

Species interact, but how do we know what type of interaction they participate in?

Knut Lehre Seip¹ and Gunnar Sandvik² .

There are at least four reciprocal interactions that species partake in, mutualism, competition, predation and facilitation. At any one time they may be involved in one or several of these interactions, and at the same time respond to external factors like temperature changes and food shortages. A second set of difficulties arises from the phenomenon that some species seem to respond to other species on both a short and a long time scale, like zooplankton that “migrate daily”, but “eat weekly”. The “finger prints” that species leave behind and that are recorded often consist of biomass measurements with certain space and time resolutions. So, the questions asked here is if it is possible to infer the type and the strength of interactions from these fingerprints. We show that the answer is an overwhelming “yes” with respect to predation, and a conditional “we believe so” with respect to the other three interaction types. The answers are based on three types of studies, simulation modeling results, results from observations in real lakes and results from bioassay experiments.

¹Oslo University College, Oslo and Telemark University College, Porsgrunn (e-mail: Knut@seip.no).

²Oslo University College, Oslo and Telemark University College, Porsgrunn(e-mail:).