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Walleye Pollock Spawning Study in Dixon Entrance and Hecate Strait; M/V Scotia Bay, March 11-30, 1979

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and B. Fallis

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WALLEYE POLLOCK SPAWNING STUDY IN DIXON ENTRANCE AND
HECATE STRAIT; M/V SCOTIA BAY,
MARCH 11-30, 1979.

by

J. M. Thompson, D. Davenport, S. MacLellan, and B. Fallis

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ABSTRACT

Thompson, J. M., D. Davenport, S. MacLellan, and B. Fallis. 1981. Walleye pollock spawning study in Dixon Entrance and Hecate Strait; M/V SCOTIA BAY, March 11-30, 1979. Can. Data Rep. Fish. Aquat. Sci. 296: iv + 89 p.

Results are presented of a cruise undertaken to study pollock in Dixon Entrance, Hecate Strait and southeastern Alaska. The purposes of the cruise were to search for spawning locations and collect age samples for stock identity studies, in support of fishery management.

Stock relationship in the region was found to be complex, since spawning occurred at different times in different places, and adult age groups were segregated. Schools of ripening adults present on Two Peaks and nearby grounds immediately prior to the survey were not present in March, however advanced ripe adults of similar size and age (predominately 7-8 years old) were found in low concentrations in deep midwater throughout inside channels of southeastern Alaska and the north side of Dixon Entrance. Juvenile (2-3 years old) pollock were abundant in midwater at Two Peaks and Butterworth. Very young adult pollock (2-3 years old) were spawning in midwater in Selwyn and Dana inlets. Advanced ripe and spent adults (4-5 years old) were found near bottom west of Butterworth Rock. Midwater schools of adults found in Portland and Observatory inlets were smaller than those in southeastern Alaska, and were not in spawning condition.

Key words: Walleye pollock, stock assessment, Hecate Strait, Dixon Entrance, spawning.

RÉSUMÉ

Thompson, J. M., D. Davenport, S. MacLellan, and B. Fallis. 1981. Walleye pollock spawning study in Dixon Entrance and Hecate Strait; M/V SCOTIA BAY, March 11-30, 1979. Can. Data Rep. Fish. Aquat. Sci. 296: iv + 89 p.

On présente les résultats d'une campagne entreprise en vue d'étudier la morue du Pacifique occidental dans l'entrée Dixon, le détroit d'Hécate et le sud-est de l'Alaska. Les objectifs étaient de rechercher les lieux de fraie et de recueillir, au moyen d'échantillons, des données sur l'âge pour des études d'identification de populations, dans l'intérêt de la gestion des pêches.

On a découvert que les relations entre les populations de la région étaient très complexes, puisque la fraie a lieu à différents endroits à des époques différentes; de plus, les groupes d'âge adultes étaient isolés. Les bancs d'adultes en voie de maturation génitale, qui étaient présents à Two Peaks et dans le voisinage juste avant que l'étude soit entreprise, n'étaient pas présents en mars; cependant, des adultes en état de maturation génitale avancée, ayant la même taille et le même âge (surtout des individus de 7 à 8 ans), furent découverts en petits nombres dans les eaux profondes de tous les chenaux intérieurs du sud-est de l'Alaska et du côté nord de l'entrée Dixon. Il y avait, à Two Peaks et à Butterworth, une abondance de jeunes morues du Pacifique occidental (âgées de 2 à 3 ans) à mi-profondeur. De très jeunes adultes (âgés de 2 à 3 ans) frayaient dans les eaux mi-profondes des inlets Selwyn et Dana. Des adultes vidés de leurs œufs et en état de maturation génitale avancée furent découverts près du fond à l'ouest du Rocher Butterworth. Les bancs d'adultes trouvés à mi-profondeur dans les inlets Portland et Observatory étaient moins importants que ceux trouvés au sud-est de l'Alaska, et n'étaient pas prêts à frayer.

Mots-clés: morue du Pacifique occidental, évaluation des populations, détroit d'Hécate, entrée Dixon, fraie.

INTRODUCTION

This cruise was conducted to investigate pollock stock identities in Dixon Entrance and Hecate Strait, where a developing domestic roe and fillet fishery has existed since 1976 (584-1,804 t landed annually in 1976-79). Five earlier surveys, conducted since 1977, produced estimates of pollock growth curves, age composition, biomass and general distribution patterns in the immediate vicinity of the fishery (Thompson and Beamish 1979; Taylor and Kieser 1980; Barner et al. 1980; and other reports in preparation). Little was known about the population biology of walleye pollock in northern British Columbia coastal waters prior to these studies. Preliminary analysis of the findings is discussed elsewhere (Thompson 1981).

The first attempt to locate spawning grounds was made in March 1978 (Thompson and Beamish 1979). Concentrations of ripening adults were present in January-February (Barner et al. 1981), and spent adults in April-May, as evidenced by commercial catches, but sounder targets were rare in March, and only small catches of pollock were made.

The survey reported upon here was extended to include Alaskan inside channels south of Ketchikan, and inlets not investigated in 1978. These localities contain unexploited concentrations of pollock. Length, age, and maturity data were collected for comparison among localities, since similarities or differences in these characteristics, together with identification of spawning grounds, can be used to formulate hypotheses about stock identities.

