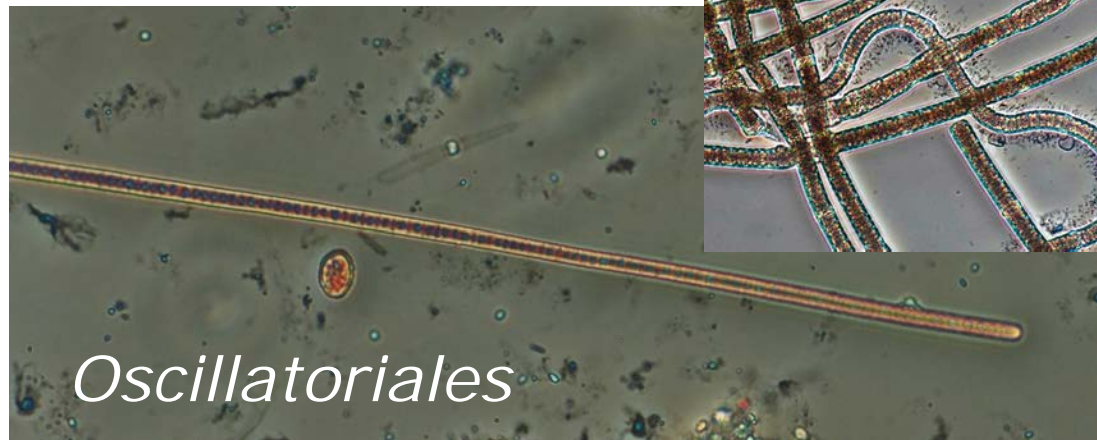
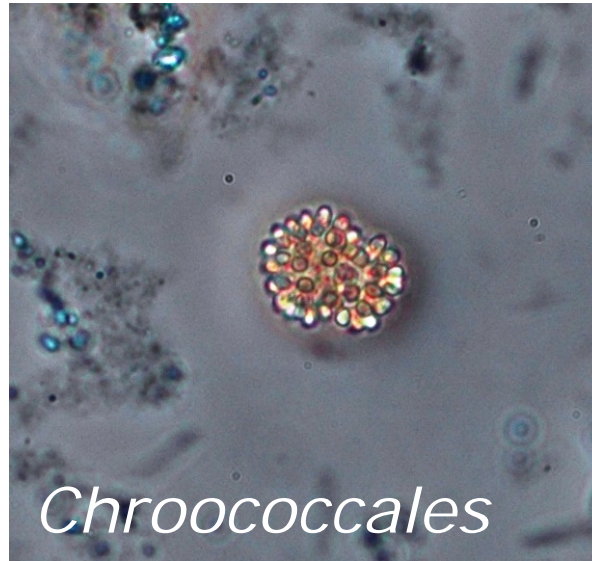




The key role of phosphorus and nitrogen for cyanobacterial composition in the northern Baltic Sea

