

TITLE: PERIPHYTON DYNAMICS ALONG A STREAM WITH A GRADIENT OF HUMAN IMPACT

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Source: JOURNAL OF FRESHWATER ECOLOGY: Sept. 2010 Volume: 25 Issue: 3 Pages: 385-394

Abstract: The impact of anthropogenic development on periphytic communities was studied within Finkle Brook of Bolton Landing, New York. Finkle Brook is located in the Lake George watershed and has increasing anthropogenic development from the headwaters to the mouth. Periphyton was collected and quantified (as algae, bacteria, and fungi) from both natural and artificial substrates during the summer of 2007. On natural substrates, the headwater site supported the highest organic material but the least algal growth. On artificial substrates, the more developed downstream sites usually supported significantly more periphytic growth than the headwater site. Algal and fungal growth peaked early in the sampling period (June), whereas bacterial density and total organic material had the most accumulation at the end of the growing season (September). These results support the hypothesis that periphyton increases in biomass and changes in community structure as a response to factors associated with anthropogenic development.

Full article can be found at: <http://dx.doi.org/doi:10.1080/02705060.2010.9664381>