

MID RIO GRANDE
DRAFT REVIEW REPORT

Purpose: To review Mid Rio Grande Draft Maps for photointerpretive and cartographic inconsistencies before final map production.

Field Trip Dates: February 5 - 15, 1991

Field Trip Personnel:

Curtis Carley - U.S. Fish and Wildlife Service
Jim Dick - Geonex Martel, Inc.

Additional Personnel On Trip For One Day Or Less:

Anne Cully - U.S. Fish and Wildlife Service
Botanist with Albuquerque Ecological Services Field Station
Chuck Mullins - U.S. Fish and Wildlife Service
Biologist with Albuquerque Ecological Services Field Station
John Taylor - U.S. Fish and Wildlife Service
Biologist with Bosque Del Apache National Wildlife Refuge
Cipi - Cochiti Indian Pueblo Council Member

Other Personnel Consulted:

Phil Norton - U.S. Fish and Wildlife Service
Bosque Del Apache National Wildlife Refuge Manager
Jennifer Fowler-Probst - U.S. Fish and Wildlife Service
Supervisor of Albuquerque Ecological Services Field Station
Dr. Norm Scott - National Ecological Research Center
Dr. Mike Bogan - National Ecological Research Center
Jerry Elson - U.S. Forest Service
Mark Rucker - Bureau of Reclamation Engineer
Bill Berliegh - Bureau of Reclamation Engineer
Cisco Chavez - U.S. Army Corp. of Engineers

Results Of The Trip:

1. Most Palustrine wetlands within the main diversion canals will have their water regimes changed from Temporarily Flooded (A) to Intermittently Flooded (J). Because of channelization and large reservoirs, few flood events occur. The backwaters of the reservoirs have been known to flood, though. (See next section for further details)
2. Poor photo emulsion lead to an almost polygon-by-polygon check to differentiate SS1 and SS2. Many species of shrubs; willows, salt cedar, Russian olive, and cottonwood had an almost black signature on much of the photography. Enough information was gained, through field checks and collateral data* to make accurate determinations.
3. Within wetland/riparian areas, URm may be used to describe transitional areas with less than 33% shrub or tree cover.
4. Most sand bars in the river that were unvegetated at the time of photography are now supporting young willow, cottonwood, and salt cedar. There will be no changes made on the photos or maps, since the date of photography is the data baseline.
5. The different agricultural practices being mapped, cropland (UAc) and tilled land (UAt) have already begun to switch back and forth. Therefore any differentiation between the two practices after the date of photography may not be accurate.
6. The extent of urban and agricultural development in the Rio Grande Valley will constitute the work area. In Albuquerque, the eastern "OUT" boundary will be just to the west of I-25 where the first bluff comes up, since urban development spreads very far out of the floodplain. The work area does not coincide with the 100 year floodplain of the river.

*Vegetation Type Map - Rio Grande - Biological Resource Inventory
Dr. Ohmart 1982

Historical Information About The River And Water Management Practices:

Archeological evidence has shown that humans have lived in the Rio Grande Valley for several thousand years. Three hundred years ago the Spanish colonized the valley and began introducing agriculture on a large scale. This included the digging of irrigation canals to water crops, and the beginning of mans manipulation of the Rio Grande. Today a complex network of irrigation diversion canals crisscross the valley and levee the river in. Some canals come from miles upstream to irrigate crops as high as sixty to eighty feet above the river.

But the Rio Grande Compact is now the main driving force behind the rivers manipulation. The compact states that Colorado and New Mexico must deliver a specified amount of water each year to users below (Texas and Mexico). To assure efficient flow of water to Elephant Butte Reservoir for users downstream, the Bureau of Reclamation constructed a diversion dam with a deep narrow low flow canal. This canal begins at San Acacia, where the diversion dam is and runs seventy miles into the reservoir.

Effects of Reservoir Backwater Flooding And Stream Channelization On Mid Rio Grande Mapping Effort:

There were several flood events in the recent history of the river that are reflected on our mapping project.

- In 1937 Bosque Del Apache National Wildlife Refuge was established. Its higher order vegetation consisted of screwbean mesquite, cottonwood and other native vegetation, with a small amount of salt cedar. A flood event in 1941 greatly proliferated the spread of salt cedar to the point where it is now the dominant vegetative cover choking out just about everything else. This pattern is consistent all the way down to Elephant Butte.
- In March 1987, after about eight "wet years" Elephant Butte Reservoir was filled to capacity flooding the upper reaches of the reservoir/river interface. This flooding breached the levee on the west side of the river and silted in the low flow canal. Destruction of the conveyance system and the rivers new course to the west southwest is documented on the photography and the Paraje Well map. The area is currently under restoration.
- In June of 1987 the same conditions raised Cochiti Reservoir, north of Albuquerque, to a record pool level of 5435.5 feet above sea level. This is 110.5 feet above normal pool elevation. This flooding killed juniper high up canyon walls backing up north of Frijoles Canyon, ten miles to the north of the reservoir. It was decided that this dead juniper would be mapped as PSS5Jh as a result of this flooding. No regeneration was observed.

- Due to the channelization of the river by levees from bordering conveyance canals and flood events, aggradation of the river is occurring from about Albuquerque south. In Albuquerque the river is approximately six feet above the surroundings. In the San Marcial and Paraje Well quads the river is twenty-five to thirty feet above the surrounding countryside.

Though no major changes will be needed on these maps, barring a few adjustments, it was interesting to learn how man's need for water, political interests, and nature itself have shaped and influenced the Rio Grande, the lifeline of the region. And how man and nature are trying to coexist in this fragile ribbon of life in the desert.