



## Pay It Forward

# BENEFITS OF THE RICHARD P. NELSON FLOODWAY MATERILIZE IN WARREN, MINNESOTA

*Saint Paul, MN, May 1, 2006*

The fruits of the late Richard Nelson's labors were realized in early April, this year when heavy runoff occurred in the watershed upstream of Warren. The city's former Mayor worked tirelessly at the national level to advocate for NRCS's water resource programs. His efforts resulted in the approval and funding for the Snake River Watershed Flood Protection Project, designed to protect Warren from flood damages. Although the project is still under construction, damages were reduced considerably. If the partially completed project components were not in place during this most recent event, flood levels would have been similar to those reached during the spring of 1997.

Floodwaters during that year resulted in city damages of over \$12.7 million. This year, because of the fully functioning off channel reservoir upstream and flows in the partial flood diversion around the city, flood levels were at least 3 feet lower than in 1997. It is unlikely that the town of Warren could have endured the damages from another storm this severe. The flood diversion channel, a component of the project which routes floodwaters of the Snake River around the town, has been named the Richard P. Nelson Floodway in the late Mayor's honor.

According to NRCS Hydraulic En-

gineer Peter Cooper, "This spring's snowmelt, combined with about an inch of rainfall, resulted in fairly significant flooding in Marshall County. It was approximately a 25-year flood event. Had the project not been in place, the estimated peak discharge through Warren would have been about 3,850 cfs. Because of the fully functioning reservoir upstream and the partially completed diversion around the city, the flows through town were reduced to about half of that or 1,900 cfs. The reservoir upstream itself held back over 5,300 acre-feet of runoff which is equivalent to 8.4 feet of water on a square mile.

Allan Sommer, NRCS Watershed Economist, reported that "based on Warren's urban and rural socio-economic characteristics collected during the planning phases of the Snake River Project, flood damages that would have occurred absent the project were calculated. The ability of the structures currently in place to reduce stream velocities and flood levels to the equivalent of a 5-year event resulted in \$8.7 million dollars of damage reduction." Total project installation costs were \$14.9 million. Based on these estimates, the project benefits from this event covered nearly 58% of all installation costs. If the project had been fully completed, the benefits may have been as high as \$9.7 million, or essentially eliminating all

flood damages.

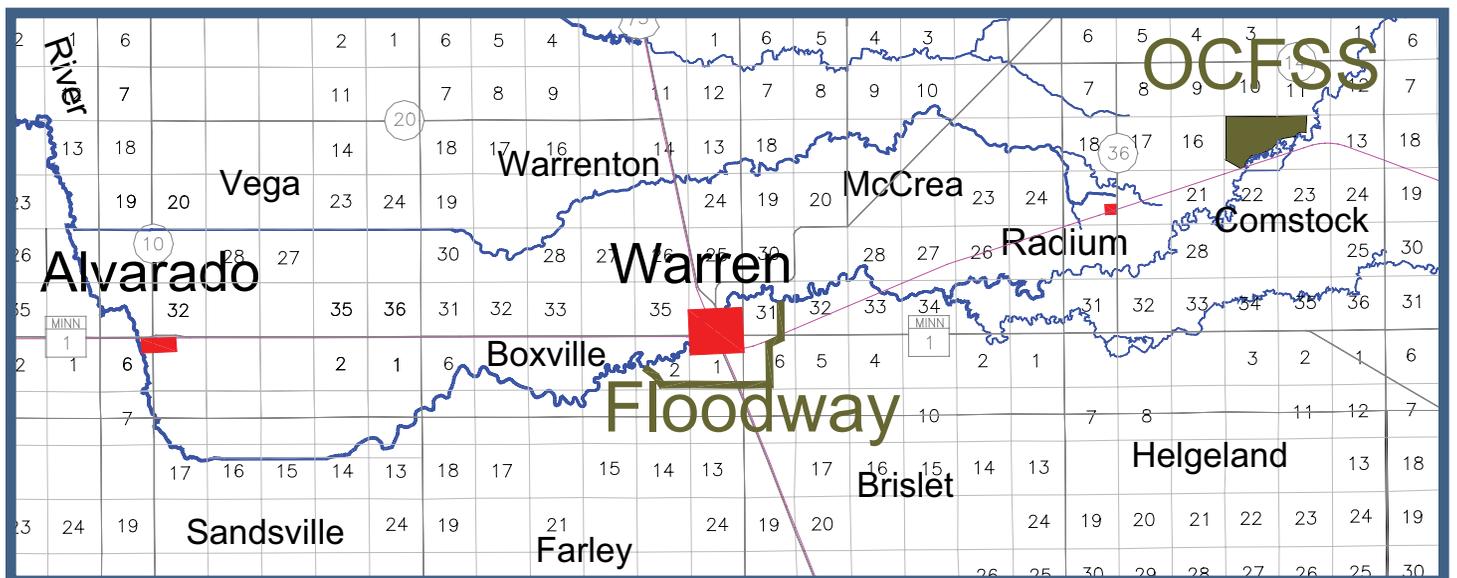
Engineering and funding for the flood control components at Snake River were provided by the USDA-NRCS under the Public Law 566 Watershed Protection and Flood Prevention Program. The City of Warren and the Middle-Snake-Tamarac Rivers Watershed District were responsible for the purchase of right-of-ways, installing road crossings, and all contracting related to construction.

