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生态资源环境

环太湖主要河流入出湖口表层沉积物污染特征研究

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摘要：

以环太湖31条主要河流入出湖口的表层沉积物为对象，分析了太湖流域4个区内河流入出湖口表层沉积物的总氮（TN），总磷（TP）和总有机质（TOM）的含量。结果表明：第2区和第3区的TN，TP和TOM的含量较高；第1区和第4区的较低。各区沉积物中TN，TP和TOM的平均含量由高到低依次为：TN—第2区＞第3区＞第4区＞第1区；TP--第2区＞第3区＞第4区＞第1区；TOM—第2区＞第4区＞第1区＞第3区；磷形态中铁铝磷（Fe/Al-P）活性较高，Fe/Al-P—第2区＞第4区＞第3区＞第1区；综合氮磷指标，对太湖重度污染区（太湖的北—西北—西部分）水体富营养化影响最大的入湖河道：太滆运河、百渎港、陈东港、漕桥河、直湖港、武进港、官渎港、小溪港、殷村港、洪巷港、茭渎港和乌溪港。以上河流沉积物TN，TP含量均较高（TN>1000 mg/kg、TP>500 mg/kg）。

关键词： 环太湖河流；入出湖口；沉积物；污染物

The Analysis of Pollutant Characteristics in Surface Sediments of the Stream Inlets and Outlets of the Main Rivers around Taihu Lake

Abstract:

Sediment samples in the inlets and outlets of the 31 main rivers around Taihu Lake were collected and used as materials. The contents of total nitrogen (TN), total phosphorus (TP) and total organic matter (TOM) were detected. The results showed that the contents of TN, TP and TOM of Region2 and Region3 were higher than those of Region1 and Region4. The orders of average contents of TN, TP and TOM of the four regions were as the following, for TN: Region 2>Region 3>Region 4>Region 1; for TP: Region 2>Region3>Region4>Region1; for TOM: Region2>Region4>Region1>Region3. The activity of Fe/Al-P was higher than that of other phosphorus fractions. For Fe/Al-P: Region2>Region4>Region3>Region1. As a result, the crucial rivers resulted in the serious eutrophication of Taihu Lake zones(the northern, northwestern and western parts of Taihu Lake) in the decreasing order are Taige Canal, Baidu Port, Chendong Port, CaoqiaoRiver, Zhihu Port, Wujin Port, Guandu Port, Xiaoxi Port, Yincun Port, Hongxiang Port, Jiaodu Port and Wuxi Port. Both TN and TP concentrations in sediment samples of these rivers were fairly high (TN>1000 mg/kg, TP>500 mg/kg).

Keywords: rivers around Taihu Lake stream inlets and outlets of the rivers sediment pollutants

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