

## REFORESTATION EFFORTS ALONG THE RED RIVER IN NORTH DAKOTA

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**Abstract:** In the spring of 1997, the Red River of the North and tributaries experienced the flood of the century. Damage was extensive and 8,000 acres were entered into perpetual flood plain easements. Since much of the easement area had been originally forested, agencies initially planned extensive reforestation efforts. A wide assortment of planting stock types and planting designs were used. By the third year of the program, tree planting efforts had diminished due to establishment failures and high costs. Most subsequent easements were seeded with an assortment of native and introduced forbs and grasses. Newly emerged forest cover, estimated at about 5000 acres, resulted primarily from natural regeneration. Though the elevation changes along the Red River are often quite small, the effects can be quite pronounced. Slight changes in elevation (as little as 10 inches) can result in completely different vegetation. Higher elevations contain pure stands of switchgrass and big bluestem. Mid level elevations consist primarily of dense, tall cottonwood stands. Lower elevations are dominated by sedges, reed canarygrass, and annuals. These vegetation changes occur within as little as 6 vertical feet. Other factors that have impacted the vegetation establishment include: time of flooding, duration of flooding, existing ground cover, previous land use, time at which grass seeding or tree planting efforts were initiated, weed pressure, and deer. Though there are similarities in existing cover types ten years after the 1997 flood, each property has a unique set of characteristics that is reflected in the species mix and health and vigor of the current vegetation. To date, it appears that the natural regeneration establishes in very small dense stands of two to five species. The many variables within this riparian zone make statistical analysis of the reforestation efforts problematic. This poster is a collection of natural reforestation observations over the past ten years.

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