METHODS

SURVEY DESIGN

Since pollock spawning grounds had not been located in northern B.C. coastal waters, tracklines were laid out in a general search of southern Hecate Strait, Dixon Entrance, and southeastern Alaska, including some inlets (Fig. 1, 2, 3, and Appendix Table 1). The ship's sounder was used to locate midwater and near-bottom targets, which were identified by trawling. This approach made it possible to search a maximum area in the available time. Dogfish Bank and Chatham Sound were not sounded, because targets were not found there during the 1978 survey (Thompson and Beamish 1979).

TRAWL GEAR

The SCOTIA BAY, which sank in the summer of 1979, was a 118', 390 gross ton stern ramp trawler powered by a 765 hp Caterpillar engine. The vessel's nozzled propeller generated an estimated 920 hp. Two nets were used, a Canadian Diamond 7 midwater trawl, and an Atlantic-Western III box bottom trawl. The Diamond 7 codend was lined with 2.5 cm mesh netting (measured stretched between-the-knots) from the opening forward about 9 m. The midwater net was spread by 5 m Süberkrub doors, and one set of 318 kg (700 lb) chain weights were suspended from each lower bridle. Fifty-eight 8 in diameter plastic floats were attached to the headrope. Net depth was determined by a "third wire" Elac dry paper netsounder on the headrope.

The bottom trawl measured 78' across the headrope and 116' across the sole rope. Bosom rollers 30 cm in diameter were spaced along the sole rope by 15 cm rollers. The net was spread by 1,200 kg wood and steel Brompton doors with 27 m (15 fm) bridles and 46 m (25 fm) sweeplines. Although the 11.4 cm (4.5 in) mesh codend was not lined with small mesh netting, it was heavily protected with anti-chafing mesh.

BIOLOGICAL SAMPLING

The catches were either sorted, tubbed to estimate weights, and then discarded on deck, or were shovelled to the sheltered lower deck, where the fish were placed in 55 L (12 gal) galvanized tubs, weighed to the nearest kg on a platform balance, and sampled. Most species were measured for fork length to the nearest whole cm (e.g. 31.5-32.4 cm = 32 cm), except dogfish, which were measured for total length to the nearest whole cm (tail depressed) and rockfish, which were measured to the nearest lower whole cm (e.g. 28.0-28.9 cm = 28 cm). Left pectoral fins and pairs of otoliths were collected from pollock for age determination (Beamish 1981). The otoliths were washed in water and stored in a 50% glycerine-freshwater mixture saturated with thymol. The fins were processed ashore in the usual way (Chilton and Beamish 1981). Otoliths were taken from yellowtail rockfish and juvenile sablefish. Pollock gonad condition was estimated with criteria similar to those proposed for Pacific hake (Weir et al. 1978). Photographs of gonads were made to record maturity states.

OCEANOGRAPHIC SAMPLING

Temperature profiles of the water column were collected with an expendable bathythermograph (XBT). Bucket casts provided samples for thermometer measurements of surface temperatures and conductivity meter measurements of surface salinity. Sampling locations are shown in Fig. 1-3 and listed in Appendix Table 2.

RESULTS AND DISCUSSION

WALLEYE POLLOCK

Distribution

Although pollock dominated the midwater catches in most areas, 35 other fish species were also caught (Table 1). Midwater sounder targets were so few in mid-Hecate Strait, Principe Channel and Caamano Sound that only three sets were made at White Rocks, west of Browning Entrance (Fig. 1). All three catches in this location were predominately herring (Table 2). Dense midwater targets present on Two Peaks and Butterworth at 40-80 m (22-44 fm) (Fig. 4) were comprised entirely of juvenile pollock and yellowtail rockfish. At most other locations in the vicinity (McIntyre Bay, Chatham Sound, Celestial Reef, and off Cape Chacon) (Fig. 2), midwater and bottom targets were very rare. Schools of adults found in the area during a research survey (Barner et al. 1980) and commercial fishing in the previous two months were not present.

Bottom and near-bottom targets were encountered at Butterworth and on the South Flats, west of Warrior Rock (Fig. 5). Midwater catches were mostly herring and only a few pollock (5-192 kg/h), but one 60 min bottom trawl set produced 12,000 kg of advanced ripe and spent pollock, together with about 3,500 kg of Pacific cod, flatfish and juvenile sablefish. Midwater targets were found 3-4 naut mi to the northeast of the South Flats. Bottom pinnacles in this location prohibited trawling, so it is not known whether pollock were spawning there.

Sounder targets were rare in the inside channels of southeast Alaska. Four sets made deep in the midwater (302-512 m) produced 29-286 kg/h of ripening adult pollock, indicating that pollock were sparsely distributed in deep water throughout the region. Two shallower sets also yielded small catches (1-51 kg/h). Slightly greater catches of pollock were made off the Nass River in Portland Inlet (124-170 kg/h) at midwater depths of 59-76 m, and in Observatory Inlet (20-131 kg/h) (Fig. 3).

Denser concentrations of pollock were encountered in Selwyn and Dana Inlets on the east coast of Moresby Island, where catches ranged 104-1,988 kg/h (229-4,382 lb/h) and contained small amounts of herring. Fish schools were present from 30 m (16 fm) to the bottom (Fig. 6) throughout both inlets.

A total of 3,997 pollock were sampled in 26 sets made in 14 localities (Table 3).

