

B336 Analysis of Environmental Parameters and Distribution of Microorganisms in Nakdong River Estuary

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The influences of estuary barrage on the changes of eleven physicochemical environmental parameters and distribution of microorganisms were investigated 61 times at two weeks intervals from December 1995 to August 1998 at three sites of Nakdong river estuary.

Multiple correlation analysis and factor analysis were carried out among physicochemical environmental parameters and biological parameters of Nakdong river Estuary to analyze interrelationships between each parameters.

Most of the factors showed significant variations seasonally and spatially.

Factor analysis with 21 parameters led to extraction of 6 factors that could account for 84.3% of the ecosystem variation of Nakdong river Estuary. The more important factor were identified.

B401 Importance of monsoon on cyanobacteria development in the lower Nakdong River : Year-to-year variation (1993-1998)

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Massive summer cyanobacterial blooms dominated by *Microcystis aeruginosa* were repeatedly observed since 1992 in the regulated Nakdong River (mean chl.a, $40 \pm 55 \mu\text{g/l}$, n=71; June-August, '93-'97). In the years with scanty summer rainfall ('94, '95, '96) relatively high algal biomass was observed (mean chl.a, $55 \pm 63 \mu\text{g/l}$, n=40). In the years with heavy rainfall ('93, '97, '98), duration of the bloom was short or absent (mean chl.a $21 \pm 33 \mu\text{g/l}$, n=38). The severity and frequency of the precipitation from late June to early July (monsoon) and from late August to early September (typhoon) appeared to be major factors causing the inter-annual variability of cyanobacterial bloom.