ANNEX III

A DIVIDABLE HOSE FOR PHYTOPLANKTON SAMPLING.

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INTRODUCTION.

In many phytoplankton monitoring programmes the inhomogeneous vertical distribution of the cells, specially dinoflagellates, is a problem when qualitative as well as quantitative samples are needed. Adequate sampling of stratified populations can be performed by taking a large number of water-bottle samples. However, that is a time consuming process and normally not possible in a monitoring programme.

One way to overcome this difficulty is sampling with a hose. However, by this metod no information about the vertical distribution of the phytoplankton will be available, unless the hose is dividable so that the water-column in the hose may be split into sub-samples, each representing a depth-interval (fig. 1).

The above described sampling technic has been found to give good information of the vertical distribution of phytoplankton communities on the Swedish west coast. In that case the hose was divided into four 5 m parts, but the division may of course be made differently, adapted to local conditions.

TECHNICAL DESCRIPTION.

Hose: a rubber hose is recommended since a plastic will get stif when it is cold. A hose with an inner diameter of 12 mm (1/2 inch) has been used, but a wider hose can also be used presupposed that tube connectors and stop-cocks in that dimension are available. Note that the top part of the hose must reach up to the deck of the re-search vessel.

Connectors: quick-connectors for gardening was used for easy and fast connecting of the parts of the hose. A string together with a snap-hook is recommended at each connection as an extra security.

Stopcocks: laboratory stopcocks of polypropylene which are opened and closed by a quarter turn revulotion was found to be suitable.

HANDLING THE HOSE.

When sampling, the hose must be lowered slowly, a speed of about 20 m per minute has been used. It is important that all stopcocks are open and that the hose is not folded anywhere. When the whole length has been lowered the top stopcock is closed and the hose is pulled up gently. The stopcocks are closed as they appear. The parts of the hose are disconnected and each part is emptied by opening the stopcock. The stopcock-end is kept higher than the other end which is kept in a vessel, where the sample can be mixed so that a representative subsample from the actual depth interval can be taken.

FIG. 1: DIVIDABLE HOSE FOR PHYTOPLANKTON SAMPLING