Age and length

Modes in length frequencies were consistently the same between sets made in the same locality, but different between localities (Fig. 7, Tables 4, 5). Small adult pollock found in Dana, Selwyn and Observatory inlets ranged 21-48 cm. The mode in samples of adults in Portland Inlet was slightly larger, but was similar to South Flats samples (45-55 cm). A strong mode of large pollock (50-60 cm) characterized samples from southeastern Alaska and deep water north of Dundas Island. Juvenile pollock in midwater at Two Peaks and Butterworth formed a mode which did not appear in other length frequencies (24-37 cm).

Age results showed that the differences in length composition between localities was caused by differences in age composition. Spawning adults in Selwyn and Dana inlets were predominately 2 and 3 yr-olds. Age at first spawning off the north coast of B.C. was previously thought to be older (Thompson 1981). Some pollock in these inlets were aged 4 and 5 by the fin ray method, however most of these were similar in length to the 3-yr-olds, so it is possible that ageing errors occurred. None were older than 5 yrs (Table 6).

While advanced ripe and spent adults at South Flats and in southeastern Alaska were older than pollock in Selwyn Inlet, 4-5 yr-olds were predominant in the former locality, and 7-8 yr-olds dominated in the latter (Tables 7, 8). These differences are apparent in the length frequencies (Table 5, Fig. 7). The length and age composition of all samples from southeastern Alaska were similar to samples from the roe fishery which occurred from McIntyre Bay to Two Peaks during the previous two months.

Some difficulty was encountered interpreting fin-rays from midwater schools of 24-37 cm juveniles at Two Peaks and Butterworth. An ambiguous translucent zone was present near the edge of some fins. While it might be concluded from analysis of the length frequency series collected in Dixon Entrance since 1977 that these juveniles were 2-yr-olds (Thompson 1981), presence of the translucent zone indicates that the schools could have been mixed in age, some 3-yr-olds being smaller than expected. Beamish (1976) reported a similar problem ageing juvenile pollock in the Strait of Georgia. It has to be determined whether such marks are strong checks or annuli before exact ages can be assigned to adult pollock in Dixon Entrance.

Ages were assigned by arbitrarily assuming a January 1 birthdate, thus a fish was reported to be 4 if an annulus (clear zone in transmitted light) or wide growth zone (opaque) was present on the edge, and 3 annuli were counted inside the edge. Nearly all of the sections from Dana and Selwyn inlets had an annulus on the edge, while those from juveniles at Two Peaks and Butterworth had growth zones. Edge condition in older pollock from South Flats and southeastern Alaska was mixed.

Maturity

Spawning did not occur synchronously throughout the region (Table 9). Actively spawning concentrations were encountered in Dana and Selwyn Inlets (March 13-15, Fig. 8a) and on the South Flats ground (March 20-21 and 29, Fig. 8b). In each location a large proportion of the males were in spawning condition (29% and 36%), and the females were either advanced ripe or spent.

Pollock captured in deep water throughout S.E. Alaska (March 24-27, Fig. 8c) were close to spawning, since 38% of the males were in spawning condition, and most of the rest (59%) were in an advanced stage of ripening, while 12% of the females contained hydrated, translucent oocytes. Most (84%) of the females were at an earlier stage of ripening (R).

Two concentrations of pollock were sampled in Portland Inlet. None were in spawning condition. Many males appeared to be spent, as did some females, but many females contained a large number of small opaque oocytes. It was thought at the time that the oocytes were being resorbed, but this would be very unusual for B.C. coastal waters if true.

Nearly all (99.5%) of the small pollock sampled in Dana and Selwyn Inlets were adult, unlike in Dixon Entrance and north Hecate Strait, where nearly all pollock of similar size were juveniles (Table 5, Fig. 8). In S.E. Alaska and Portland Canal, most 27-40 cm pollock were juveniles, although few this size were caught in either area. The length frequency from Observatory Inlet closely resembles the sample from Selwyn Inlet, since all fish were 24-48 cm, and most of these (90%) were adults.

Sex composition of the catches

Concentrations of spawning pollock in Selwyn and Dana Inlets were strongly segregated in the midwater by sex and gonad condition. The sex ratios of all five catches ranged 5-92% (Table 10). Ripe and largely spent females dominated the shallowest set (92% females; 37 m). Two catches from near bottom (112 and 115 m) were predominantly males in ripe and spawning condition (5% and 8% females). A fourth set at 62 m produced a more equal mixture of males and females (26% females). The greatest proportion of females in spawning condition was caught at this depth. Echograms (Fig. 6) and catches (Table 2) indicate that pollock schools were present from 55 m (30 fm) to the bottom, and that fish density increased with depth. One near-bottom catch in Dana Inlet was similar to the near-bottom samples from Selwyn Inlet in terms of sex ratio (6% females) and high catch rate, indicating that the vertical distribution of pollock was similar in both inlets. Cass et al. (1978) noted that spawning pollock in the Strait of Georgia were segregated by sex in the same way (males deeper than females).

Relatively large catches of juvenile pollock in north Hecate Strait were only slightly dominated by males (45% females, n = 734, 21-40 cm). Catches of spawning adults in the same area ranged 9-85% females, and females were more abundant on average (63% females, n = 415). Catches of ripening adults in S.E. Alaska and north Dixon Entrance ranged 23-85% females and averaged 57% females (n = 647).

