LAKE ISTOKPOGA IN-LAKE MANAGEMENT PROJECT

Mandate: Lake Okeechobee Watershed Protection Program (LOWPP)

Background:

Excess phosphorous (P) loads have contributed to the degradation of environmental quality in Lake Okeechobee. Increased P concentrations have resulted in conditions that: promote algal blooms, favor the spread of exotic vegetation, and impact public water supply. Despite efforts to reduce P loads to the Lake, loads and P concentrations discharging into the watershed from upstream Lakes Istokpoga and Kissimmee have more than doubled in the last 5 years (1996-2000). In response to these increases, the Lake Okeechobee Watershed Protection Program (section (3)(d)4) mandated a detailed accounting of watershed point, non-point, and in-lake sources of P that can be used to identify optimal methods for controlling P discharges from these areas. This project focuses on estimating P budgets (an accounting of sources and movement of P) in the watersheds.

To determine the watershed P budgets, it is important to understand how land use activities relate to the amounts of P brought into areas (import) and the carried out (export) of areas either directly (as in waste removal) or indirectly (as in surface or subsurface water flows). This information will help the District model both current conditions and develop predictive models as to potential future conditions. From these models, predictive management scenarios can be evaluated and the best alternatives implemented.

Project Overview:

This project will document the general characteristics of land use activities in regard to P imports and exports and from a basic mass balance models for the movement of P within subbasins. This budget development will assist in the planning of appropriate P source control methods in the Lake Istokpoga and Upper Kissimmee Chain of Lakes Basins to improve water quality.

Application of Results:

This assessment will identify existing conditions and how different land use activities currently contribute P loading to these lakes. Phosphorus reduction alternatives for the various land use activities can then be planned. Implementation of these management activities will reduce the P loads to Lake Istokpoga and the Upper Kissimmee Chain of Lakes and potentially reduce the excessive P loading to Lake Okeechobee.