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CANADIAN GROUND FISH RESEARCH IN AREAS 3 AND 2

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The list of research projects below has been limited to fishes mentioned in Article IV of the Convention, namely the cod group (Gadiformes), the flatfishes (Pleuronectiformes) and the redfish, Sebastes. In general only that part of Canadian fisheries researches in areas 2 and 3 relating to the use, expansion, contraction and survival of Groundfish populations has been considered here. The present work is related to the present floating equipment. Expansion in the future depends on the provision of a larger offshore research vessel.

I. Hydrography

Present A. Routine sections across the Labrador current and on the banks for comparison of temperatures and salinities throughout year and from year to year. These sections extend generally from shore to about 500 metres, to the east of the area of below zero centigrade water.

The sections are -

- a. Off Nachvak Fjord, Labrador
- b. Off Hopedale, Labrador
- c. Off Domino, Labrador
- d. Off Bonavista
- e. Latitude 47° from shore across Flemish Cap
- f. From St. John's in direct line across central part of Grand Bank and South-east Shoal
- g. Whole S.W. edge of Grand Bank at 40 fathom contour
- h. S.W. edge of Grand Bank and western edge of St. Pierre Bank at depth 300 metres
- i. Channel north of St. Pierre, Green and Whale banks.

These sections are taken yearly in March as far north as line "e" and in July-August all sections. (Sections "a" and "b" are not taken every year).

B. Station near St. John's (5 miles off Cape Spear).
Temperatures and salinities from top to bottom in 95 fathoms taken usually every 2 weeks.

Future Sections as set out above four or five times a year as far north as climatic conditions allow at the time. Probably March, May, July-August, October-November, January.

An additional section extending from White Bay out

across Labrador current to 500 metres to be added to sections "a" to "i".

Daily surface temperatures St. John's, Burin. Cape Spear station to be continued.

II. Hydrography and Groundfish Fisheries

Present Routine bottom temperature observations at each set during exploratory and other otter-trawling and long-lining by research vessel.

Future Special studies of relation of Groundfish abundance to bottom and other temperatures. (Also to depth and location, bottom type and food abundance, possibly to salinities and oxygen).

III. Distinctness and Interrelationships of Groundfish Populations

Present Studies of vertebral number, age and growth and otolith weight of cod, haddock, redfish, American plaice and witch flounder. Dorsal spine number of redfish and anal fin ray number of American plaice and witch.

Infestation of cod with Porrocaecum and Lernaeocera and of redfish with Sphyrion lumpi.

Tagging of cod and to a minor degree, haddock.

Future Vertebral numbers of cod and redfish and age and growth of all important Groundfish species.

Possibly fin ray numbers of cod and haddock and body proportions in all important Groundfish species.

Tagging of cod particularly to determine inter-relationships of inshore and offshore and bank populations, migrations in and out of Gulf of St. Lawrence. Tagging of haddock, American plaice, witch, halibut.

IV. General Biology of Groundfishes (in addition to II and III)

Present Size and age at sexual maturity; times and places of spawning and duration of spawning period; food of cod; length and weight of Groundfish species; weight of liver and gonad and vitamin A and oil content of liver throughout year; jellied condition in flounders.

Future Size and age at sexual maturity; times, places and duration of spawning period; egg-number and size and age; food of all important groundfishes, etc.

