

COLLECTING THE LIPID FILM FROM THE
SURFACE LAYER OF FRESHWATER ECOSYSTEMS

J. Subramaniam and J.D. Thomas
Biols. University of Sussex, U.K.

1. Evaluation of various sampling devices.

The surface layer of a water body differs from the underlying water column not only in its physical properties but also in its chemical and biological composition. The chemical compounds in the surface layer, particularly the lipids, may serve as nutrients to members of the neuston community and they greatly influence their biological fitness. To obtain comparative, quantitative estimates of these compounds, it is necessary to develop a standard sampling method.

In the present investigation five methods involving the glass plate, teflon disc, perspex disc and circular mesh samplers made of tygan (mesh size 20x21) and stainless steel strands (mesh size 20x20) were used for collecting the surface film of a standard lipid (olive oil). All the samplers were allowed to contact the surface only once.

The sampling efficiency measured as mean percentage recoveries ($n = 5$) of olive oil, ranged from 87.14%, 70.18%, 67.95%, 57.53% and 55.57% for the tygan mesh, perspex, teflon, stainless steel strands and glass plate methods respectively. Although the tygan mesh was significantly more efficient than the other methods, the perspex sampler was selected as the method of choice because of its chemical inertness.

References: Subramaniam, J. (1990) D.Phil. thesis.
University of Sussex, U.K.