

LIMPOGRASS INVASION IN THE KISSIMMEE RIVER FLOODPLAIN. Walt Beattie, Brent A. Sellers, and Jason A. Ferrell, Biological Scientist and Assistant Professor, University of Florida-IFAS Range Cattle Research and Education Center and Department of Agronomy, and University of Florida-IFAS Department of Agronomy, Ona, FL 33865

Limpograss (*Hemarthria altissima*) is a stoloniferous tropical grass of the family Poaceae, and it is found in its native habitat along stream banks or seasonably wet soils in southern Africa. It was introduced into Florida as a promising cattle forage and four cultivars have since been released. Approximately 100,000 ha of limpograss have been planted for grazing and/or hay production in central and south Florida, including the Kissimmee River floodplain.

Historically, the Kissimmee River was a meandering 166 km stretch of waterway consisting of a 1.6 to 3.2 km wide floodplain. As a result of catastrophic flooding in the 1940's and early 1950's, the state of Florida and the U.S. government funded a plan to channelize the river to prevent such wide-spread flooding events. Once the 9.1 m deep by 91 m wide channel was complete in 1972, much of the flood plain was drained and diversity of desirable plant and animal species began to decline.

The loss of species diversity and increasing environmental concerns resulted in an effort to restore the river back to its native state. This prompted nearly 20 years of research on restoration in the Kissimmee River and its floodplain, which led to back-filling 35 km of the man-made canal and restoring approximately 104 km² of the floodplain. Within this non-residential area, the floodplain was acquired from ranchers, with much of this area subject to seasonal flooding.

Prior to restoration of the Kissimmee River, ranchers improved pastures near the river channel by establishing limpograss. It is estimated that over 15,000 ha was planted near the channel. However, limpograss was not recorded in the Kissimmee River floodplain through biological surveys prior to restoration. After restoration efforts were concluded in the pool C section of the river, limpograss invasion began to occur. It is estimated that limpograss has infested approximately 1,200 ha where a broadleaf marsh existed prior to channelization of the river. Additionally, limpograss can be found in isolated patches in a portion of the floodplain that was a bahiagrass (*Paspalum notatum*) sod farm prior to restoration.

Although limpograss is an important forage species for Florida cattlemen, it is also important that best management practices for eradication in natural areas, such as the Kissimmee River, be developed. Experiments were established at the Range Cattle Research and Education Center to determine the most effective treatment options for limpograss control. Glyphosate (≥ 1.1 kg ae/ha) appears to be the best option as greater than 95% visual control was observed 3 months after treatment. Other herbicides such as clethodim, fluazifop, nicosulfuron and diquat provided some reduction in limpograss growth, but limpograss appeared to recover. These results will be used to develop treatments for limpograss in the Kissimmee River floodplain in an attempt to restore the native broadleaf marsh that was present prior to channelization.