



## Does resuspension prevent a shift to a clear state in shallow lakes during reoligotrophication?

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**ABSTRACT:** Water managers often debate whether resuspension of sediment with high organic matter and water content accumulated during eutrophication delays improvement of water clarity after reduction of external nutrient loading. Using data from 15 shallow (mean depth <5 m) eutrophic lakes surveyed during 8-12 yr, we show that the reduction in phytoplankton biomass after external loading reductions of phosphorus or changes in the abundance of planktobenthivorous fish was accompanied by a proportional or nearly proportional reduction in detritus and inorganic suspended solids. The reduction occurred irrespective of lake size (0.1-40 km<sup>2</sup>), extent of phytoplankton biomass reduction (up to 10-fold), and despite dominance of sediments with high water and organic content. Therefore, we conclude that recovery of shallow lakes after nutrient loading or fish stock reduction is apparently not significantly delayed by resuspension of organic or inorganic matter accumulated in the sediment during eutrophication.

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