

MISSISSIPPI WEST ECOLOGICAL RESTORATION



Ecological Restoration



Project Summary

The Mississippi West project area includes 17.63 acres of land within and adjacent to Mississippi West Regional Park in the city of Ramsey. The site borders the Mississippi River and the Mississippi River National Recreation Area administered by the National Park Service. Great potential existed to restore the site to native oak savanna/prairie. The completed restoration project included: 1) native oak savanna restoration within a remnant field and manicured lawn area and 2) riparian forest buffer restorations around an existing stormwater treatment pond and along the Mississippi River. Project partners included the City of Ramsey, Anoka County Parks, Anoka SWCD, Great River Greening, and many volunteers.



Project Specs

Completion Date December 2010
 Total Area 17.63 acres*
 Total Revetment Length 360 feet

Funding

Native Buffers Grant** .. \$40,000.00*
 Local Match \$15,177.10*
 Total Project Cost \$55,177.10

* See following pages for individual project details

** \$4,977.80 used for administration/technical assistance

Mississippi West Project Location



The Mississippi West project area originally consisted of several different land uses, each in need of restoration (see map to left). The remnant field, stormwater pond, and mowed areas were candidates for native oak savanna/prairie restoration, while the riverbank stretch was in need of invasive species removal and localized cedar tree revetments for bank stabilization and erosion control.

Benefits associated with the Mississippi West ecological restoration projects listed above include:

- Increased native habitat,
- Invasive species elimination, and
- Decreased sediment loading to the Mississippi River via decreased erosion.

Restoration of Rare and Declining Habitats—Savanna Restoration

The savanna restoration consisted of two sections with different management histories within the larger project area. A remnant field and previously manicured lawn area were both included in this phase of the restoration. See individual panels below for detailed information regarding differences in the implementation of the restoration between the two areas.

Savanna Restoration Project Specs

Completion Date December 2010
Total Area 12.56 acres
Local Funding Match 48%

Savanna Restoration Funding

Native Buffers Grant \$12,840.17
Anoka County Parks \$11,846.00
Total Cost \$24,686.17

Remnant Field Savanna Restoration Summary

The 11.58 acre area was first prepared for restoration by removal of Eastern Red Cedar and Siberian Elm overgrowth. Stumps were pulled from the ground and many of the trees were chipped, yet a portion of the cedar trees were prepped and utilized for the cedar tree revetment along the riverbank (see following page for details). Glyphosate herbicide was used for spot treatment of invasive species such as smooth brome. Thereafter, the site was burned as a further measure to reduce undesirable species and prepare the site for planting. The entire area was planted with a mix of six native grasses and 21 native forbs utilizing a Truax native seed drill.



Mowed Area Savanna Restoration Summary

Within the 0.98 acre mowed area on the east end of the project site, the same mix of native grasses and forbs were drilled into the existing sod, which was sparse due to minimal irrigation. The site history of mowing limited the number competitive non-native species and provided adequate site preparation. Continued mowing to suppress annual weeds during the establishment phase of the perennial native seed is planned. In addition, landowners and other volunteers were organized to aid with the planting of 500 plugs. The species composition consisted of 21 different native grass and forb species and a variety of five native shrubs. The native shrubs were included to provide a native seed source and maintain a boundary between the private properties and parkland.

Riparian Forest Buffer and Cedar Tree Revetment

The riparian forest buffer restoration consisted of two sections with different management histories within the larger project area. A stormwater management pond and riverbank were both included in this phase of the restoration. In addition, an opportunistic cedar tree revetment was conducted along the riverbank. See individual panels below for detailed information regarding differences in the implementation of the restoration between the two areas.

Riparian Forest Buffer Project Specs

Completion Date December 2010
 Total Area 5.07 acres
 Local Funding Match 6%

Riparian Forest Buffer Funding

Native Buffers Grant \$17,012.92
 Great River Greening \$500.00
 City of Ramsey \$557.85
 Total Cost \$18,070.77

Cedar Tree Revetment Project Specs

Completion Date December 2010
 Total Length 360 feet
 Local Funding Match 31%

Cedar Tree Revetment Funding

Native Buffers Grant \$5,169.11
 Great River Greening \$1,673.25
 Anoka County Parks \$600.00
 Total Cost \$7,442.36

Stormwater Pond Restoration Summary

Overgrowth of Cottonwood and Siberian Elm saplings were first removed from the 1.41 acre area surrounding the pond. Stumps were treated with concentrated glyphosate herbicide to eliminate the possibility of reestablishment and were later removed with a stump grinder because they posed potential safety hazards and difficulties with long-term maintenance. Many desirable, native species were present so herbicide application was limited to spot treatments. The area was then over seeded by broadcasting a mix of eight native grasses and 10 native forbs suited for mesic areas along with a cover crop of oats in the areas that were denuded due to equipment.



Riverbank Restoration Summary

Riverbank grape, which shades the understory and provides little stem density or soil stability, along with Common Buckthorn and Tartarian Honeysuckle were treated using a combination of the cut stump and basal bark methods by applying 12% trichlopyr mixed with diesel fuel within this 3.66 acre buffer along the Mississippi River. Along the trail, volunteers planted 500 plugs consisting of 21 native species and a variety of five native shrubs. Additionally, 625 sandbar willow stakes were harvested and planted along riverbank areas with mild erosion.

Cedar trees harvested from the savanna restoration were used to install 360 linear feet of revetment in four stretches of riverbank with the greatest erosion. The trees were secured with duckbill anchors and galvanized steel cable.