

连片生态浮床对微污染河水的净化效果

Purification effect of ecological floating beds of flakiness connection in slightly polluted river water

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中文摘要:

选取漕桥河的支流庙尖浜作为实验河段,以睡莲(*Nymphaea alba*)、菖蒲(*Acorus calamus Linn*)和水芹(*Oenanthe javanica (Blume) DC*)作为微污染水体净化的浮床植物,研究连片生态浮床的净化能力随季节的变化和浮床面积对连片生态浮床净化能力的影响。结果显示,秋-冬-春季节内植物的净化能力随季节变化呈“U”型,相应的河水水质的变化呈一个倒置的“U”型;在一定营养负荷和植物正常生长状况下,沿水流方向,氮、磷含量随浮床面积的增加而降低——春季时,随浮床面积增加,菖蒲区对TN的去除率由8.6%增加到26.7%,TP的去除率由17.1%增加到58.2%,水芹区对TN和TP的去除率最高可达22.0%和28.0%。研究表明连片生态浮床是河道水质改善的有效可行的方法之一,可为太湖入湖河流的营养物质控制提供科学依据。

英文摘要:

Miaojian creek, a tributary of Caoqiao River was selected as the experimental river, and *Nymphaea alba*, *Acorus calamus Linn* and *Oenanthe javanica (Blume) DC* were used as the plants of floating beds for purifying the slightly polluted river water. The purification ability of ecological floating beds of flakiness connection was studied with the seasons' change and the relationship between the area and purification ability of ecological floating beds of flakiness connection. The results showed that the purification ability of plants changed with seasons and appeared a "U" type in autumn-winter-spring, but the corresponding changes of water quality presented an inverted "U" type. In certain nutrient loads and plant growth situation, and along the flow direction, the concentrations of nitrogen and phosphorus would decrease the increase of floating bed area —In spring, the removal rate of TN rose from 8.6% to 26.7% with floating bed area' s increase in *Acorus calamus Linn* zone, and the TP increased from 17.1% to 58.2%, then TN and TP removal rate in *Oenanthe javanica (Blume) DC* zone could reach up to 22.0% and 28.0%. Research indicated that the ecological floating beds of flakiness connection were one of the effective feasible methods to the river water quality improvement, and could provide the scientific basis for the nutrients control of rivers into the Taihu Lake.

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