

Osceola Creek

PUB-RR-736

August, 2005

Osceola Creek

Osceola, WI
Polk County

Location: Downtown Osceola

Along the northern Minnesota-Wisconsin border sits the Village of Osceola, a small community hugging the St. Croix River shoreline just before it angles west, nearly catching the edge of the Twin Cities suburbs. Living in a rural place such as Osceola, residents are used to a certain level of tranquility. In 2002, the village was enjoying just such a moment – a quiet end to its summer – when a Labor Day weekend rainstorm caused Osceola Creek to flood.

History

After the rain on September 2, the swollen Osceola Creek caused one of three dams in the area to fail. Contaminated sediments – which came from historical deposition transported down to the dam – flowed rapidly downstream, and were deposited in residential areas as well as in the Mill Pond and Grist Mill parks.

Some sediment also began to flow into the St. Croix River. The deposits were 2-3 inches thick in the park, and in some areas along the creek banks sediments were up to 8 inches thick.

Investigation & Cleanup

Village officials initially worked with the Federal Emergency Management Association (FEMA) to remove the sediments from the park, and contamination was discovered through sampling that was part of FEMA's dam cleanup efforts. The sediments contained arsenic, lead, and chromium above state levels established to protect human health.



The Osceola Creek after the Labor Day flood in September of 2002 (DNR photo).

The flood and associated dam failure also resulted in the creek seeking a new channel, and significant volumes of soft sediment and floodplain soil were displaced and carried into the St. Croix River. Officials with the U.S. Park Service raised concerns over the impact of the sediments on habitat for the Winged Maple Leaf Clam, an endangered species that resides in the riverbed.



Wisconsin Department of Natural Resources
Remediation and Redevelopment Program

PO Box 7921, Madison, WI 53707
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of the St. Croix. Prompt action was necessary to minimize the impact to the clam population.



Rip-rap and other stream improvements were completed through a public-private partnership led by the village of Osceola officials (DNR photo).

Staff with the DNR's Remediation and Redevelopment (RR) Program and the DNR's Water Program worked with village officials and the owner of the dam to decide the best course of action. Sediment samples were collected and analyzed above and below the former dam, and test results revealed limited contamination in the remaining sediments.

While restoration of the dam was determined to be infeasible, members of the community began discussions about removal of the dam to improve trout habitat. The continued release of sediments associated with the new stream channel, and stream bank erosion into Osceola Creek and eventually to the St Croix River, continued to pose a threat to the clam population.

Redevelopment

Thanks to \$55,000 from the state's Environmental Fund, which the RR Program uses in emergency situations, efforts were undertaken to stabilize the banks, grade the creek bed to a proper slope

and add riprap. Finally, the Polk County Land and Water Resources Department, along with volunteer assistance and funding from the U.S. Fish and Wildlife Service, added coir logs, wood-fiber meshing and seeding.

The DNR Lands Program has also acquired the property and will be removing remaining dam structure this year. Finally, DNR Fisheries Program staff are developing plans for additional stream and trout improvement projects.

Due to the efforts of all involved, a successful sediment cleanup project has now turned into an ongoing effort to protect endangered species and revitalize the creek through stream and trout enhancement projects. In the end, the partners long-term plans call for turning the property over to the village of Osceola for a park and greenway.

Financial, Liability, Technical Assistance

In addition to technical assistance from the DNR, FEMA and the U.S Park Service, the village also received \$55,000 in state-funded assistance from the RR Program.

Contacts

John Robinson
Northern Region Team Supervisor
DNR Remediation and Redevelopment Program
(715) 365-8976

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