Stomach contents

Pollock stomach contents varied between localities (Table 11). Spawning pollock in Selwyn and Dana inlets appeared to be feeding primarily on zooplankton: 89% of those containing food contained euphausiids, and 8% contained herring or pollock scales. About a third of the stomachs were empty. Most juvenile pollock sampled at Two Peaks and Butterworth contained euphausiids. Both adults and juveniles at Butterworth had been feeding on euphausiids, as were the adults at South Flats. Off The Nass River estuary, digested fish, which may have been eulachon (since the stomach contents were very greasy and eulachon were also caught) were present in 65% of the 85 stomachs containing food. Most pollock in Observatory Inlet contained euphausiids. Of 169 ripening pollock sampled in deep water in S.E. Alaska, 25% contained fish (eulachon, Leuroglossus, blackmouth eelpout and unidentifiable remains), 9% contained squid, and 27% contained shrimp (predominately glass shrimp).

OTHER SPECIES

Data collected for other species are listed in the following tables:

Table numbers	Content
12, 13, 14	Chinook salmon lengths, stomach contents, maturity and lamprey scars.
15	Inventory of samples for species other than pollock and salmon.
16	Pacific halibut length frequencies.
17	Pacific halibut and sablefish stomach contents.
18	Eulachon, herring, lemon sole, northern smoothtongue and yellowtail rockfish length frequencies.

The incidence of lamprey scarring was noted for several species (unpublished).

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Captain Vagn Mark's contributions significantly enhanced the value of this cruise, and the crew's willingness to participate in unusual tasks was appreciated. Mr. Bruce Fallis (Canada Department of Fisheries and Oceans, Winnipeg) gave valuable consultation and assistance.

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Table 1. List of species^a caught in trawl sets from the SCOTIA BAY,
March 12-30, 1979.

Scientific name	Common name
<u>Lampetra tridentata</u>	Pacific lamprey
<u>Squalus acanthias</u>	Spiny dogfish
<u>Raja binoculata</u>	Big skate
<u>Raja rhina</u>	Longnose skate
<u>Hydrolagus colliei</u>	Ratfish
<u>Clupea harengus pallasi</u>	Pacific herring
<u>Oncorhynchus tshawytscha</u>	Chinook salmon
<u>Thaleichthys pacificus</u>	Eulachon
<u>Leuroglossus stilibius schmidti</u>	Northern smoothtongue
<u>Chauliodus macouni</u>	Pacific viperfish
Unidentified myctophid	Lanternfish
<u>Stenobrachius leucopsarus</u>	Northern lampfish
<u>Gadua macrocephalus</u>	Pacific cod
<u>Microgadus proximus</u>	Pacific tomcod
<u>Theragra chalcogramma</u>	Walleye pollock
<u>Lycodapus fierasfer</u>	Blackmouth eelpout
<u>Trichodon trichodon</u>	Pacific sandfish
<u>Sebastes aleutianus</u>	Rougheye rockfish
<u>S. borealis</u>	Shortraker rockfish
<u>S. brevispinus</u>	Silvergray rockfish
<u>S. flavidus</u>	Yellowtail rockfish
<u>S. proriger</u>	Redstripe rockfish
<u>Anoplopoma fimbria</u>	Sablefish
<u>Ophiodon elongatus</u>	Lingcod
<u>Agonus acipenserinus</u>	Sturgeon poacher
Unidentified cyclopterid	Snailfish
<u>Aptocyclus ventricosus</u>	Smooth lump sucker
<u>Nectoliparis pelagicus</u>	Tadpole snailfish

Table 1 (cont'd)

Scientific name	Common name
<u>Atheresthes stomias</u>	Arrowtooth flounder
<u>Glyptocephalus zachirus</u>	Rex sole
<u>Hippoglossoides elassodon</u>	Flathead sole
<u>Hippoglossus stenolepis</u>	Pacific halibut
<u>Lepidopsetta bilineata</u>	Rock sole
<u>Microstomus pacificus</u>	Dover sole
<u>Parophrys vetulus</u>	English sole
<u>Psettichthys melanostictus</u>	Sand sole
Unidentified gorgonacean	Sea whips
<u>Cyanea</u> sp.	Red jellyfish
Unidentified asteriodes	Sea stars
Unidentified cephalopods	Squid ^b
Unidentified euphasiids	Euphausiids
<u>Pasiphaea pacifica</u>	Glass shrimp
Unidentified shrimp	Shrimp
Unidentified brachyurans	Crab

^aListed according to Hart (1973).

^bMostly Gonetus magister.

Table 2. Catches by trawl set of species, in number of individuals and round weight (kg) on M/V SCOTIA BAY, March 13-30, 1979.

Gear ^a	D7 White Rocks	D7 Selwyn In.	D7 Selwyn In.	D7 Selwyn In.
Locality				
Haul No.	1	2	3	4
Total Catch (kg)	57	598	171	461
Duration (min)	90	45	95	30
Species ^b	No.	Weight	No.	Weight
Pacific lamprey	-	-	-	-
Spiny dogfish	-	-	-	-
Big skate	-	-	-	-
Longnose skate	-	-	-	-
Ratfish	-	-	-	-
Pacific herring	352	56	-	42
Chinook salmon	-	-	-	-
Eulachon	-	-	-	-
Northern smoothtongue	-	-	-	-
Pacific viperfish	-	-	-	-
Lanternfish	-	-	-	-
Northern lampfish	-	-	-	-
Pacific cod	-	-	-	-
Pacific tomcod	-	-	-	-
Walleye pollock	-	-	556	165
Blackmouth eelpout	-	-	-	-
Pacific sandfish	-	-	-	-
Rougheye rockfish	-	-	-	-
Shortraker rockfish	-	-	-	-
Silvergray rockfish	-	-	-	-
Yellowtail rockfish	-	-	-	-
Redstripe rockfish	-	-	-	-
Sablefish	-	-	-	-
Lingcod	-	-	-	-
Sturgeon poacher	-	-	-	-
Snailfish	-	-	-	-
Smooth lump sucker	-	-	-	-
Tadpole snailfish	-	-	-	-

