**Yallop M.L. & O’Connell, M.J. (2000). Wetland creation: colonisation & production of phytoplankton & submerged macrophytes in hypereutrophic freshwater lagoons. *Aquatic Conservation* 10: 305-309.**

**Abstract**

Colonization by macrophyte and phytoplankton communities was recorded in the newly created freshwater wetland complex at the Wildfowl and Wetlands Trust (WWT), The Wetlands Centre, London. To attract particular bird species and to increase overall invertebrate and vertebrate biodiversity it was originally planned to establish a number of different submerged aquatic macrophyte communities in the water bodies. Early planting schemes were abandoned due to extensive growths of filamentous macroalgae.2. During 1997 and 1998 hypereutrophic conditions prevailed in the lagoons with peak concentrations of total phosphorus (TP) in excess of 1000 mg m−3. Turbidity was high and dense algal crops and cyanobacterial blooms common, with chlorophyll a concentrations in excess of 40 mg m−3.3. In 1999, a ‘switch’ in state occurred in the Sheltered Lagoon from a turbid lake dominated by cyanobacteria and filamentous macroalgae in 1998, to a clear lake, dominated by the macrophyte Myriophyllum spicatum L. with a mean biomass of 245 g dry weight m−2; concentrations of TP remained high (>200 mg m−3).4. Possible causes for the switch in the Sheltered Lagoon are considered. Reduction in TP was not considered to be sufficient to trigger a switch. The smaller size (1.8 ha), with smaller fetch and greater protection from wind mixing may have reduced sediment suspension in the Sheltered Lagoon and, coupled with water level changes, may have created favourable light conditions for the establishment of M. spicatum. Implications for future design and management of the water bodies are considered.