

## Springfield Country Club River Restoration Project

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The river restoration project at Springfield Country Club seemed daunting and challenging, but adversity occurs daily for golf course superintendents. Our challenge, make it happen!

Springfield Country Club is located in Springfield, Oregon and specifically within the Mohawk watershed. The Mohawk River, which runs through the course, is a vital resource for the club because of its beauty and the club's dependence on the river for irrigation. The Mohawk watershed encompasses nearly 115,000 acres of land and is a mixture of public and private forestlands, agriculture and rural residential lands. Human development and land use practices have contributed to the loss of riparian vegetation, degraded water quality and impacted aquatic resources within the basin.

The Mohawk River has been cited as a high priority area for the protection and restoration of riparian habitat by the McKenzie Watershed Council (MWC) within its 2002 publication, *The McKenzie River Watershed Conservation Strategy*. The restoration project at Springfield Country Club seeks to increase habitat connectivity and quality within the Mohawk basin through invasive weed eradication and control in conjunction with the establishment of native trees and shrubs. Long-term goals for the watershed are to achieve measurable change in water quality parameters such as lower water temperatures and achieve higher dissolved oxygen levels.



Large, thick stands of Reed canary grass and Armenian blackberry

enhancement of rearing and migratory habitat for the spring Chinook salmon, an endangered species, in the lower Mohawk River.

The invasive plant species that need to be controlled are Armenian blackberry, Reed canary grass and Japanese knotweed. Native plant reestablishment within riparian areas would be expected to have a positive effect on water quality and benefit multiple aquatic species, including fluvial and resident cutthroat trout, rainbow trout and various amphibian species. In addition, restoration efforts seek to contribute over the long term to the

Springfield Country Club became involved with the MWC and its active local sub-group the Mohawk Watershed Partnership in 2004. The club was undertaking a major remodeling project involving a new irrigation system, rebuilding some greens and building two new golf holes. The two new holes replaced existing holes on a different section of land. The location for the new holes contained wetlands and we contacted a company called Pacific Hydrogeology.

They were able to help us with wetland mitigation for the new holes as well as changing our water rights with our new irrigation system. We then contacted the MWC to keep them informed of our wetland project. We shared many of the same goals including protecting and enhancing the environment. We started investigating our river frontage and investigated ways we could improve the riparian area that had been completely overtaken by invasive plants. The river frontage of this project is nearly 1 mile with an approximate area of 5.5 acres. The MWC then began looking for grants to put our goals into action. Funding became available in 2009 with a grant through the Freshwater Trust's Streambank program. The grant totaled \$40,000.

Freshwater Trust is a non-profit organization that actively works to preserve and restore freshwater ecosystems. The streambank program is unique in that it enables landowners and restoration professionals such as Jared Weybright, MWC Projects Coordinator, to efficiently permit and fund restoration projects through the internet. Streambank funding for this project came from the Oregon DEQ/EPA Clean Water Act, Section 319 funds and the Jubitz Family Foundation.

In September 2009, the restoration project began with invasive species removal. Excavation and vegetation removal from the larger areas were completed using the club's backhoe. Monoculture stands of Armenian blackberry were piled up and then hauled away using



Initial blackberry clearing hole #16

the club's dump truck. The backhoe excavation was quick and easy, but many blackberry roots remained in the ground. Any blackberry roots left in the soil would quickly sprout new growth.

Our next step was to attach a Harley rake to a tractor and cultivate the soil. The raking action pulled the blackberry roots out of the ground. Staff collected the roots for disposal. Native

trees and shrubs were attended to by two outside contractors, Walama Restoration Project and the Northwest Youth Corps. Their help was critical to the success of the project. The invasive species around the native trees took a tremendous amount of time and labor to physically remove.

Once areas were grubbed of blackberry, the final Harley raking was completed and a grass seed mixture of ryegrass and fescue was sown on October 15th. The weather in western Oregon is still warm enough to get good germination if seed is down by mid October and we needed good germination for erosion control on bare soil, especially next to a river that typically floods every winter. Fescue was used for drought tolerance due to lack of irrigation in the area and ryegrass was used for quick establishment and cover.



Germination of grass seed on hole #16

Community volunteers will be used to plant 1000 native trees during December 2009. Tree planting designs incorporate spacing between trees at 12 feet apart so that our rough mowers will be able to mow in between the trees. Continuous mowing will kill blackberry plants. I felt this was a key to the long-term success of the project because mowing will minimize our need for chemical treatment on the invasive species. More invasive control will take place in the summer of 2010 and another round of tree planting will occur during December 2010. The club's responsibilities will include bi-weekly watering of the trees from June – September for the first few years and regular mowing around the trees. The club spent 163 employee hours on the restoration project as of the middle of November 2009.

Every superintendent loves a good project. This river restoration project was a good project in that it benefited both the course and the environment. We still have more goals and environmental projects we would like to accomplish with the help of the MWC. I highly recommend getting to know your local watershed council. They can provide you expertise in water quality testing, fish and wildlife habitat, the area's ecosystem and how your golf course can help the environment.