Table 2 (cont'd)

Gear ^a Locality Haul No.	D7 White Rocks 1	D7 Selwyn In. 2	D7 Selwyn In. 3	D7 Selwyn In. 4
Total Catch (kg)	57	598	171	461
Duration (min)	90	45	95	30
Species ^b	No.	Weight	No.	Weight
Arrowtooth flounder	-	-	-	-
Rex sole	-	-	-	-
Flathead sole	-	-	-	-
Pacific halibut	-	-	-	-
Rock sole	-	-	-	-
Dover sole	-	-	-	-
English sole	-	-	-	-
Sand sole	-	-	-	-
Sea whip	-	-	-	-
Red jellyfish	-	-	-	-
Sea stars	-	-	-	-
Squid	20	1	1	0.2
Euphausiids	-	-	-	-
Glass shrimp	-	-	-	-
Shrimp	-	-	-	-
Crab	-	-	-	-

Table 2 (cont'd)

Gear ^a	D7	D7	D7	D7
Locality	Selwyn In.	Dana In.	White Rocks	South Flats
Haul No.	5	6	7	8
Total Catch (kg)	730	2562	524	201
Duration (min)	75	65	150	120
Species ^b	No.	Weight	No.	Weight
Pacific lamprey	-	-	-	-
Spiny dogfish	-	-	1	-
Big skate	-	-	-	-
Longnose skate	-	-	-	-
Ratfish	-	-	-	-
Pacific herring	-	87	-	397
Chinook salmon	1	1	-	1 0.5
Eulachon	-	-	-	-
Northern smoothtongue	-	-	-	-
Pacific viperfish	-	-	-	-
Lanternfish	-	-	-	-
Northern lampfish	-	-	-	-
Pacific cod	-	-	10	-
Pacific tomcod	-	-	-	-
Walleye pollock	-	642	-	2,154
Blackmouth eelpout	-	-	-	-
Pacific sandfish	-	-	-	-
Rougheye rockfish	-	-	-	-
Shortraker rockfish	-	-	-	-
Silvergray rockfish	-	-	-	-
Yellowtail rockfish	-	-	-	-
Redstripe rockfish	-	-	-	-
Sablefish	-	-	-	-
Lingcod	-	-	-	-
Sturgeon poacher	-	-	-	-
Snailfish	-	-	-	-
Smooth lump sucker	-	-	-	-
Tadpole snailfish	-	-	-	-

Table 2 (cont'd)

Gear ^a	D7 Selwyn In.	D7 Dana In.	D7 White Rocks	D7 South Flats
Locality	5	6	7	8
Haul No.				
Total Catch (kg)	730	2562	524	201
Duration (min)	75	65	150	120
Species ^b	No.	Weight	No.	Weight
Arrowtooth flounder	-	-	-	-
Rex sole	-	-	-	-
Flathead sole	-	-	-	-
Pacific halibut	-	-	-	-
Rock sole	-	-	-	-
Dover sole	-	-	-	-
English sole	-	-	-	-
Sand sole	-	-	-	-
Sea whip	-	-	-	-
Red jellyfish	-	-	-	-
Sea stars	-	-	-	1 0.1
Squid	-	-	2 0.3	1 0.5
Euphausiids	-	-	-	-
Glass shrimp	-	-	-	-
Shrimp	-	-	-	-
Crab	-	-	-	-

Table 2 (cont'd)

Gear ^a	D7 Two Peaks	D7 Two Peaks	D7 Butterworth	D7 Butterworth
Locality	9	10	11	12
Haul No.				
Total Catch (kg)	1092	4536	454	343
Duration (min)	100	135	60	60
Species ^b	No.	Weight	No.	Weight
Pacific lamprey	-	-	-	-
Spiny dogfish	-	-	-	-
Big skate	2	3	-	-
Longnose skate	-	-	-	-
Ratfish	-	-	-	-
Pacific herring	-	-	-	-
Chinook salmon	-	-	-	-
Eulachon	-	pc	-	-
Northern smoothtongue	-	-	-	-
Pacific viperfish	-	-	-	-
Lanternfish	-	-	-	-
Northern lampfish	-	-	-	-
Pacific cod	1	3	-	-
Pacific tomcod	-	-	-	-
Walleye pollock	-	-	4,536	454
Blackmouth eelpout	-	-	-	-
Pacific sandfish	-	-	-	2 0.2
Rougheye rockfish	-	-	-	-
Shortraker rockfish	-	-	-	-
Silvergray rockfish	-	-	-	-
Yellowtail rockfish	-	1,085	-	-
Redstripe rockfish	-	-	-	-
Sablefish	-	-	-	-
Lingcod	-	-	-	-
Sturgeon poacher	-	-	-	-
Snailfish	-	-	-	-
Smooth lump sucker	-	-	-	-
Tadpole snailfish	-	-	-	-

