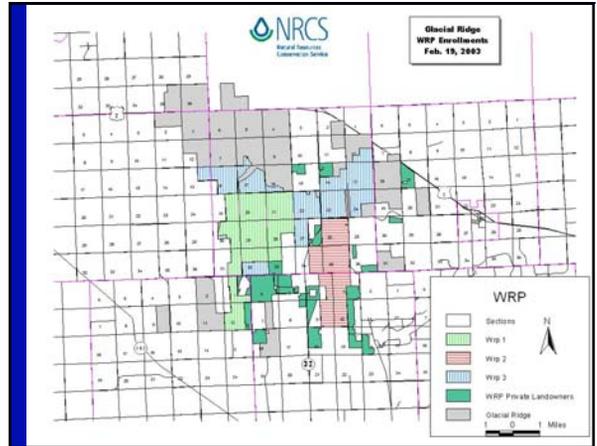


# Glacial Ridge



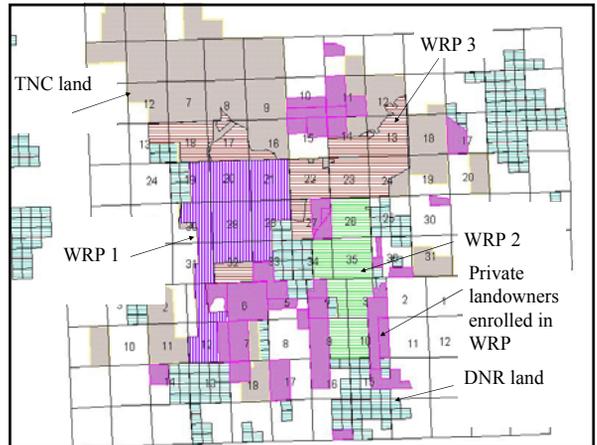
*The saga continues...*



The Glacial Ridge WRP site is part of a 25,000 acre restoration project located in the Northern Tallgrass Prairie Eco-region. It lies on the eastern set of beach ridges formed by Glacial Lake Agassiz. The beach ridges formed a very diverse prairie landscape where variable layers of sand, silt and clay, along with narrow beach ridges of coarse sands and gravel create a mosaic complex of wet to dry prairie types. Groundwater seepage zones are a common feature-giving rise to calcareous fens and gently sloping wet prairies.

The Nature Conservancy (TNC) is the owner of this vast contiguous tract of land. TNC has approximately 7,600 acres enrolled in WRP. There are also approximately 3,600 acres of privately owned land neighboring the TNC property enrolled in the WRP. TNC has applied for an additional 5,000 acres of WRP and is waiting for acceptance into the WRP.

The U.S. Fish and Wildlife Service is in the process of creating a new National Wildlife Refuge. The new Glacial Ridge National Wildlife Refuge would include most of the 25,000 acres of TNC property.



# Ground-breaking ceremony, June 2001



Bill Hunt presents \$1.6 million check to Ron Nargang, State Director for The Nature Conservancy. This check is for WRP 1, approximately 4,300 acres to be restored to prairie and wetland.



Truax no-till drill demonstration - June 2001



Doug Christansen demonstrates use of survey-grade GPS

- Approximately 7,000 acres (WRP 1 and WRP 2) were surveyed by NRCS and Ducks Unlimited during 2001, utilizing survey-grade GPS
- Approximately 1940 acres were surveyed by NRCS, DU, and Minnesota Waterfowl Association in November and December, 2002

September, 2001 - Area One NRCS employees assist a crew from the NRCS National Water and Climate Center in Oregon with the installation of a Soil Climate Analysis Network site at Glacial Ridge



Rod Voss, former TNC Glacial Ridge Project Manager, observes Garry Schaefer of NRCS-NWCC digging ditches for connecting wires from data sensors to the monitoring building at SCAN site

Snow pillow installation at SCAN site



NWCC SCAN site measures and transmits real-time data for many elements, including the following:



- Air Temperature
- Precipitation
- Wind speed and direction
- Relative humidity
- Solar radiation
- Barometric pressure
- Soil moisture
- Soil temperature
- Snow water content
- Snow depth

