Spring Lake Shoreline Restoration

History of the Spring Lake Property

Prior the arrival of European settlers, this area was in a transitional zone between the Big Woods (maple, basswood and red oak forest) of Minnesota and Wisconsin and the oak savanna. The old growth oaks and basswoods present on the property have an open growth form which indicates that this site was once an oak savanna. Native oak savannas support a high species diversity, but they have become a very rare habitat as a result of land use changes over time.

As a result of fire suppression, low quality trees and shrubs have inevitably grown up, degrading the habitat and shading out the grasses and forbs which form an integral part of the oak savanna habitat. Consequently, low quality trees and shrubs as well as any non-native species (e.g. buckthorn) will be removed during the restoration work. This "daylighting" will open up the understory, allowing the oaks to thrive and sunlight to reach the low growing grasses and forbs found in an intact oak savanna.

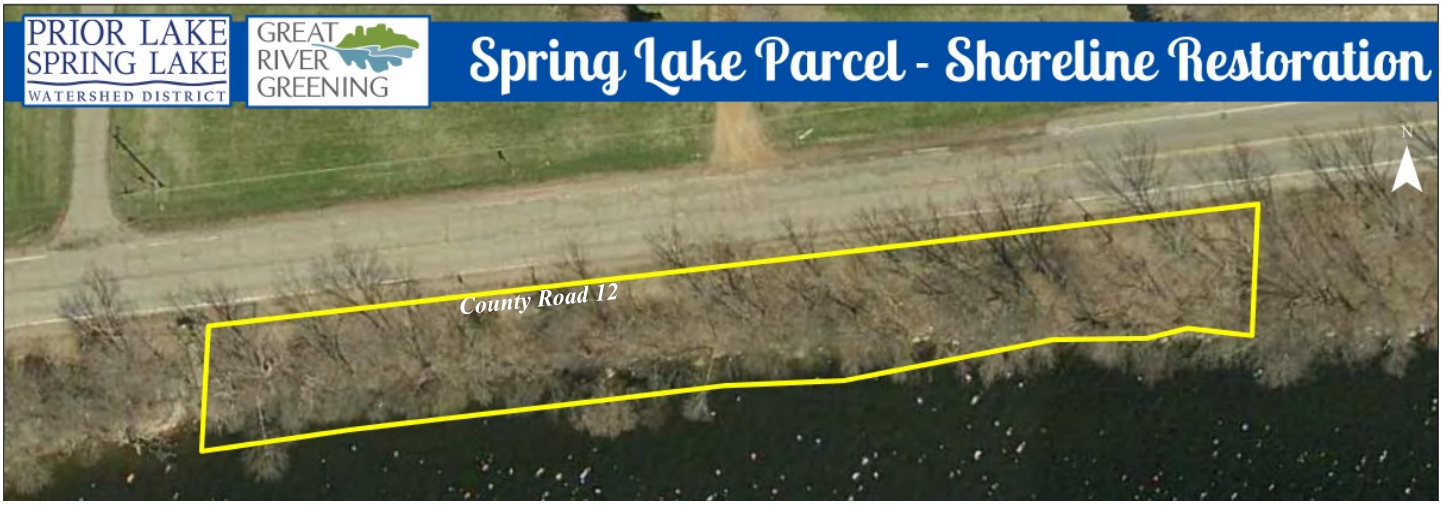
In March of 2013, PLSLWD acquired the quarter acre property from Spring Lake Township with the intention of using it for a future demonstration site. The property consists of a narrow strip of land between Highway 12 and Spring Lake and includes approximately 300 feet of shoreline. The steep nature of the slope towards Spring Lake makes the parcel completely unbuildable with the possible exception of minor structures.

Partnership Opportunity

The Minnesota Department of Natural Resources (DNR) Fisheries Division has been working with Great River Greening, a non-profit organization, to improve fish and wildlife habitat in Minnesota by restoring native shoreline along lakes and rivers. Great River Greening reached out to PLSLWD last year, as they were planning a future shoreline restoration project with Scott County/Three Rivers Parks District at the nearby Spring Lake Regional Park. Realizing an opportunity for coordination, PLSLWD began discussing options to complete the restoration of the Spring Lake parcel in conjunction with the Spring Lake Regional Park project. With access to current grant funding and the proven ability to engage the public through volunteer events at restoration sites, Great River Greening made the ideal partner to work with to move forward with the intended shoreline restoration on the Spring Lake parcel.

PRIOR LAKE SPRING LAKE WATERSHED DISTRICT

GREAT RIVER GREENING



Oak Savanna Restoration

Low quality trees and shrubs as well as any non-native species (e.g. buckthorn) will be removed from the entire property. This "daylighting" will open up the understory, allowing the oaks to thrive and sunlight to reach the low growing grasses and forbs found in an intact oak savanna. New species will be seeded & planted in the understory to introduce native plants back to the property. Some examples of species include:

- *prairie dropseed*
- *heath aster*
- *wild columbine*
- *white indigo*
- *coreopsis*
- *blazingstar*

Brush Bundles

Buckthorn removal at the project site produced ample amounts of woody brush that can be re-used in restoration efforts as brush bundles. Buckthorn brush is cut into even lengths and tied into bundles which are placed along the edge of the shoreline where it is eroding. The bundles are then staked into place. Brush bundles protect the shoreline from wave action while the native plants become established. The brush bundles will also collect sediment that travels down the bank. By the time the brush bundles decompose, the deep roots of the native plants will be well established and able to hold the bank in place.

Shoreline Plantings

Shorelines are subject to wave action, ice heave, temperature swings and fluctuating water levels. Turf grass is shallow rooted, does little to protect or stabilize a shoreline, and allows runoff to degrade water quality. Rip rap may provide shoreline stability, but it provides no wildlife habitat or water quality benefits.

Native vegetation is deep rooted, absorbs runoff, protects against erosion and provides habitat. Trees, shrubs and plants in and along the waters edge provide shade, habitat and food for fish and wildlife. The deep roots of native plants provide stabilization of the soil and protection from ice damage.

Cedar Revetments

A cedar revetment is made by anchoring cedar trees along a shoreline and is an inexpensive, effective way of stopping erosion. The trees protect the shoreline from wave action and ice heave. This decreases erosion and allows silt and sand to be deposited along the bank and within the tree branches. The deposited material forms a good seed bed in which the seeds of native trees and plants can sprout and grow. By the time the revetment trees have decayed, the bank should be stabilized by the roots of the living trees and plants. As an added benefit, cedar revetments provide excellent fish and wildlife cover.

For questions about how to restore your own shoreline contact:

Alyssa Alness at Scott SWCD
952-492-5414 ♦ aalness@co.scott.mn.us

For questions about the Spring Lake Shoreline Restoration Project contact:

Kathryn Keller-Miller at PLSLWD
952-447-4166 ♦ kkeller-miller@plslwd.org