Agneta Andersson et al. 2015 ECSS

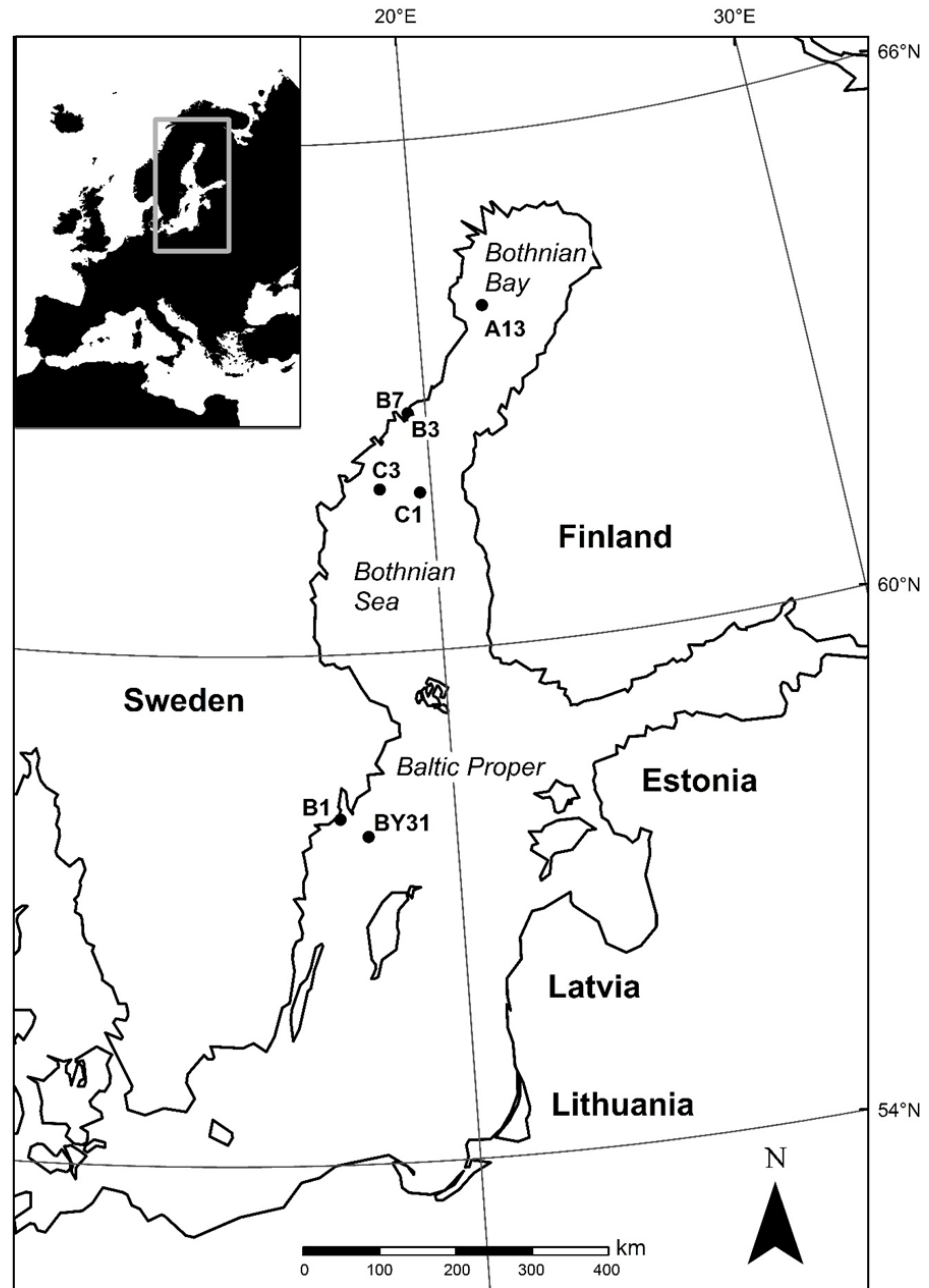
Cyanobacteria



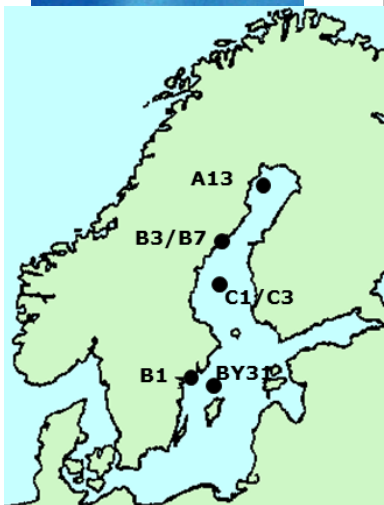
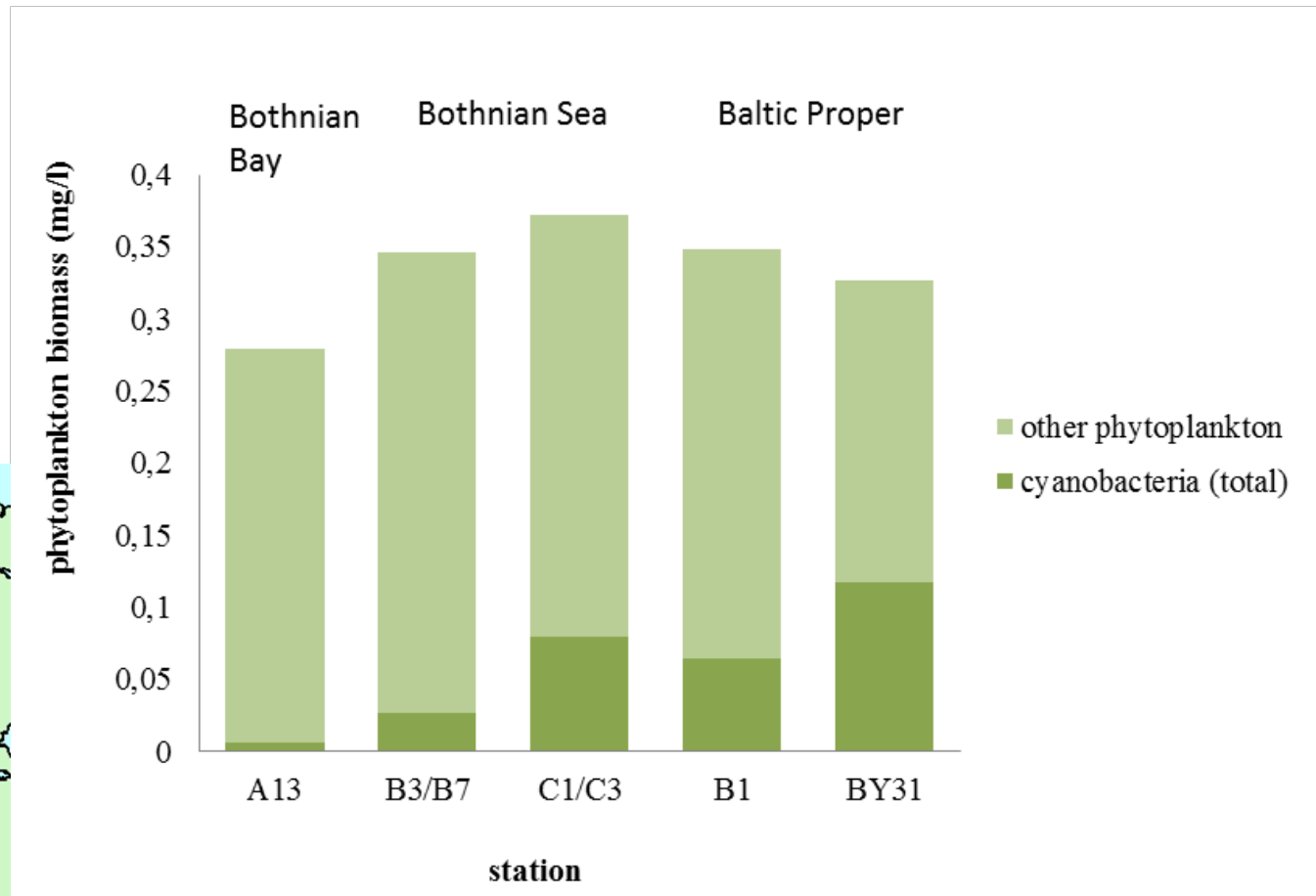


Aim of the study

- Spatial variation and structure of the cyanobacteria summer community in the northern Baltic Sea
- Environmental conditions effect on the community
- Temporal trends 1998-2012

