

Study on nutrients of Yellow River and the transport flux through Lijin hydrological station

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In recent years, great changes has happened in the ecosystem of Bohai Sea. Especially, the N/P ratio in Bohai Sea has increased dramatically. This study is designed to understand the change of nutrients in Yellow River and the transport to Bohai Sea through Lijin hydrological station which is 20 Km far from the estuary.

Three major aspects are addressed: ①concentration, fluxes and size fraction of all kinds of nutrients in the Lijin hydrological station in Yellow River and nutrients concentration and fluxes in groundwater in Yellow River Delta in 2001 and 2002; The nutrients flux in Yellow River and in Yellow River delta groundwater has been evaluated respectively. The nutrient fluxes in groundwater of Yellow River Delta is very little compared with that in the Lijin hydrological station in Yellow River into the sea, and its influence to the Bohai Sea ecosystem could be negligible. ②The amounts of nitrogen and phosphorus have been evaluated which were put into Yellow River from four resources (precipitation, fertilizer loss, soil erosion and sewage) from 1981 to 1998. It has been found that sewage is the key resource which dominates the amounts of dissolved nitrogen and dissolved phosphorus put into Yellow River. A primary model of nutrients put into large river has been established. ③Several factors which influenced the nutrients struction (ratio) in Bohai is found. Systematically analysis the series data of nutrients and biological parameters in the central Bohai Sea of 3 years and 10 cruises in recent 20 years, describes its changing tendency and primarily discusses correlations of each parameter. Also the relationship between changes in Yellow River drainage basin and nutrients in Bohai Sea has been discussed.

Therefore, it is quite important and essential for the research and protecting the ecosystem in the Bohai Sea.

Keywords: Nutrients; Drainage Basin; Yellow River; Bohai Sea