Construction of the Littoral Ecosystem Management System (LEMS) Using Marine Geographical Information System in Jinhae Bay

Hyun Taik OH, Woo-Jeung CHOI, Sung-Eun PARK , Rae-Hong JUNG, Jong Soo PARK

Marine Environment Management Team, National Fisheries R&D Institute, Busan, South Korea
Corresponding to Hyun Taik OH, ohtek@nfrdi.re.kr, Tel: 82-51-720-2253

The Jinhae Bay is biologically diverse waters in South Korea, the habitat to many species of plants, fish and animal. Although the Jinhae Bay locates in the semi-enclosed sea, its water quality had been preserved normal and clean condition until 1960s. After industrial complex constructed in 1960s, marine environment in the Jinhae Bay started to worsen drastically. The National Fisheries R&D Institute (NFRDI) has made an effort to make a stable condition and clean the water quality for ecosystem management in the Jinhae Bay.

In this research, we constructed the Littoral Ecosystem Management System (LEMS) using the quantities analysis on pollutants loads from the rivers and some practical marine Geographic Information System (GIS) applications for fishery management. Especially, it is possible to aid fishery managers and planners and coastal area executives with providing marine GIS information for LEMS. LEMS contains the realistically geographic data such as marine GIS, each region's aquaculture information, the amount of fishery facilities and production. Therefore, LEMS is able to manage fishery ecosystem and test the scenarios of the environmental changes in the Jinhae Bay.