

Vegetation Classification on the Middle Rio Grande

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Abstract—This on-going study will provide data on changes in vegetation in the Middle Rio Grande since 1984.

One of the first activities of the Bosque Initiative was a pilot project initiated in June of 1995 by the Army Corps of Engineers to determine if there had been a change in stand structure and species composition of the Bosque since 1984. It was decided from this project that significant change had occurred to warrant further investigation of the entire Middle Rio Grande.

This project includes vegetation between the levees from Cochiti Dam to Elephant Butte Reservoir and the entire flood plain from the south boundary of Bosque Del Apache National Wildlife Refuge to dry land road. The riparian forest consists of approximately 42,020 acres and is 232 river miles in length.

There are two main objectives. The first is to record change in stand structure and species composition since the 1984 Hink and Ohmart Middle Rio Grande Biological Survey. The Hink and Ohmart Biological Survey was done to identify the major types of riparian habitat and to characterize the vegetation and terrestrial vertebrate communities of each type.

The second objective of the this project is to update information on stand structure and species composition of the riparian vegetation and to produce a map that will be available to cooperating agencies. These include:

Bosque Improvement Group
U.S. Fish and Wildlife Service
Rocky Mountain Research Station
U.S. Forest Service, Region 3
Bureau of Reclamation
Army Corps of Engineers
Isleta Pueblo
Santa Ana Pueblo
Middle Rio Grande Conservation District

Aerial photography was flown May 1995, October 1996 and May 1998 at a scale of 1:400. Stand structure and vegetation composition are evaluated using the same methodology Hink and Ohmart used in the 1984 Middle Rio Grande Biological Survey. Six categories are identified based on height of overstory and understory vegetation volume. Polygons are field verified for accuracy using a standard 50x25 meter rectangular plot with a 25-meter line transect. The species composition is evaluated from a threshold of 25 percent or more.

Vegetation polygons are delineated and transferred to Orthophoto base maps. These base maps are projected in UTM (zone 13), datum:NAD 27, spheroid:Clark 1866, at a scale of 1:400. The base maps are edited using Unix LT4X and are then imported into ARC/INFO. The finished product will be available in an ARC/INFO data base. The river will be represented by three reaches: Albuquerque, Isleta and Socorro.

Results will provide participating river management agencies a valuable diagnostic tool that describes the existing vegetation composition and stand characteristics of the Middle Rio Grande from Cochiti Lake to Elephant Butte Reservoir.

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