For more information about the Snake River Project, please contact John Beckwith, Water Resources Staff Leader at (651) 602-7930.

### SNAKE RIVER PUBLIC LAW 566 PROJECT *Middle-Snake-Tamarac Rivers Watershed District*

The City of Warren and the Middle-Snake-Tamarac Rivers Watershed District are working with the Natural Resources Conservation Service (NRCS) and others in the planning and construction of the Snake River Public Law 566 Flood Control Project. The project includes essentially two features: the construction of an off channel floodwater storage structure (OCFSS) upstream of Warren and the construction of a Floodway (diversion) around the south side of Warren.

Once the project is completed, it is estimated that with the occurrence of a



*Snake River PL-566 Flood Control Project. Floodway & Off Channel Floodwater Storage Structure (OCFSS)*

100 year flood the off channel floodwater storage site will store an estimated 6,800 acre-feet of water from a drainage area of approximately 57 square miles thus reducing the peak flow at Warren by approximately 38% or approximately 2,100 cubic feet per second. Operation of the floodway provides for the low flow or up to approximately 700 cubic feet per second to pass through Warren and the remainder to be conveyed in the floodway. The off channel impoundment and the diversion will provide 100 year flood protection for Warren and a reduction in flood flows for all areas downstream of the impoundment. The location of each of these features is shown in the figure on page 1.

The project was ordered established by the Board of Managers in 2001. Construction on the project began in late 2001. Construction of the Off Channel Floodwater Storage Site was completed in 2005. The Floodway is expected to be completed in the summer of 2006.

The estimated total cost of the project is approximately 18.1 million dollars which 6.3 million dollars is the estimated non federal cost and 11.8 million dollars is the estimated federal cost. The non federal portion of the project cost will be paid for with funds obtained by the City of Warren and the Watershed District from State Grants, special assessments made against the benefited properties, and other funds.

*(These articles reprinted courtesy of the Natural Resources Conservation Service (NRCS), Julie MacSwain; and the Middle-Snake-Tamarac Rivers Watershed District, respectively.)*



### TWO RIVERS WD

The Two Rivers WD reported on the Ross No. 7 project. All wetland permits have been secured regarding the U.S. Army Corps of Engineers (USACE) and the Wetland Conservation Act (WCA). Other permits have been received from Ross Township, Roseau County, and the State Historic Preservation Office (SHPO). The only permits now remaining to obtain are the DNR Dam Safety permit and the Minnesota Pollution Control Agency (MPCA) National Pollutant Discharge Elimination System (NPDES) permit. Phase 1 construction will begin this year and will consist of constructing several farm ring dikes. Bid opening for these will be held on August 22, 2006. Construction on the main dike, ridge dike, outlet structure, emergency spillway, and inlet ditches will begin next year.

### MIDDLE-SNAKE-TAMARAC RIVERS WD

The Middle-Snake-Tamarac Rivers WD reported on the Agassiz Valley Water Resource Management (Helgeland Site) project. The mediated agreement with the appellants has been signed. This ends the legal challenge to the project. Only one appeal

to damages remains.

Plans are to begin the project team as soon as possible, with construction planned to start in 2007.

### RED LAKE WD

The Red Lake WD reported on the Project No. 60 - Grand Marais project. Construction on the Euclid East Impoundment started on June 14, 2006. Approximately 75% of the entire project has been completed, with 98% of the common excavation and borrow completed. The installation of the principal outlet structure remains to be completed, along with some seeding.

The permit from the U.S. Army Corps of Engineers (USACE) for the construction of the Brandt Impoundment was received, and the district issued the "Order to Proceed" on July 31, 2006.

The district has been in contact with Ron Harnack, Executive Director of the Board of Water & Soil Resources (BWSR), regarding a groundbreaking ceremony. Due to the fast pace of construction on both sites, it was agreed that a ribbon cutting ceremony with the Governor's office would be more appropriate sometime during the month of October.

### RRWMB MEETING HIGHLIGHTS

At it's regularly scheduled August meeting, the RRWMB:

- Authorized a resolution regarding a basin-wide digital elevation model to acquire high resolution elevation data for the U.S. portion of the Red River of the North Basin and agreed to fund up to \$500,000 (or 10% of the total project cost, whichever is less) for the high resolution data collection and digital elevation model project.
- Received an update on activities of the Red River Basin Commission from Julie Goehring-Communications Coordinator.
- Received a report from Naomi Erickson, Administrator.
- Toured the Public Law 566 project of the Middle-Snake-Tamarac Rivers WD.

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