

Estimates of nutrient-enriched phytoplankton growth rate (μ_n , d⁻¹) and microzooplankton grazing rate (m , d⁻¹) for total phytoplankton community (Landry and Hassett, 1982) were calculated with least-square regression between the apparent growth rates (ε_d , d⁻¹) and the dilution factors (d) as

$$\varepsilon_d = \frac{1}{t} \ln \left[\frac{Chl_d(t)}{Chl_d(0)} \right] = \mu_n - d \cdot m$$

$$\mu_0 = \varepsilon_{raw} + m$$

where, $Chl_d(0)$ and $Chl_d(t)$ are the initial and final concentrations of Chl-*a* for each dilution treatment (d) with t the incubation time (one day in our experiment). The natural growth rate (μ_0) is calculated as the sum of the apparent growth rate without nutrient enrichment (ε_{raw}) and the grazing rate (Landry et al., 1993).

For each phytoplankton size-class i (micro, nano, and pico, respectively), we have similar equations as

$$\varepsilon_d^i = \frac{1}{t} \ln \left[\frac{Chl_d^i(t)}{Chl_d^i(0)} \right] = \mu_n^i - d \cdot m_i$$

$$\mu_i = \varepsilon_{raw}^i + m_i$$

where, μ_i and μ_n^i are the natural and nutrient-enriched growth rates of size-class i with m_i the size-specific grazing rate. ε_{raw}^i and ε_d^i are the raw and nutrient-enriched apparent growth rates of size-class i .