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GENERAL DESCRIPTION OF BIOLOGICAL CRUISE

During her career as an oceanographic research vessel, the CNAV *Sackville* carried out numerous cruises to collect biological information in the marine waters off Atlantic Canada. Biological sampling equipment was relatively simple at that time with no electronics. The basic equipment included water bottles, plankton nets and bottom grabs. This was before the days of satellite navigation so positioning was not as accurate as it is today. Most of the sampling programs were designed to look at the broad geographic and seasonal distribution of important ecological variables in the water column and on the seabed.

Different types of water bottles (1-30 liters) were used to collect samples for the analysis of variables such as phytoplankton, organic matter, nutrients and salinity. They were attached to hydrographic wire and deployed over the side of the vessel when it was stopped on station. Some times reversing thermometers were attached to record temperature. Bottle casts could go as deep as several thousand meters. Bottle were closed by dropping a messenger that slid along the hydrographic wire. While this was going on, the crew manoeuvred the vessel to keep the hydrographic wire as vertical as possible. Once the bottles were retrieved, samples were drawn and processed. Most analyses were done later ashore.

A variety of plankton nets were used to collect samples of zooplankton and small fish. These nets were of different mesh sizes depending on the target organisms. The nets were usually deployed over the stern of the vessel as she steamed slowly ahead, taking care not the catch them in the propeller. Upon retrieval, the net was washed down with seawater and organisms collected from the cod end. These were usually fixed in formalin for processing later ashore.

Different kinds of grabs were used to collect samples of seabed sediment and organisms. Like water bottles, these were deployed on hydrographic wire over the side of the vessel while stopped on station. If a good sample was not collected, the grab could be re-armed and lowered again. Once a sample (usually just a few liters) was on deck, a subsample was usually taken for grain size analysis (i.e. mud, sand, gravel) and then the bulk of the sample was washed over a sieve to separate the organisms from sediment. The organisms were then fixed in formalin for processing later ashore.

General observations were also made of marine mammals and seabirds.