

OD5) Effects of Anthropogenic Activities on the Upper Naeseong Stream

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1. Introduction

The Naeseong Stream is a tributary that inflows into the mid-upper part of the Nakdong River and is famous for sand-based channel bed in Korea. We investigate the effects of anthropogenic activities through stream structure, hydrology, basic water quality, and microalgae at 40 km reach between upstream and downstream from the Yeongju dam located in the upstream of the Naeseong Stream.

2. Results and Discussions

Conductivity values are relatively high as excess 200 $\mu\text{S}/\text{cm}$ in the mainstream and at the mouths of tributaries. Furthermore, chl-a concentrations of phytoplankton were higher at downstream ($>20 \text{ mg}/\text{m}^3$) than that of upstream ($<10 \text{ mg}/\text{m}^3$), and those values of periphyton were eutrophic levels ($>10 \mu\text{g}/\text{cm}^2$) at all stations. In present, the various types of dams, weirs, and ponds were continuously constructed within the study area of the Naeseong Stream. Moreover, in addition to point sources of rural residential area, such anthropogenic activities have been sufficient to serve as an important internal factor in degrading stream water quality. The purpose of this study was to analyze seasonal effects of anthropogenic activities on the environmental circumstances, and the results will be to provide useful data for understanding the causes of algal outbreaks within reservoirs. Our research showed clearly undermines how human activities can alter the stream water quality and ecosystem. The adverse impacts of these modifications on the stream ecology in the Naeseong Stream unfortunately remain unresolved.