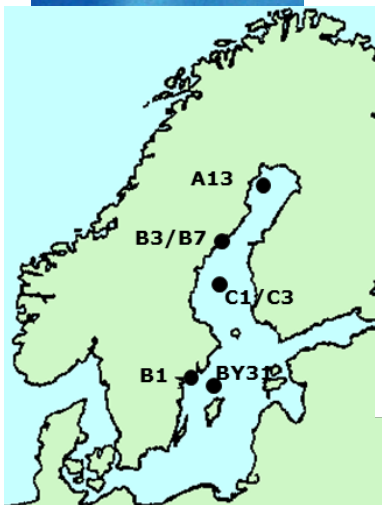
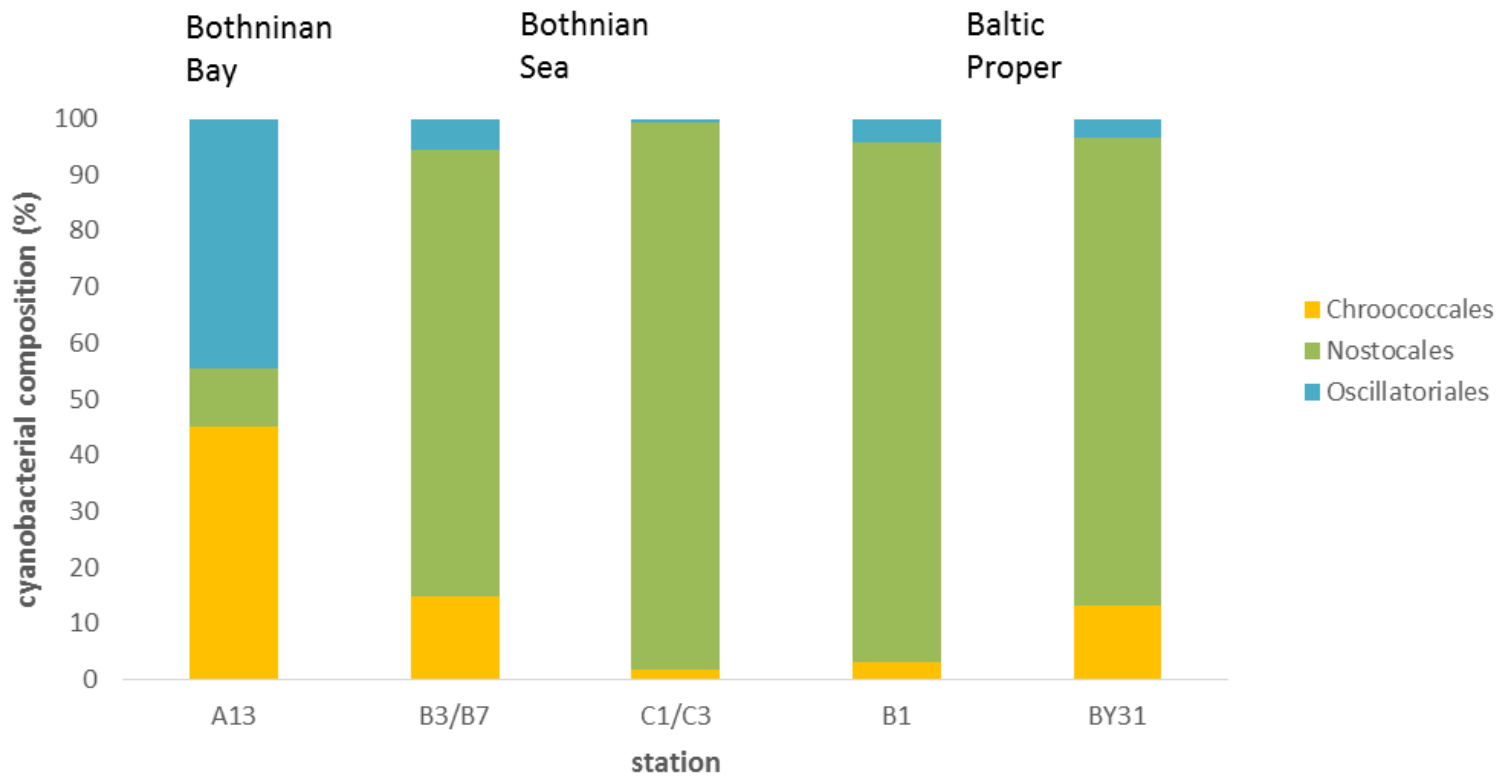


