

4. Recommended Procedure for the Collection and Enumeration of Phytoplankton Standing Stock.

Prepared by the NAS/NRC Committee on Oceanography Working Group on Standardization and Intercalibration of Biological Measurements and Sampling Methods. March 28, 1963.

An adequate understanding of the biology of the sea requires, among other things, a knowledge of the distribution of phytoplankton (species and abundance). For this reason it is recommended that the procedures adopted at the ICES Bergen Productivity Symposium (Rapp. Cons. Expl. Mer., No. 144:1957) be followed with respect to the collection and enumeration of phytoplankton.

Major points of this recommendation may be summarized as follows:

- 1) Only water samples should be used. Nets must not be used for quantitative studies because most of the biomass is not reliably sampled under all conditions. Retention of phytoplankton by the net is a function of mesh aperture, the size composition of the population and the amount of phytoplankton. Therefore, nets do not even give the trend of phytoplankton biomass distribution correctly.
- 2) The preservatives presently employed are not entirely satisfactory for all nanno and ultra plankton and more than one preservative should be employed when studying the entire population.