Calculating capable wastewater discharge as permission and management for rivers : 以越南Day/Nhue河次集水區為

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ABSTRACT

During the period of industrial development, the Vietnamese government has focused on the balance of socio-economic development and protection through national and policies. However, pollutants from industrial, agricultural, urban, and domestic and craft villages wastewater have severely degraded water resources, especially the Day/Nhue River Sub-basin. Hence, this study aimed to calculate wastewater discharge capacity as permission and management for this river. This study found that Vietnam has implemented an environmental agenda favoring the using of environmental impact assessment (EIA), environmental standards, regulation, and economic instruments. Vietnam has also employed methods included restructuring administrative organizations, increasing budgets for wastewater discharge management, considering human resource development, motivation for wastewater treatment, and conducting environmental campaigns with NGOs. However, there are a number of constraints in permission and wastewater management such as unclear guidelines for policy implementation, weak environmental standards enforcement, and low administrative penalties for offenders, overlapping jurisdiction amongst agencies. In addition, there is a lack of finance, facilities, and human resources in most organizations. This study focused assessment of pollution sources and water quality assessment on the Day/Nhue River. In addition, a water quality model, MIKE 11 was selected to calculate and simulate the transmission ability of pollutants by discharge sources along the river. Based on the results of model calculations assess pollution levels in each river sections. On the other hand, the results of model show also receiving capable of pollutants from discharge sources, the load of BOD5 permission in the longitudinal river section. In real conditions, when the manager and planning not expertise in the field using the model, the thesis proposed using a lookup table of model calculation to investigate the construction of tables about concentration and chart shown changes in discharge flow, water flow to the upstream and the concentration of pollutants. These applications will be built according to the different plans to help for the convenience of users to assist manager can review and consider when planning, licensing or regulating the wastewater discharge permission on this basin.

Keywords : Day/Nhue river sub-basin、Water quality model、MIKE 11、Wastewater discharge permission

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