Phytoplankton composition June-September

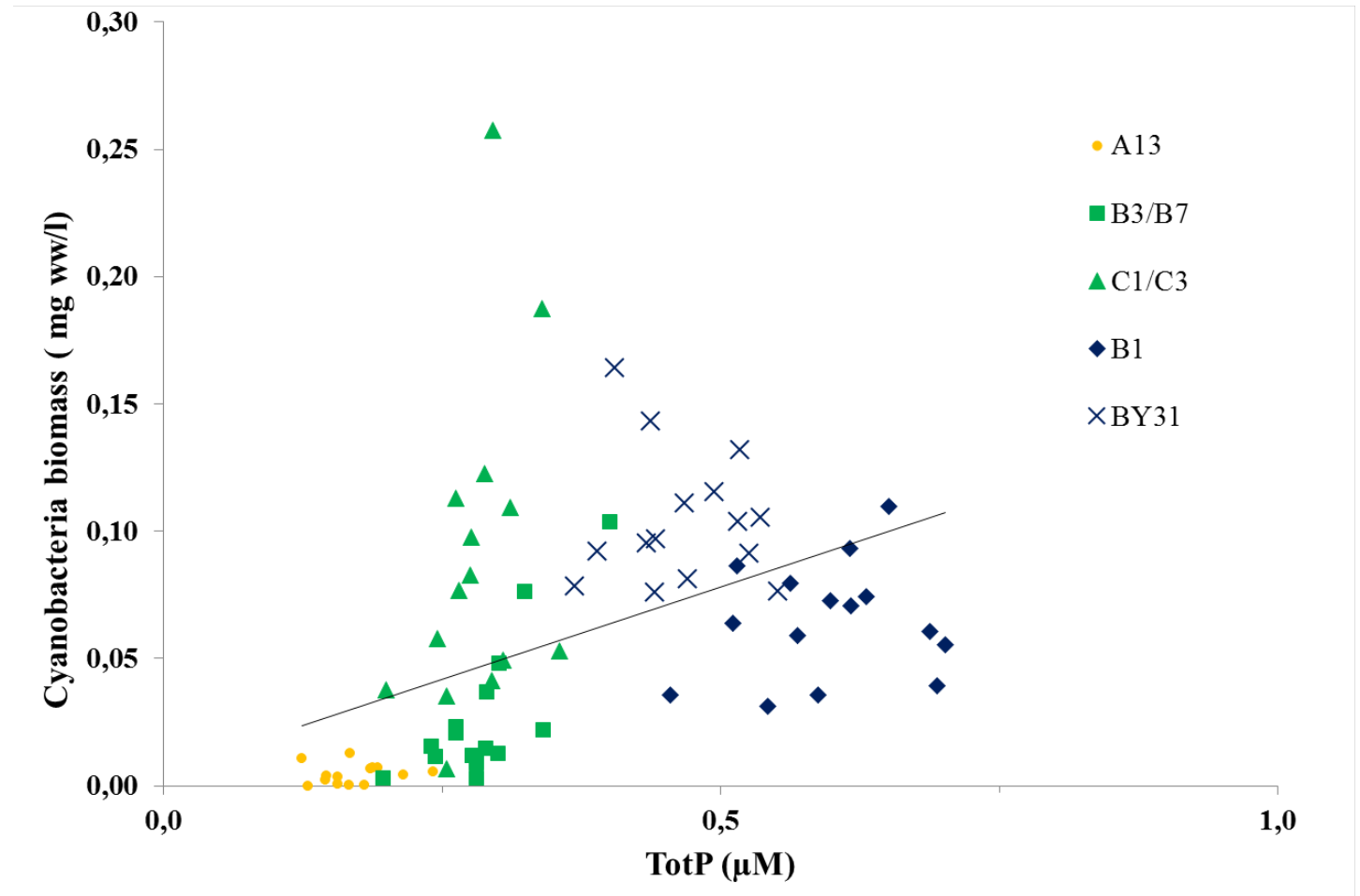




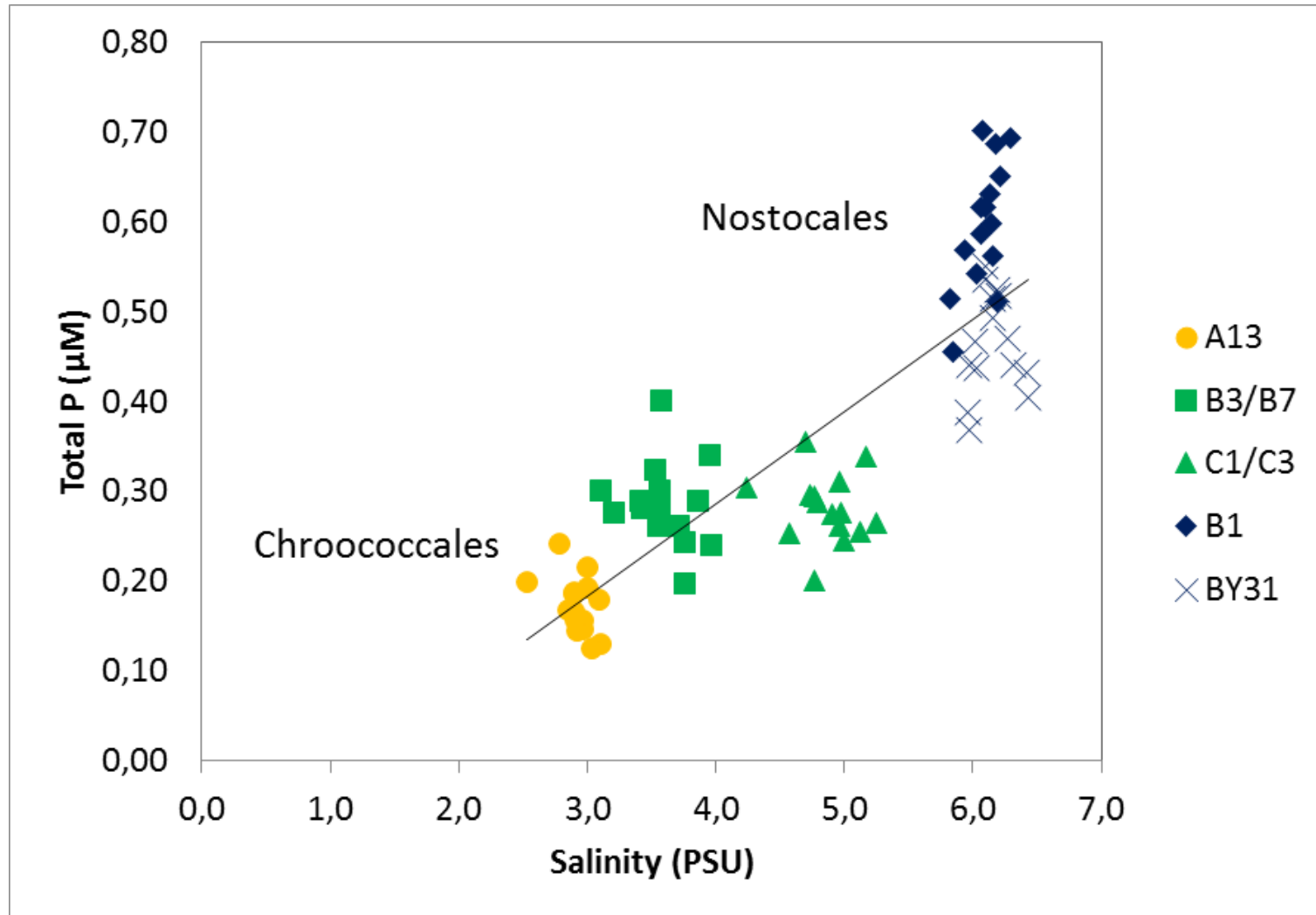
Cyanobacteria composition June-September



