

# Summer dynamics of the deep chlorophyll maximum in Lake Tahoe

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Vertical profiles of chlorophyll and phytoplankton biomass were measured in Lake Tahoe from July 1976 through April 1977. A deep chlorophyll maximum (DCM) persisted during summer and early autumn (July-October) near 100 m, well below the mixed layer and at the upper surface of the nitracline. The DCM coincided with the phytoplankton biomass maximum as determined from cell counts. In addition, the composition of the phytoplankton assemblage was highly differentiated with respect to depth. *Cyclotella stelligera* was the predominant species in the mixed layer while the major species in the DCM layer included *C. ocellata* and several green ultraplanktonic species. In situ cell growth plays a substantial role in maintaining the DCM, but sinking of cells from shallower depths and zooplankton grazing above the DCM may contribute to the maintenance of the DCM. Calculations support the interpretation that the summer DCM persists at the boundary between an upper, nutrient-limited phytoplankton ass