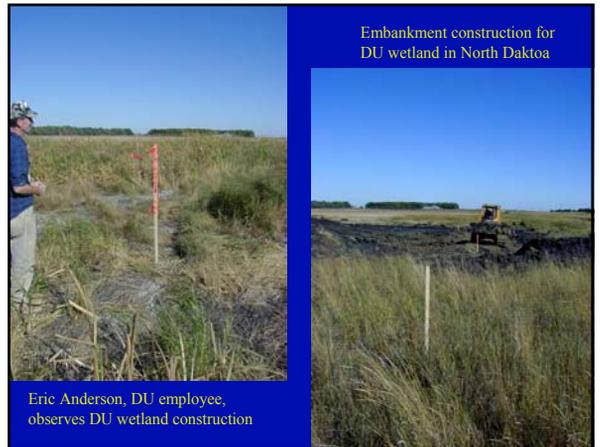
On Thursday, June 28, 2001, Minnesota NRCS state conservationist William Hunt signed a mock check for \$1.6 million to The Nature Conservancy. The check signified the easement payment for TNC's Wetland Reserve Program enrollment of approximately 4,300 acres (Offer One). In summer of 2002, TNC enrolled an additional 2,800 acres in the WRP. Approximately 5,000 additional acres are scheduled to be enrolled in the WRP in 2003.



Numerous sandhill cranes use Glacial Ridge as a resting and re-fueling area during their migration south.



Constructed wetlands - NRCS employee Jessica Lilja and DU employee Eric Anderson visited DU wetland restoration sites in North Dakota in September of 2001



Embankment construction for DU wetland in North Dakota

Eric Anderson, DU employee, observes DU wetland construction



Riser inlet of DU water control structure

Conduit outlet of DU water control structure



Glacial Ridge - Construction begins on DU-designed wetland #30-3 in November of 2001. Ducks Unlimited has completed or assisted in the design of 17 restored wetlands at Glacial Ridge.



Contractor using manually-directed power tamper alongside pipe installation



DU employee Eric Anderson inspecting site and materials for restoration #30-3



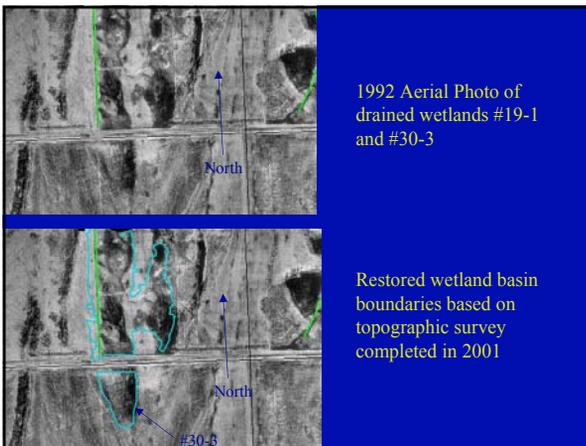
December, 2001

Photo by Christine Hura, TNC



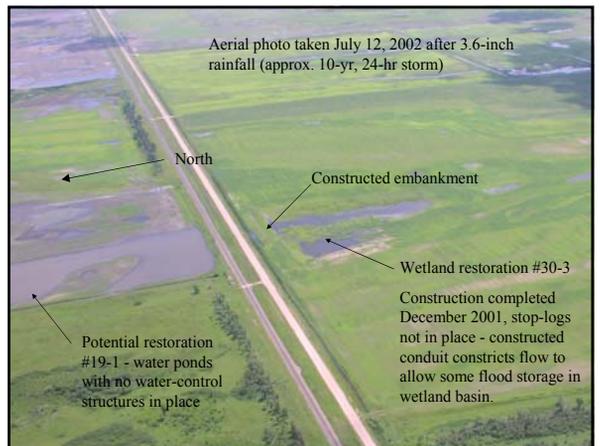
March, 2002

Photo by Christine Hura, TNC



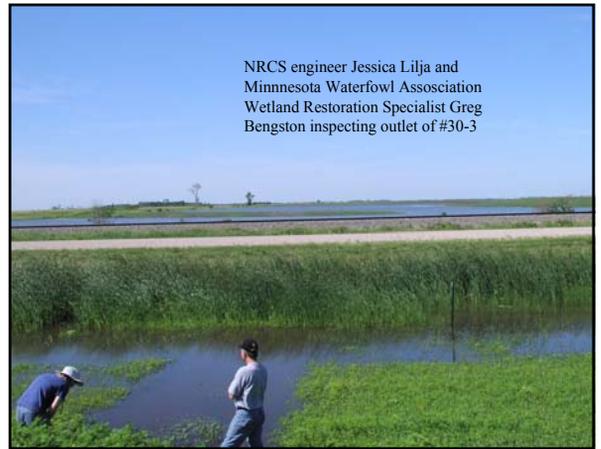
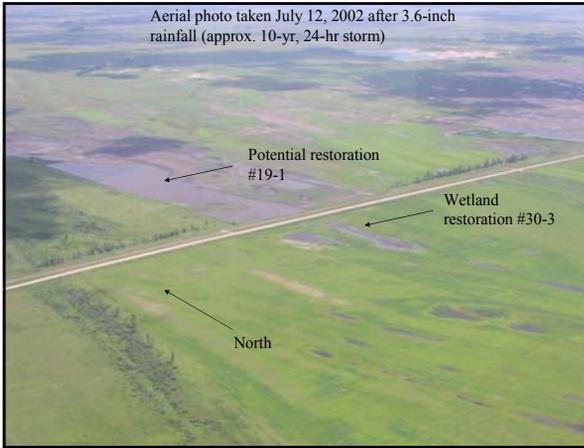
1992 Aerial Photo of drained wetlands #19-1 and #30-3