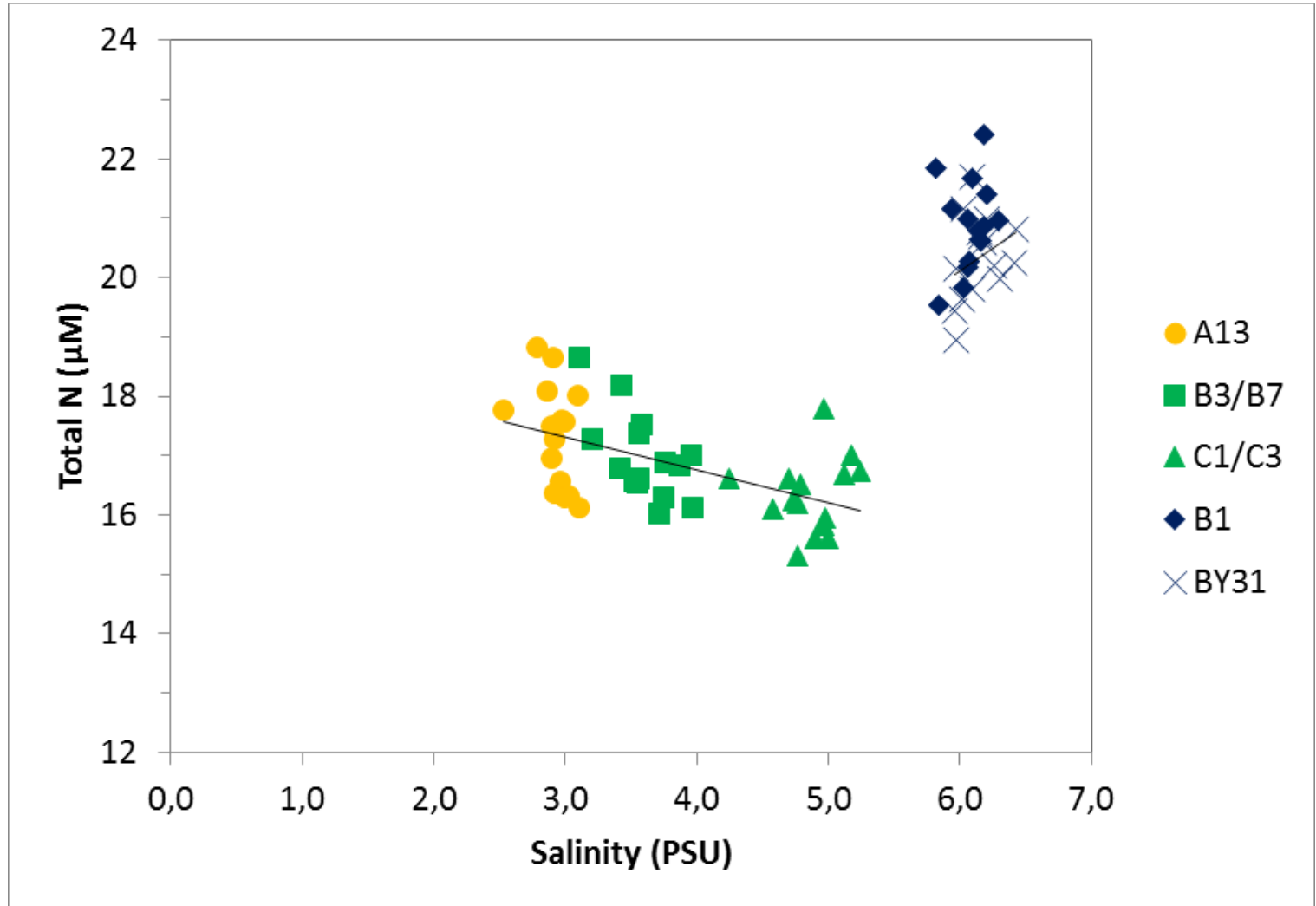
Cyanobacteria vs phosphorus



Correlation Phosphorus - Salinity

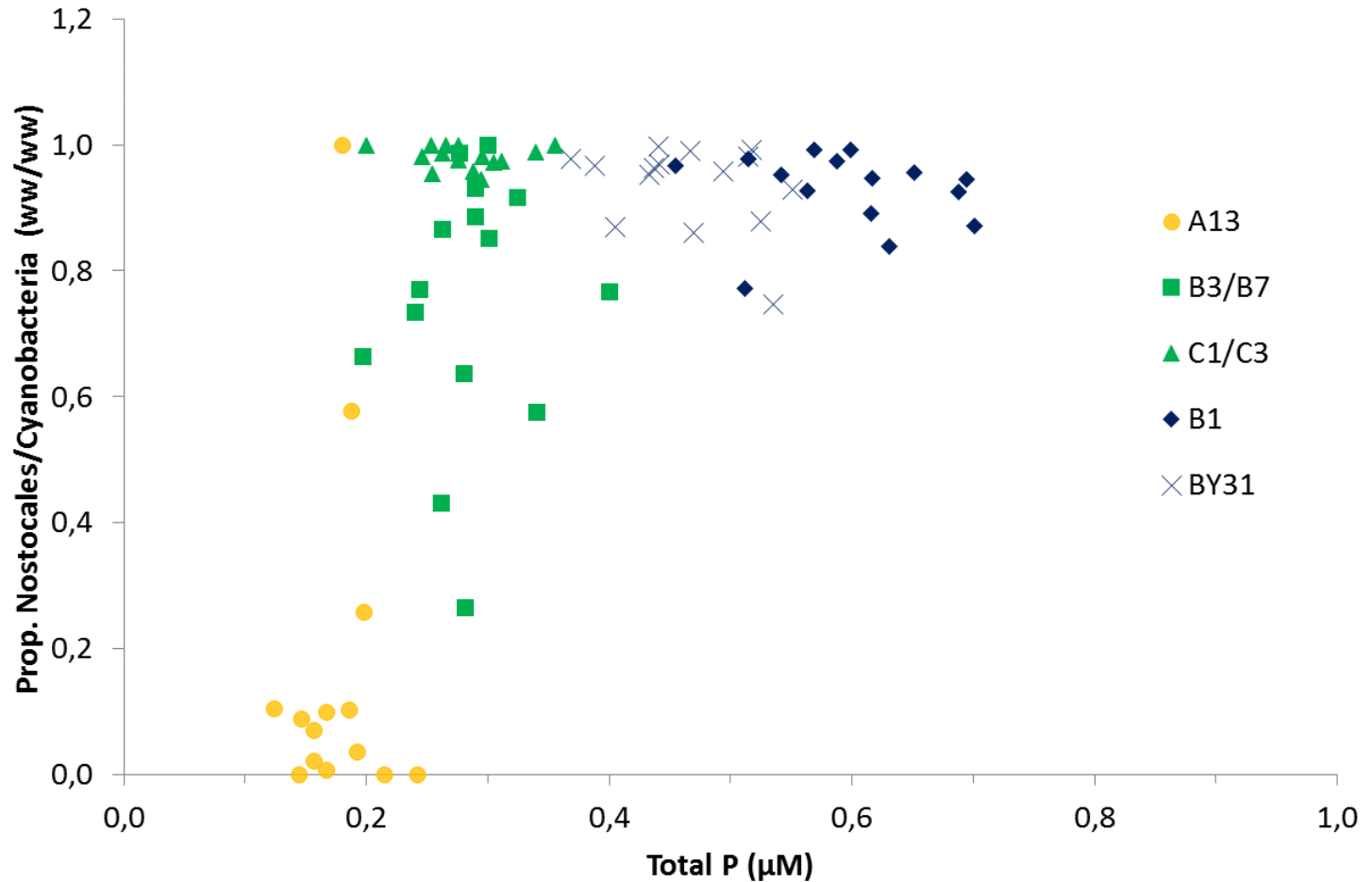


Correlation Nitrogen - Salinity

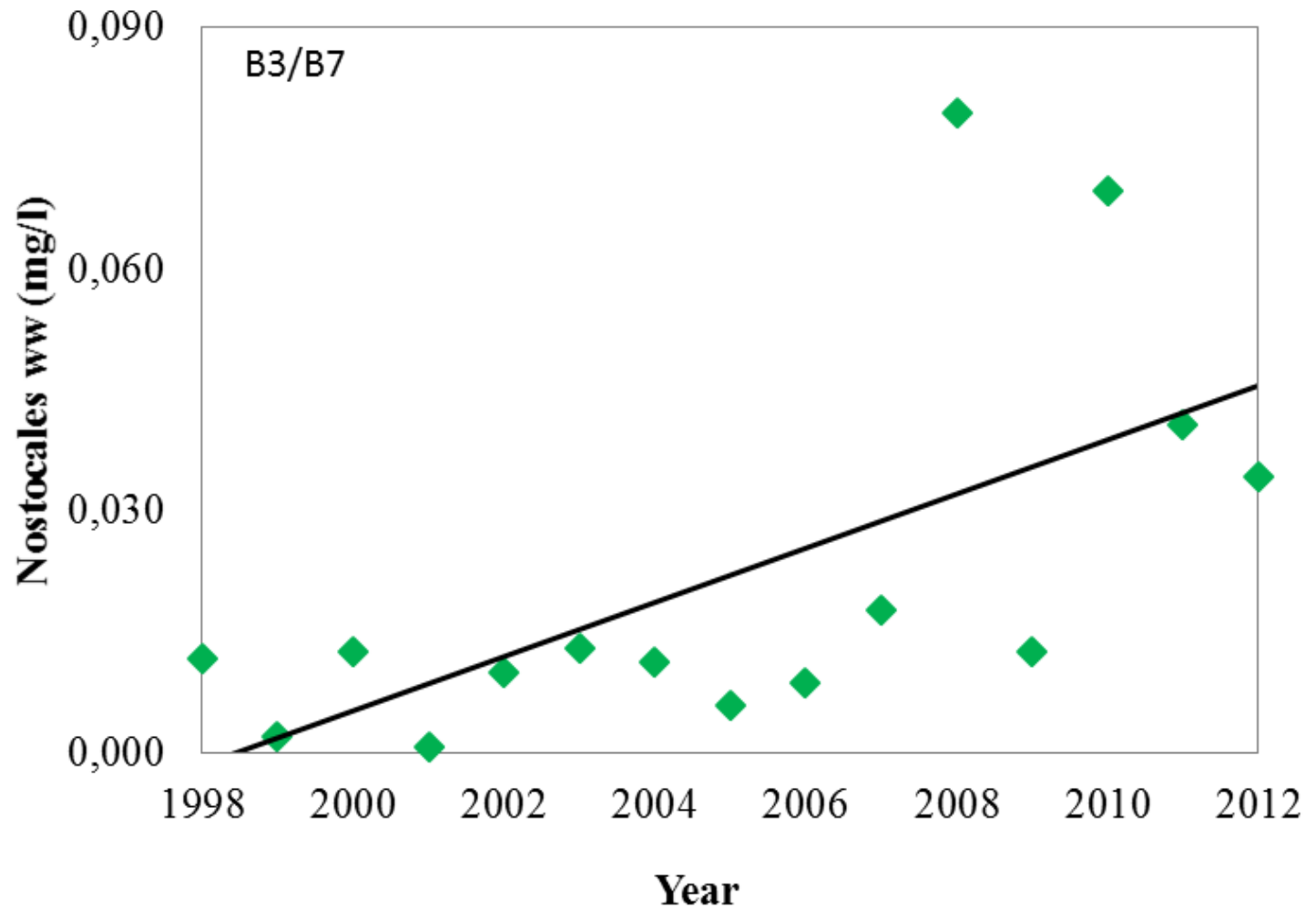




Nostocales became dominant when total P $> 0.25 \mu\text{M}$

