

# The Rio Grande

## RECENT HISTORY OF THE RIO GRANDE AFFECTING THE MESA PRIETA AREA

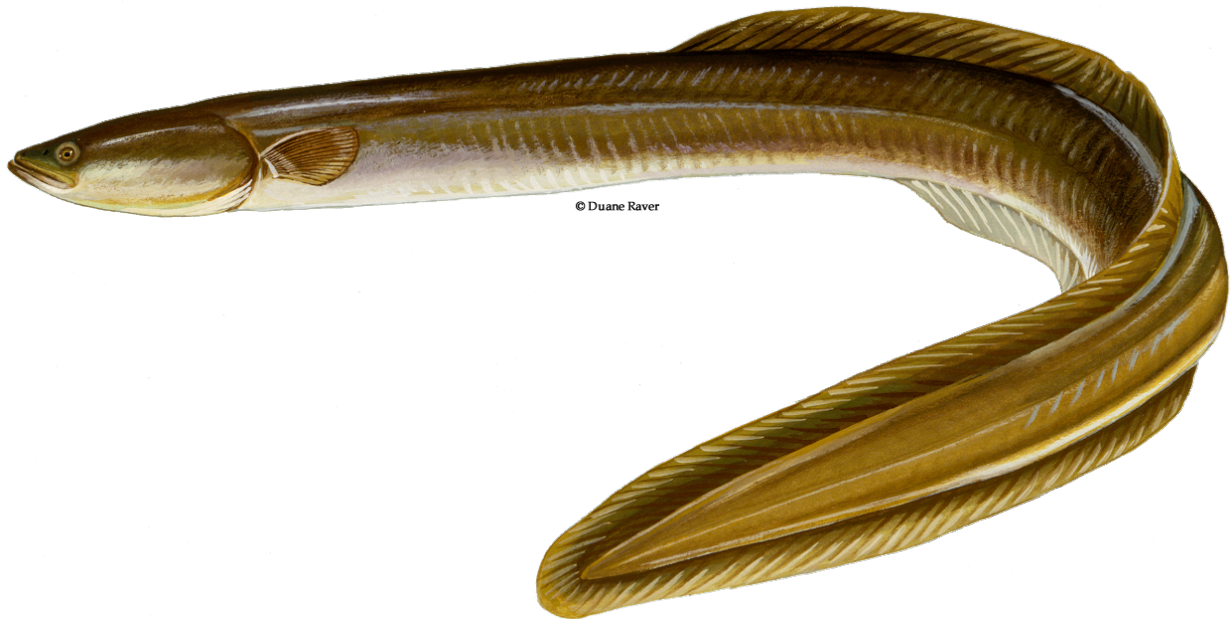
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The Rio Grande is an ancient river which has sustained life in northern New Mexico for thousands of years and continues to support Pueblo, Hispano and Anglo communities here today. It is important for Pueblo subsistence, tools and ritual. It provides habitat and nourishment to fish, plants, birds and animals. Many Pueblos are investing today in preserving the river and its environs, flooding native cottonwoods annually and removing invasive plant species of plants. The Rio Grande corridor is still a major flyway for migratory birds.

The river we see today at Mesa Prieta is very different from how it appeared in Pre-Contact times. In the area adjacent to the Western side of Mesa Prieta, the Rio Grande was a braided system of channels, oxbows and backwater ponds which shifted back and forth across a broad floodplain creating diverse habitats for a wide variety of birds, mammals, amphibians, reptiles and plant species. The Ancestral Puebloan people who lived in the Rio Grande valley made few modifications to their river. Between Pilar and Chamita, they built stone weirs for trapping fish in yucca fiber baskets. They also constructed small scale gravity fed irrigation head gates to water fields of 2 to 4 acres.

Changes began, however, in the late 1800s with increasing water diversion related to the expansion of Iberian-style irrigation systems in central and northern New Mexico. New fish species such as carp were introduced at this time, which competed with native species. In 1900, the bullfrog was introduced, thriving and exterminating the northern leopard frog in this area. The otter, a riverine mammal important to the Tewa for the ritual use of its pelt, was almost entirely extirpated. Then, after the construction of the Elephant Butte Dam from 1911-1916, major shifts were felt in the north and the wild Rio Grande has not been the same since. Eel migration runs, originating in the Sargasso Sea and extending up the Rio Grande into the Tewa Basin as far as Pilar, were ended. The 25-28 inch eels had been an important and dependable traditional food source. They were netted, smoked and stored for the winter, a valuable source of oil and protein based calories. More eel meat was consumed than deer meat. The skins were also smoked and dried and used for making dance leggings and pouches. This

traditional, sustainable industry stopped cold.



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In the mid-20<sup>th</sup> century, the Civilian Conservation Corps developed a fish hatchery at Elephant Butte Lake which had dire effects on native cutthroat trout, silvery minnow and flathead catfish. More drastic changes were created with the canalization of the river by the Army Corps of Engineers in 1954, intended to control flooding for the increasing numbers of people building houses on the floodplain.

While the river once had been slow flowing and branching between Velarde and White Rock, had low water volume and was systemically capable of absorbing seasonal flooding, now water flows quickly in a single channel, scouring the sides river side and bed. Previously, silt and sand deposits were part of the natural mechanism of adjusting and maintaining water flow and velocity to which native species were adapted, providing nourishment and secure habitats for fish spawning.

The ramifications of these changes can be seen and experienced in many ways. The last heavy flood on the river was in 1941. Today, the groves of large cottonwoods in the bosque, all about the same age, represent that major flood-fed propagation. They will all age out at the same time and the landscape will then look very differently. In the Pueblos, TEK, Traditional Ecological Knowledge, a heritage of hundreds of years' sustainable lifeways, is prompting the planting of native trees and the destruction of non-native invasive species. Because of this alteration of ecological zones, the variety of native birds, traditional seasonal

indicators to the Tewa, and sources of food and ritual materials, which were here previously are now rare while newcomers are common. Similarly, weedy plant species thrive in disturbed soil. While mule deer could easily cross the shallow bogs and river threads, they have difficulty in crossing the new wide deep river. While elk, who can, have moved in recently. In some places, such as can be seen as one crosses the Rio Grande on the bridge in Ohkay Owingeh, the river is slowly reverting to a braided system again, with swamps and oxbows providing increased diversity in habitat.