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운문호의 식물플랑크톤 군집동태 및 부영양화도 평가

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Seasonal dynamics of phytoplankton and eutrophication were evaluated at three sites in the Unmoon lake from May to November 2001 at 1 week intervals.

The seasonal succession pattern of phytoplankton in the Unmoon lake showed that the dominant species were; i) diatom during the late spring, ii) dinoflagellate at June, iii) blue green algae, diatom and dinoflagellate at July, iv) green algae and blue green algae at August, v) blue green algae at September and early November, and vi) diatom at November. Members of *Microcystis* were the dominant species from mid August to late October and members of *Aulocoseira* appeared as important species from autumn in the Unmoon lake. The concentration of chlorophyll-a ranged from 2.4 to 23.0 mg/m³ (average: 8.6 mg/m³) during the studied period. Concentrations of T-P were higher from July to November than other months with the highest value of 0.028 mg/l. The average N/P ratio was 121 indicating that concentration of phosphorus determines high algal growth in the Unmoon lake. Interestingly, concentrations of silicate were higher in the Unmoon lake (average value: 10.016mg/l) than in other comparable lakes(average value: 1.074~4.408mg/l) indicating the potential of diatom bloom. The average trophic state index (TSI) in the Unmoon lake was 52 which is close to eutrophic state and the trophic state trend was rising steadily from the year 1999 on.

Key words : eutrophication, phytoplankton, trophic state index (TSI)