Table 2 (cont'd)

Gear ^a	D7 Selwyn In.	D7 Dana In.	D7 White Rocks	D7 South Flats
Locality	5	6	7	8
Haul No.				
Total Catch (kg)	730	2562	524	201
Duration (min)	75	65	150	120
Species ^b	No.	Weight	No.	Weight
Arrowtooth flounder	-	-	-	-
Rex sole	-	-	-	-
Flathead sole	-	-	-	-
Pacific halibut	-	-	-	-
Rock sole	-	-	-	-
Dover sole	-	-	-	-
English sole	-	-	-	-
Sand sole	-	-	-	-
Sea whip	-	-	-	-
Red jellyfish	-	-	-	-
Sea stars	-	-	-	1 0.1
Squid	-	-	2 0.3	1 0.5
Euphausiids	-	-	-	-
Glass shrimp	-	-	-	-
Shrimp	-	-	-	-
Crab	-	-	-	-

Table 2 (cont'd)

Gear ^a Locality Haul No.	D7 Two Peaks 9	D7 Two Peaks 10	D7 Butterworth 11	D7 Butterworth 12
Total Catch (kg)	1092	4536	454	343
Duration (min)	100	135	60	60
Species ^b	No.	Weight	No.	Weight
Pacific lamprey	-	-	-	-
Spiny dogfish	-	-	-	-
Big skate	2	3	-	-
Longnose skate	-	-	-	-
Ratfish	-	-	-	-
Pacific herring	-	-	-	-
Chinook salmon	-	-	-	-
Eulachon	-	pc	-	-
Northern smoothtongue	-	-	-	-
Pacific viperfish	-	-	-	-
Lanternfish	-	-	-	-
Northern lampfish	-	-	-	-
Pacific cod	1	3	-	-
Pacific tomcod	-	-	-	-
Walleye pollock	-	-	4,536	454
Blackmouth eelpout	-	-	-	-
Pacific sandfish	-	-	-	2 0.2
Rougheye rockfish	-	-	-	-
Shortraker rockfish	-	-	-	-
Silvergray rockfish	-	-	-	-
Yellowtail rockfish	-	1,085	-	-
Redstripe rockfish	-	-	-	-
Sablefish	-	-	-	-
Lingcod	-	-	-	-
Sturgeon poacher	-	-	-	-
Snailfish	-	-	-	-
Smooth lump sucker	-	-	-	-
Tadpole snailfish	-	-	-	-

Table 2 (cont'd)

Gear ^a	D7 Two Peaks	D7 Two Peaks	D7 Butterworth	D7 Butterworth
Locality	9	10	11	12
Haul No.				
Total Catch (kg)	1092	4536	454	343
Duration (min)	100	135	60	60
Species ^b	No.	Weight	No.	Weight
Arrowtooth flounder	1	1	-	-
Rex sole	-	-	-	-
Flathead sole	-	-	-	-
Pacific halibut	-	-	-	-
Rock sole	-	-	-	-
Dover sole	-	-	-	-
English sole	-	-	-	-
Sand sole	-	-	-	-
Sea whip	-	-	-	-
Red jellyfish	-	-	-	-
Sea stars	-	-	-	-
Squid	-	-	-	-
Euphausiids	-	P	-	-
Glass shrimp	-	-	-	-
Shrimp	-	-	-	-
Crab	-	-	-	-

Table 2 (cont'd)

Gear ^a Locality	W3 South Flats	W3 South Flats	W3 Butterworth	D7 Butterworth
Haul No.	13	14	15	16
Total Catch (kg)	15,778	692	1529	324
Duration (min)	60	15	30	80
Species ^b	No.	Weight	No.	Weight
Pacific lamprey	-	-	-	-
Spiny dogfish	-	79	3	6
Big skate	-	-	-	-
Longnose skate	4	48	4	43
Ratfish	-	95	-	12
Pacific herring	-	-	-	-
Chinook salmon	3	4	-	-
Eulachon	-	-	-	-
Northern smoothtongue	-	-	-	-
Pacific viperfish	-	-	-	-
Lanternfish	-	-	-	-
Northern lampfish	-	-	-	-
Pacific cod	-	2,439	-	22
Pacific tomcod	-	-	-	2
Walleye pollock	-	12,005	-	46
Blackmouth eelpout	-	-	-	-
Pacific sandfish	-	-	-	-
Rougheye rockfish	-	-	-	-
Shortraker rockfish	-	-	-	-
Silvergray rockfish	4	5	-	-
Yellowtail rockfish	-	-	-	-
Redstripe rockfish	-	-	-	1
Sablefish	-	713	-	0.5
Lingcod	12	48	2	1
Sturgeon poacher	80	6	4	1
Snailfish	-	-	-	-
Smooth lump sucker	-	-	-	-
Tadpole snailfish	-	-	-	-

Table 2 (cont'd)

