Project Highlight – SD State Wildlife Grant

Project Type Habitat Inventory

Title Classification and Mapping of Riparian Forest along the White River in S. Dakota

In a nutshell This study's purpose was to classify and map the forest and other floodplain vegetation along the White River. Using historical and modern aerial imagery, they were able to describe the changes in river channel dynamics and subsequent vegetation changes over the past 80 years from the 1930s to 2010. They also created a map layer with the various types and successional stages of current floodplain vegetation, including the relatively new forest vegetation being formed on the delta at the mouth of the White River within Lake Francis Case Reservoir.

Relevant Species of Greatest Conservation Need

- River Otter (*Lontra canadensis*)
- Bald Eagle (*Haliaeetus leucocephalus*)
- Northern Long-eared Bat (*Myotis septentrionalis*)
- Silver-haired Bat (*Lasionycteris noctivagans*)
- Sturgeon Chub *(Macrhybopsis gelida*)

Relevant Habitats

- Plains Cottonwood and Green Ash dominated Floodplain Forest Types
- Streamside Willow dominated Shrubland Types
- Boxelder dominated Floodplain Forest Types

Purpose

For all their importance to a wide variety of wildlife species, riparian forest types in western South Dakota are poorly documented within the National Vegetation Classification. In addition, many stands of floodplain forest are dying of old age without recruitment of seedlings and saplings. This study was to help document and quantify self-sustaining forest stands so that we can learn what land management is compatible with forest survival and use this knowledge to improve GFP's private land assistance programs.

Timeframe August 2011 – August 2014

Location White River Basin in southwestern South Dakota

Summary or Important Findings

Across the upper 3 segments (all but the lowest reach) of the White River floodplain, there were relatively minor changes in broad-scale forest and herbaceous cover. 83% of forest land in the 1930s was still forested in 2010, and 90% of herbaceous areas in the 1930s remained so in 2010. In two of the three segments there was a net decrease

in channel area, while all three segments showed some increase in forested lands. The most obvious change has been in the lowest 31 km of the White River floodplain where Lake Francis Case water levels have affected the channel and floodplain hydrology. Here the floodplain forest has increased by 49% with a large increase in earlier successional stages of cottonwood forest.

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More Information

Cahlander-Mooers, A., M. Volke, M. Dixon and W. C. Johnson. 2014. Final Report:

Classification and mapping of riparian forest along the White River in South Dakota. University of South Dakota and South Dakota State University.