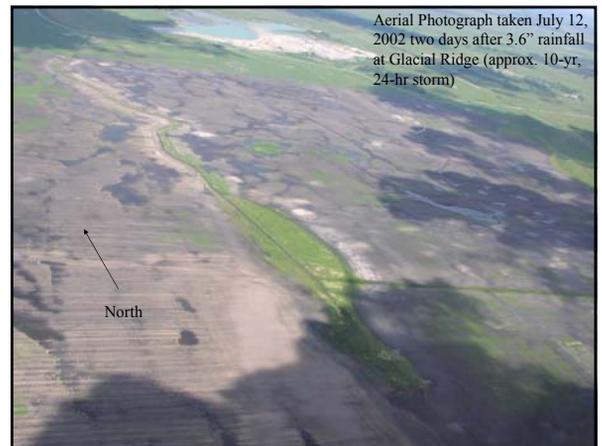
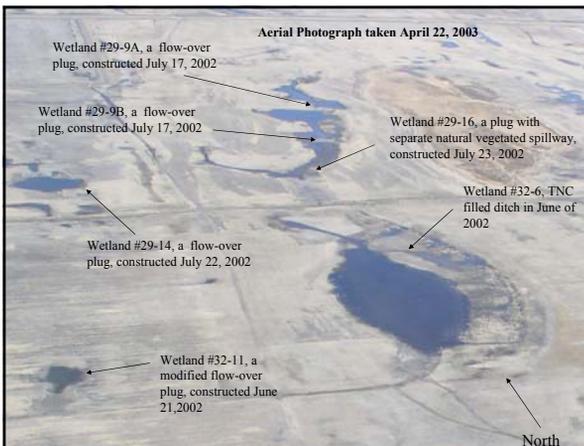
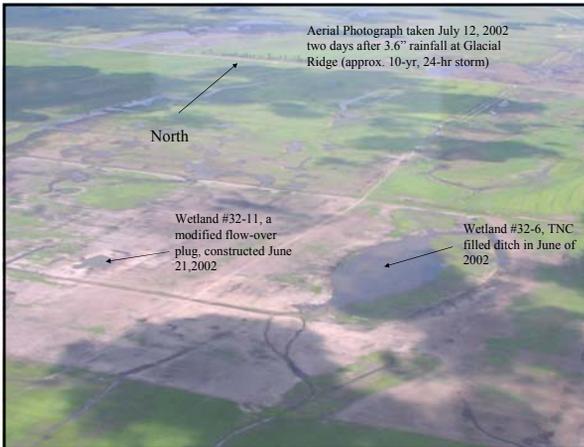
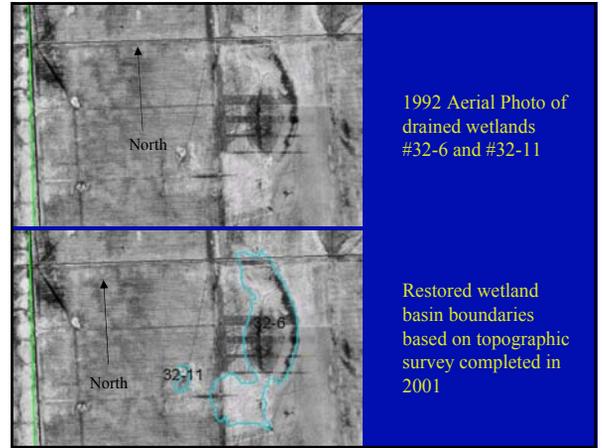
Restored wetland basin boundaries based on topographic survey completed in 2001



Aerial photo taken July 12, 2002 after 3.6-inch rainfall (approx. 10-yr, 24-hr storm)

Construction completed December 2001, stop-logs not in place - constructed conduit constricts flow to allow some flood storage in wetland basin.









A bid opening was held for Glacial Ridge Project 2003-1, which contains designs for 10 WRP wetland restorations on April 28, 2003. Construction is scheduled to begin sometime in May 2003.

Approximately 12 additional wetland designs will be included in Glacial Ridge Project 2003-2, which is scheduled to be given to TNC in late June.