Gear ^a Locality Haul No.	W3 South Flats		W3 South Flats		W3 Butterworth		D7 Butterworth	
	13	14	15	16	1529	30	15	324
Total Catch (kg)	15,778		692					
Duration (min)	60		15		30		80	
Species ^b	No.	Weight	No.	Weight	No.	Weight	No.	Weight
Arrowtooth flounder	-	95	-	62	-	201	-	13
Rex sole	-	63	-	38	-	25	-	-
Flathead sole	2	1	-	3	-	-	-	-
Pacific halibut	9	34	1	7	9	19	-	-
Rock sole	-	32	-	5	-	-	-	-
Dover sole	-	16	-	2	-	-	-	-
English sole	-	95	-	433	-	54	-	-
Sand sole	-	-	-	0.5	-	-	-	-
Sea whip	-	-	-	1	-	-	-	-
Red jellyfish	-	-	-	-	-	-	-	-
Sea stars	-	-	1	0.2	-	-	-	-
Squid	-	-	-	-	-	-	1	0.2
Euphausiids	-	-	-	-	-	-	-	-
Glass shrimp	-	-	-	-	-	-	-	-
Shrimp	-	-	-	-	-	-	-	-
Crab	2	0.2	1	0.2	-	-	-	-

Table 2 (cont'd)

Gear ^a	D7 C. Chacon	D7 Nass R.	D7 Nass R.	D7 Cordova B.
Locality				
Haul No.	17	18	19	20
Total Catch (kg)	0	189	390	370
Duration (min)	60	90	120	60
Species ^b	No.	Weight	No.	Weight
Pacific lamprey	-	-	1	-
Spiny dogfish	-	-	-	1
Big skate	-	-	-	-
Longnose skate	-	-	-	-
Ratfish	-	-	-	-
Pacific herring	-	-	-	-
Chinook salmon	-	-	1	1
Eulachon	-	-	1	-
Northern smoothtongue	-	-	-	-
Pacific viperfish	-	-	-	-
Lanternfish	-	-	-	-
Northern lampfish	-	-	-	-
Pacific cod	-	-	-	-
Pacific tomcod	-	-	-	-
Walleye pollock	-	-	186	186
Blackmouth eelpout	-	-	-	-
Pacific sandfish	-	-	-	-
Rougheye rockfish	-	-	-	-
Shortraker rockfish	-	-	-	-
Silvergray rockfish	-	-	-	-
Yellowtail rockfish	-	-	-	-
Redstripe rockfish	-	-	-	-
Sablefish	-	-	-	-
Lingcod	-	-	-	-
Sturgeon poacher	-	-	-	-
Snailfish	-	-	-	-
Smooth lump sucker	-	-	1	0.2
Tadpole snailfish	-	-	-	2

Table 2 (cont'd)

Gear ^a	D7 C. Chacon	D7 Nass R.	D7 Nass R.	D7 Cordova B.
Locality	17	18	19	20
Haul No.	0	189	390	370
Total Catch (kg)	60	90	120	60
Duration (min)				
Species ^b	No.	Weight	No.	Weight
Arrowtooth flounder	-	-	-	-
Rex sole	-	-	-	-
Flathead sole	-	-	-	-
Pacific halibut	-	-	-	-
Rock sole	-	-	-	-
Dover sole	-	-	-	-
English sole	-	-	-	-
Sand sole	-	-	-	-
Sea whip	-	-	-	-
Red jellyfish	-	-	-	-
Sea stars	-	-	-	-
Squid	-	2	2	34
Euphausiids	-	-	-	-
Glass shrimp	-	-	-	-
Shrimp	-	-	-	P
Crab	-	-	-	-

Table 2 (cont'd)

Gear ^a	D7	D7	D7	D7
Locality	Cordova B.	Cordova B.	Clarence St.	Thorne Arm
Haul No.	21	22	23	24
Total Catch (kg)	401	30	345	135
Duration (min)	90	135	105	120
Species ^b	No.	Weight	No.	Weight
Pacific lamprey	-	-	-	-
Spiny dogfish	7	31	-	-
Big skate	-	-	-	-
Longnose skate	-	-	-	-
Ratfish	-	-	-	-
Pacific herring	-	-	-	-
Chinook salmon	1	2	1	1
Eulachon	82	4	-	-
Northern smoothtongue	-	-	-	10
Pacific viperfish	-	-	-	-
Lanternfish	5	-	-	-
Northern lampfish	-	-	-	23
Pacific cod	-	-	1	5
Pacific tomcod	-	-	-	-
Walleye pollock	195	358	1	2
Blackmouth eelpout	-	-	-	-
Pacific sandfish	-	-	-	-
Rougheye rockfish	-	-	1	2
Shortraker rockfish	-	-	1	9
Silvergray rockfish	-	-	-	-
Yellowtail rockfish	-	-	1	3
Redstripe rockfish	-	-	-	-
Sablefish	-	-	-	4
Lingcod	-	-	-	-
Sturgeon poacher	-	-	-	-
Snailfish	-	-	-	2
Smooth lumpsucker	-	-	-	-
Tadpole snailfish	-	-	-	-

Table 2 (cont'd)

Gear ^a	D7	D7	D7	D7
Locality	Cordova B.	Cordova B.	Clarence St.	Thorne Arm
Haul No.	21	22	23	24
Total Catch (kg)	401	30	345	135
Duration (min)	90	135	105	120
Species ^b	No.	Weight	No.	Weight
Arrowtooth flounder	-	-	3	8
Rex sole	-	-	-	-
Flathead sole	-	-	-	-
Pacific halibut	-	-	-	-
Rock sole	-	-	-	-
Dover sole	-	-	-	-
English sole	-	-	-	-
Sand sole	-	-	-	-
Sea whip	-	-	-	-
Red jellyfish	-	-	2	2
Sea stars	-	-	-	-
Squid	18	6	-	-
Euphausiids	-	-	-	-
Glass shrimp	-	-	-	-
Shrimp	-	P	-	-
Crab	-	-	-	-

