

Willows, Water and Sand

One willow at a time, that is how a group of students from the Pine Ridge Job Corp planted over 8,000 sandbar willows on Box Butte Creek, near the Niobrara River confluence. The project resulted from a 2009 project when several adjoining landowners partnered with a host of state, federal, county and non-profit groups to tackle an invasive tree called the Russian olive. At the time, Russian olives had gained a serious foothold, occupying or otherwise affecting over 1,000 acres of the historic floodplain along the Niobrara River and Box Butte Creek.

Skip forward to 2012, the bulk of the Russian olives have been cut, piled, and burned. Areas where dense concentrations of Russian olives once existed are now a mix of native grasses and annual forbs. Streambanks have been slower to recover because of the lack of shrubs and aquatic plants designed to bind the soil, especially during high water, such as a spring flood. One plant in particular that is well adapted for reducing erosion along streambanks is the willow. Willows come in three different forms, trees, shrubs, and creeping willows. Each type of willow plays a different role in the narrow strip of land that borders creeks, rivers, or other bodies of water. Most importantly, willows provide resistance to erosion through an expansive network of roots. Limited erosion allows other species of grasses, sedges and rushes to become established providing more stability and resilience to the stream channel.

Due to the competition from dense thickets of Russian olives on Box Butte Creek most of the native shrubs were missing or very weak. Landowners, agencies, and several conservation groups developed a plan that included re-introducing willows and other native shrubs back to Box Butte Creek with the hope that other species will fill in behind. In February of this year, approximately 1,000 pencil sized willows were gathered on Plum Creek in Cherry County and transported to Wild Plums nursery in Clarkson, Nebraska. The willows “whips” were cut into six inch cuttings, placed in individual containers and placed in a greenhouse. By early June, each cutting had developed leaves, a network of roots, and was nearly 24 inches tall. Next came the most difficult part, planting 8,000 live willows on two miles of streambanks, across two different landowners. The call for help in the form of volunteer labor was heard by students from Pine Ridge Job Corp located south of Chadron. With the right equipment and coordination of employees from the Natural Resource Conservation Service (NRCS), US Fish and Wildlife Service (USFWS), and Rocky Mountain Bird Observatory (RMBO) combined with over 50 students, a monumental task was achieved in one day. “The Job Corp students took great pride and ownership in this project, without their help and effort this project would have never happened,” said Kyle Graham with the USFWS. Each willow was hand planted into the stream bank at or below the groundwater elevation. Initially, most of the new growth will occur below ground as the willows establish a network of roots. Eventually, the willows will provide shade and cover for stream life, improve water quality, and stabilize erosion prone soils.

Stream restoration work has expanded significantly in recent years as communities recognize the many values of healthy streams and their corridors. In addition, stream restoration projects provide an opportunity for young people to be outside and involved in a meaningful project with lasting memories.

For questions regarding this project please contact Kyle Graham (402) 376-3789