

# Restoration of Kissimmee River (USA)

Everglades in Florida had a wetland called “river of grass,” formed by water flowing in the dimension of 2.9 million acres (11700 km<sup>2</sup>) from Okeechobee Lake.

Kissimmee River had experienced water quality deterioration and aridification, caused by farmland reclamation and flood prevention. After the flood in 1947, river improvement construction was conducted to straighten the river course, which changed the shape of the river. Now Everglades is proceeding a world biggest project for wetland conservation and restoration with the total cost of 7.8 billion dollars. Kissimmee River’s once straightened river course has been re-winded in order to recover the wetland.

## ◆ Key to Restoration

- Wetland restoration for water purification, farmland nutrient salts removal project (“ECP”)
- Water supply improvement to brackish water, comprehensive Everglades restoration plan (“CERP”)
- Kissimmee River winding restoration project

## ◆ Overview of the River

Mid and south Florida is a wetland whose annual rainfall reaches 1346 – 1524 mm. Water from a series of lakes in mid Florida flows along the valley of Kissimmee River into Okeechobee Lake. From the lake, water flows along the flat grassland southward as a wide “river” with 96.5 km-width into Florida Bay. Kissimmee-Okeechobee-Everglades water system’s basin used to cover 16187 km<sup>2</sup>, but the half of the dimension was lost due to the wastewater project that accompanied suburbs and farmlands development.



## ◆ Project Efforts for Restoration

[Wetland restoration for water purification, farmland nutrient salts removal project (“ECP”)]

This project was the first phase in Everglades restoration. It aims at purifying polluted river water flowing from 700000 acres of farmland within the designated area of 42000 acres so that the polluted water does not flow directly into Everglades. Through the purification efforts, over-nutrition, especially phosphorus, is decreased by a biological method using vegetation.

[Water supply improvement to brackish water, comprehensive Everglades restoration plan (“CERP”)]

The measures include: multiple catchment areas for surface water, water storage areas, management of Okeechobee Lake as an ecological resource, improved water supply to brackish water such as river mouth, underground water storage facility, wetland for water purification, improved water distribution to Everglades, removing obstacles in sheet flow (thin layers of flow), usage of existing ex-quarry as water storage, wastewater recycle including sewage, test project, and water usage savings.

[Kissimmee River winding restoration project]

A law for water quality improvement was established in 1992, and a full-scale project on restoring the 35-km straightened stream into the original winding stream started. It was collaborated by military, the state government, and the public corporation for south Florida water control. The first step was in March 1999 through March 2000, when the straightened 12 km was re-winded and two dams were removed. Restoration focuses on habitat, vegetation, food chain, and fish and wild animals. The range of restoration is defined within practical ranges. Leaving the densely-populated areas, the meadows are the target of land acquisition.

Source: Foundation for Riverfront Improvement and Restoration (<http://www.rfc.or.jp/kawa/furusato/moi.html>)

“Research group’s report on conserving river and ecosystem in east coast of the States”

Foundation for Riverfront Improvement and Restoration/ Japan ecosystem society

“Research group’s report on conserving river environment with the unit of catchment basin in the United States”

Foundation for Riverfront Improvement and Restoration/ Japan ecosystem society