INTRODUCTION

The term biomanipulation was originally defined as management of aquatic communities by controlling natural population of organisms aimed at water quality improvement. In a broad sense, biomanipulation is similar to other presently used by several authors: top-down forces, trophic cascade or food-web. All these terms refer to manipulation of secondary or tertiary producers and its impact on the community structure of aquatic ecosystems. Recently, the complexity of the ecosystem response and the role of bottom-up forces (nutrients) and / or nutrient mediated effects of planktivorous fish on plankton community structure were considered.

Phytoplankton-zooplankton interactions involve two contrasting processes working simultaneously. Zooplankton consumes phytoplankton and thus influences algal population directly by increasing loss rate. At the same time, algal growth is stimulated by the regeneration of the limiting nutrients, phosphorus and nitrogen. The net result of this interaction is a balance between consumption and stimulation.

Understanding of aquatic organisms is extremely important in the development of a water body management program. In addition to the organisms themselves; interactions between phytoplankton, zooplankton, and fish populations often have a major role in determining water quality.

In Egypt, the demand for fish as a source of food protein has progressively increased due to the rapid increase of the Egyptian population.

Through quantification of the relationships between different plankton groups and nutrient availability is the ultimate aim of the ecologist and fish farmer. Zooplankton have been widely studied and

used in biomanipulation experiments. Their relations with phytoplankton and fish are complex and not completely unrevealed.

The purpose of this study was evaluating relationship between fish, zooplankton and phytoplankton and their impact on water quality of River Nile at EL-Kanater EL-Khayria.