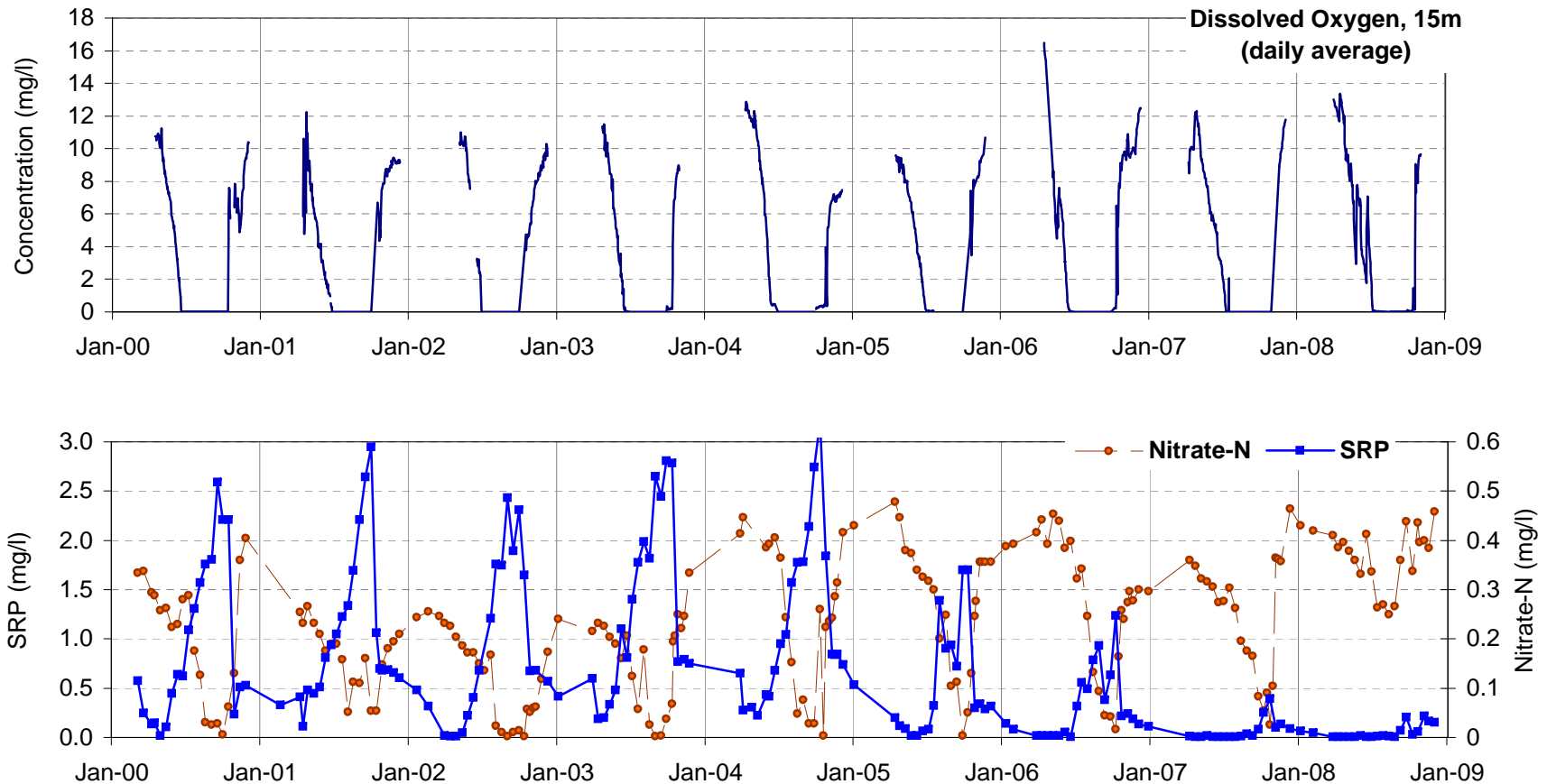


Library Reference 7.2.4



Comparison of soluble reactive phosphorus (SRP) and nitrate-N concentrations with dissolved oxygen concentrations in South Deep lower waters of Onondaga Lake, 2000-2008. Phosphorus bioavailability is affected by low oxygen levels as microorganisms utilize oxidized forms of different compounds. Lower waters in Onondaga Lake become anoxic during the summer months as a result of biological decomposition and thermal stratification. Nitrate-N concentrations decrease in early summer as dissolved oxygen becomes less available to microorganisms. As oxygen levels remain low during the summer, eventually the microorganisms begin to reduce iron; As this happens, phosphorus bound in ferric phosphate compounds is released into solution. This is measured as in the lake as an increase in SRP in late summer. During fall turnover, when oxygen-rich waters from the surface mix with the lower waters, nitrate concentrations rebound while SRP concentrations decrease