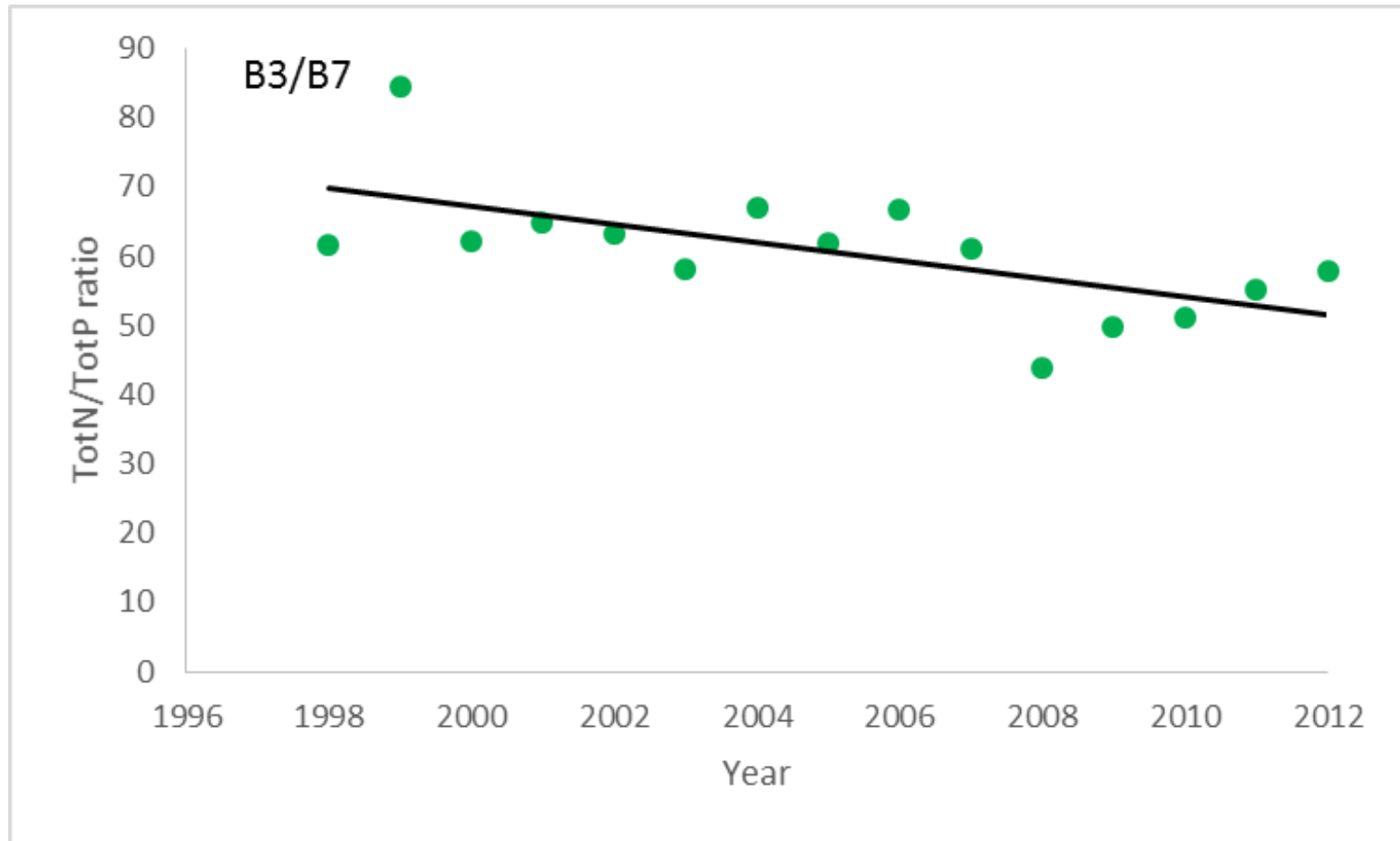


Nostocales and N/P ratio

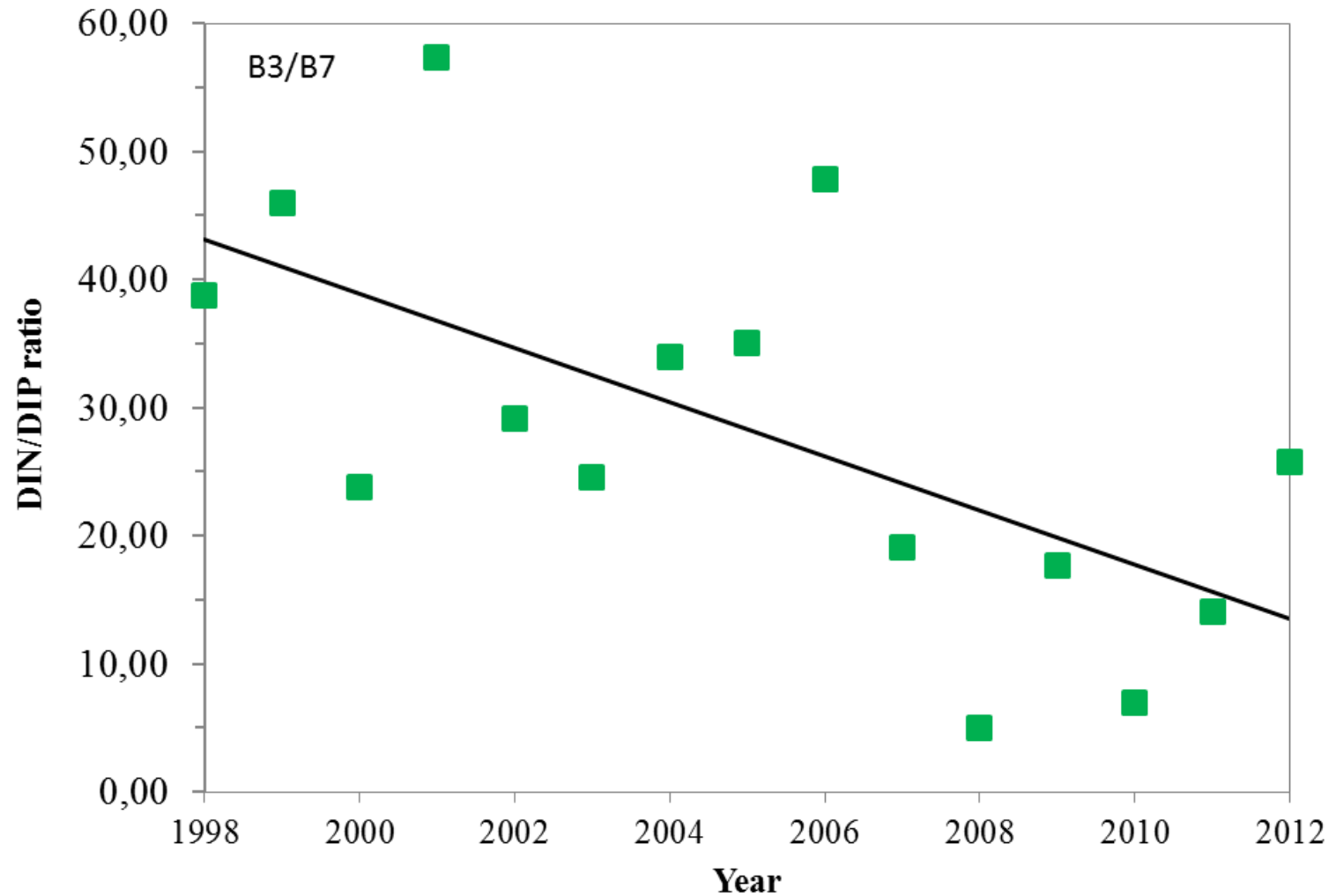




Nostocales and N/P ratio



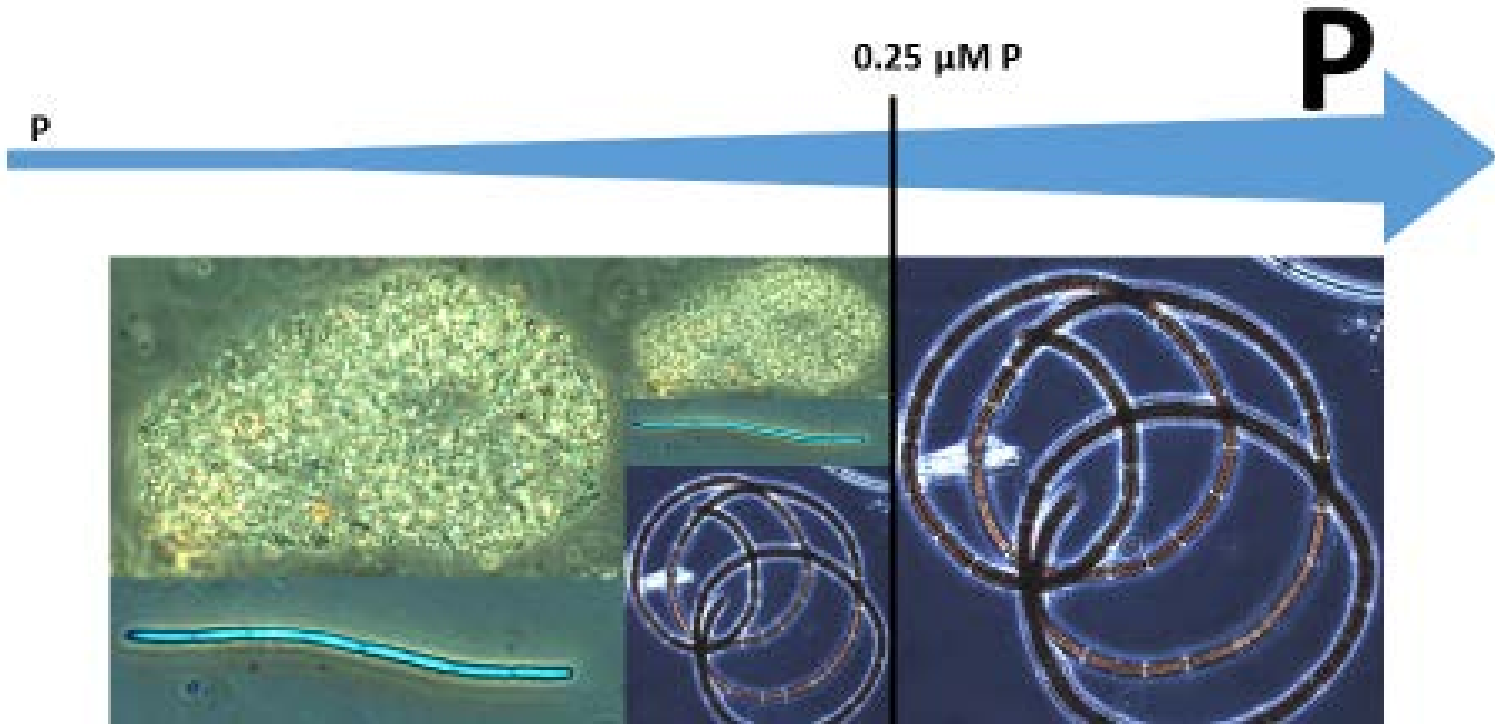
Nostocales and N/P ratio





Highlights:

- High phosphorus–low nitrogen supported nitrogen-fixing filamentous cyanobacteria.
- Low phosphorus promoted small colony-forming cyanobacteria.
- Chroococcales and Oscillatoriales dominated the cyanobacteria in the Bothnian Bay.
- Nostocales dominated in the Bothnian Sea and the northern Baltic Proper.
- Nostocales became dominant when total phosphorus concentrations exceeded 0.25 μM .





Thanks to

- Staff at Umeå Marine Science Center, Umeå University and Department of Ecology, Environment and Plant Sciences, Stockholm University
- Swedish Environmental Protection Agency and the Swedish Agency for Marine and Water Management



Thank you for listening!