



## Past

Historically, the Kissimmee River meandered approximately 103 miles within a one to two mile wide floodplain. The floodplain, approximately 56 miles long, sloped gradually to the south from an elevation of about 51 feet at Lake Kissimmee to about 15 feet at Lake Okeechobee; falling an average of about one-third of a foot in elevation over each mile of the river. Under historic conditions, river flows generally exceeded 250 cubic feet per second (cfs) 95 percent of the time, while overbank flooding occurred 35-50% of the time during the historic period of hydrologic record (1934-1960). The river moved very slowly, with normal river velocities averaging less than two feet per second.

Wading birds, waterfowl, fisheries and other biological components were once part of this integrated and resilient river/floodplain wetland ecosystem and were supported by and dependent on the spatial mosaic of habitats, intricate food webs, and other complex physical, chemical and biological interactions and processes.

The historic floodplain was covered by approximately 35,000 acres of wetlands. Major plant communities found within these wetlands included maidencane and beakrush wet prairies, broadleaf marsh, and willow and buttonbush shrub swamps. Other plant communities common in the wetlands, but not distributed extensively, included wetland hardwoods, cypress, oak-cabbage hammocks, switchgrass, sawgrass, and floating mats or tussocks (Pierce et al., 1982).

The distribution and maintenance of plant communities within the flood plain wetlands depended on prolonged inundation and seasonally fluctuating water levels (Dineen et al, 1974; Toth, 1991). A fluctuating hydroperiod, along with the undulating topography of the floodplain, a meandering river channel, oxbows, and natural discontinuous levees, enhanced and maintained habitat diversity, including the mosaic of intermixed vegetation types (Perrin et al., 1982).

In the mid-1950's, the river fishery produced about 81,000 pounds of largemouth bass, black crappie, blue gill, catfishes, and red ear sunfish (1957 instantaneous fish biomass measurement). The Kissimmee River was especially renowned for its largemouth bass fishery. During normal water conditions, greater than 75% of the total fishing effort on the river was directed toward black bass.

The Kissimmee River floodplain harbored a large and diverse wintering waterfowl population, including ring-necked ducks, American widgeon, northern pintail, and blue-winged teal (USFWS, 1958). The historic winter duck population was estimated at about 12,500 birds. Wet prairie was the most important of the wetland communities for waterfowl. Under historic hydrologic conditions, wet prairies were typically dry from spring through early summer, allowing annual plants such as wild millet to germinate and produce seed. Fall and early winter flooding made wet prairies attractive feeding sites for migrant as well as resident populations of waterfowl.

South Florida's wetland habitats have historically supported a great diversity and abundance of wading birds - one of the largest centers of abundance in the world (Kushlan and White, 1977). Despite the 95% reduction in wading bird population in the state since the 1800's, all fourteen species of wading birds found in the eastern United States were reported nesting in Florida in 1977 (Custer and Osborn). The historic number of wading birds on the Kissimmee River flood

plain prior to channelization was estimated at 18,000 birds (USFWS, 1991). White and glossy ibis were common in the grassy wet prairies of the Lower Kissimmee Basin. The floodplain also provided habitat for the endangered Wood Stork, Snail Kite, and Bald Eagle and the threatened Sandhill Crane.

Prior to 1940, human habitation was sparse within the Kissimmee basin. Land use within the basin consisted primarily of farming and cattle ranching. However, rapid growth and development following World War II set the stage for extensive property damage when a severe hurricane occurred within the basin in 1947. The mass flooding during this period intensified public pressure for measures to reduce the threat of flood damage within the Kissimmee basin. The State of Florida responded with a request to the federal government to design a flood-control plan for central and southern Florida (U.S. Army Corps of Engineers 1992).