PROJECT DESCRIPTIONS

Project: Fawn Lakes Riparian Enhancement; Terrestrial

Objective:

Description:

Fawn Lakes is a popular recreation area that consists of two small ponds stocked with rainbow trout. The lakes are located just south of the Red River channel, with a riparian buffer zone in between. An access ramp from the highway was previously constructed to access lower Fawn Lake for fish stocking by the New Mexico Department of Game and Fish. The ramp has not been used for years and a new stocking access location is being developed at the upper lake. The ramp blocks high water flows to a portion of the riparian floodplain. Upper portions of that area are drying out, leading to encroachment of conifers and a decline in deciduous species typical of healthy riparian areas (Figure 6.4). Cottonwood health, in particular, has been poor and it has been observed that some of the larger cottonwoods are dying with no opportunities for regeneration of new trees.

This project will remove the obsolete ramp and reconnect this riparian zone to periodic high flows that would provide the deciduous vegetation with necessary water and allow for regeneration. Currently, the dry conditions have led to encroachment of conifers which are shading out the ground cover species and competing with other species such as narrow-leaf cottonwoods and willows. The cottonwoods have been observed to be in poor health with no evidence of regeneration. These deciduous and ground cover species are important habitat and food for wildlife. Additionally, species such as willows help to provide bank stability in riparian zones, allow for undercut banks along the river channel, and filter out sediments.
To ensure that high flows intercept the target riparian region, “soft” engineering techniques such as boulder or large woody debris (LWD) placement would be used to direct high flows towards the area. The placement of the structures will be strategically designed such that they only affect flows during periods of high water and do not influence the hydraulics during moderate and low flows. The project also involves thinning selected conifers to alleviate competitive pressure on deciduous species.

Benefits:

Benefits of this project include the reestablishment and increased vigor of deciduous species such as narrow leaf cottonwood, aspen, alder, maple, and willow. Increased understory growth will provide improved habitat and food for wildlife. The project will also promote an increase in the presence of large woody debris within the riparian zone in the proximity of the Red River, which will increase channel stability during periods of flooding. Fisheries and prey base species

habitat (hiding cover) will also improve due the presence of large woody debris in the river and adjoining riparian zone.

Spatial Extent of Project:

Time Frame:

Probability of Success: The probability of success of this project is extremely high because it involves removal of an obstruction. Once the obstruction is removed, the flood plain is expected to resume its natural function.

Performance Criteria and Monitoring: This project is expected to require minimal operations and maintenance activities after the project is completed. The area should be observed during high flows to ensure that water is reaching the intended area. The LWD structure placement should be checked after periods of high flow to ensure it is directing flows as expected. Modifications and adaptive management may need to be implemented if structures are not performing according to plan (e.g., high flows dislodge or move the structure).
To monitor the effectiveness of the treatment, factors such as deciduous cover or frequency, species diversity, and cottonwood health and regeneration should be recorded.