

P l a n k t o n C o m m i t t e e

By J.H. FRASER

1968

Belgium

(E. Leloup)



Nothing to report for 1968.

Programme for 1969

Etude du phyto- et zooplancton au large de la côte belge.

Canada

(L.M. Dickie)

The two productivity studies mentioned last year have been further developed. On the west coast of Canada in the Fraser River area of the Georgia Straits, estimates have been made during the spring period of primary and secondary production and its relation to food and survival of larval and juvenile fish. Primary production in the very shallow mixed layer associated with Fraser River discharge was over four times that of water outside river influence. Zooplankton production was approximately 10% of primary and was very little affected by grazing during the study period. Feeding experiments and field observations indicated adequate supplies of food suitable for zooplankters and juvenile fish, but there were indications that the micro-zooplankton was in low enough supply to affect survival of larval fish.

On the east coast of Canada, studies of production in St. Margaret's Bay, Nova Scotia have shown a marked seasonal sequence in both the phytoplankton and zooplankton. Annual primary production of phytoplankton was estimated to be of the order of  $150 \text{ gm.C/m}^2$  with short spring and fall peak periods of high productivity. An index, based on the degree of optical attenuation due to photosynthesis, has been developed for comparing primary production of different waters, and will be tested in connection with this programme. The production by sea-weeds is also being measured and appears to equal that of the phytoplankton. Zooplankton sampling has shown wide seasonal fluctuations in the standing crop, expressed as numbers or dry weights per unit volume. However, there was a 5-fold seasonal variation in caloric content per dry weight of zooplankton, and the relations of the variables were such that the weight of zooplankton carbon or numbers of calories per unit volume of water were relatively stable throughout the season. Seasonal changes in macro-zooplankton, ichthyoplankton, benthos and fish are being followed.

Denmark

(Vagn.Kr. Hansen)

1. 'Danmarks Fiskeri- og Havundersøgelser'

Kattegat: Measurements of the primary production and sampling of zooplankton with 8-litre water bottles were continued from the light vessels "Anholt Nord", "Aalborg Bugt", and "Halsskov Rev". The similar observations taken from the Swedish light vessel "Fladen Grund" were discontinued in April.

The gross production measured from the light vessels "Anholt Nord" and "Halsskov Rev" indicated the highest gross production measured so far, viz. resp.  $96 \text{ g C}$  and  $134 \text{ g C}$  produced per  $\text{m}^2$  and year, or resp. 12% and 41% higher than greatest annual production measured since 1954. The spring maxima were large but brief, the unusually large summer maxima lasted from June to October.