Table 2 (cont'd)

Gear ^a Locality Haul No.	D7 Behm Canal 25	D7 Main Pass. 26	D7 Hastings 27	D7 Observatory 28
Total Catch (kg)	78	35	189	52
Duration (min)	100	120	85	90
Species ^b	No.	Weight	No.	Weight
Pacific lamprey	-	-	-	-
Spiny dogfish	-	-	-	-
Big skate	-	-	-	-
Longnose skate	-	-	-	-
Ratfish	-	-	-	-
Pacific herring	-	-	-	-
Chinook salmon	-	-	3	5
Eulachon	-	3	-	P
Northern smoothtongue	-	2	-	P
Pacific viperfish	-	-	-	-
Lanternfish	-	-	-	-
Northern lampfish	-	-	-	-
Pacific cod	-	-	-	-
Pacific tomcod	-	-	-	-
Walleye pollock	21	48	13	22
Blackmouth eelpout	2	-	-	P
Pacific sandfish	-	-	-	-
Rougheye rockfish	3	8	-	-
Shortraker rockfish	1	7	-	-
Silvergray rockfish	-	-	-	-
Yellowtail rockfish	-	-	-	-
Redstripe rockfish	-	-	-	-
Sablefish	-	-	-	-
Lingcod	-	-	-	-
Sturgeon poacher	-	-	-	-
Snailfish	-	-	-	2
Smooth lump sucker	-	-	-	-
Tadpole snailfish	-	-	-	-

Table 2 (cont'd)

Gear ^a	D7	D7	D7	D7
Locality	Behm Canal	Main Pass.	Hastings	Observatory
Haul No.	25	26	27	28
Total Catch (kg)	78	35	189	52
Duration (min)	100	120	85	90
Species ^b	No.	Weight	No.	Weight
Arrowtooth flounder	-	-	-	-
Rex sole	-	-	-	-
Flathead sole	-	-	-	-
Pacific halibut	-	-	-	-
Rock sole	-	-	-	-
Dover sole	-	-	-	-
English sole	-	-	-	-
Sand sole	-	-	-	-
Sea whip	-	-	-	-
Red jellyfish	-	-	-	-
Sea stars	-	-	-	-
Squid	-	10	-	8
Euphausiids	-	-	-	-
Glass shrimp	-	-	-	-
Shrimp	4	-	P	-
Crab	-	-	-	-

Table 2 (cont'd)

Gear ^a	D7	D7		
Locality	Freemans	South Flats		
Haul No.	29	30		
Total Catch (kg)	678	548		
Duration (min)	65	60		
Species ^b	No.	Weight	No.	Weight
Pacific lamprey	-	-	-	-
Spiny dogfish	-	-	-	-
Big skate	-	-	-	-
Longnose skate	-	-	1	15
Ratfish	-	-	-	-
Pacific herring	-	675	-	450
Chinook salmon	1	0.5	5	25
Eulachon	-	-	-	-
Northern smoothtongue	-	-	-	-
Pacific viperfish	-	-	-	-
Lanternfish	-	-	-	-
Northern lampfish	-	-	-	-
Pacific cod	-	-	1	4
Pacific tomcod	-	-	-	-
Walleye pollock	2	2	72	50
Blackmouth eelpout	-	-	-	-
Pacific sandfish	-	-	-	-
Rougheye rockfish	-	-	-	-
Shortraker rockfish	-	-	-	-
Silvergray rockfish	-	-	-	-
Yellowtail rockfish	-	-	-	-
Redstripe rockfish	-	-	-	-
Sablefish	-	-	4	4
Lingcod	-	-	-	-
Sturgeon poacher	-	-	-	-
Snailfish	-	-	-	-
Smooth lump sucker	-	-	-	-
Tadpole snailfish	-	-	-	-

Table 2 (cont'd)

Gear ^a Locality Haul No. Total Catch (kg) Duration (min)	D7 Freemans	D7 South Flats		
Species ^b	No.	Weight	No.	Weight
Arrowtooth flounder	-	-	-	-
Rex sole	-	-	-	-
Flathead sole	-	-	-	-
Pacific halibut	-	-	-	-
Rock sole	-	-	-	-
Dover sole	-	-	-	-
English sole	-	-	-	-
Sand sole	-	-	-	-
Sea whip	-	-	-	-
Red jellyfish	-	-	-	-
Sea stars	-	-	-	-
Squid	-	-	-	-
Euphausiids	-	-	-	-
Glass shrimp	-	-	-	-
Shrimp	-	-	-	-
Crab	-	-	-	-

^aGear: D7=Diamond 7 midwater trawl.

W3=Western III bottom trawl.

^bFish species listed per Hart (1973).

^cP=present.

Table 3. Walleye pollock samples by set number, SCOTIA BAY, March 12-30, 1979.

Location	Set no.	Length	Sex	Number of fish sampled				Kept for Lab	Sample numbers	Remarks
				Age (left pectoral fin)	Maturity	Stomachs	Lamprey scars			
Selwyn In.	2	260	260	260	260	100	144		29970-30229	Random 2 tubs
Selwyn In.	3	247	247	247	247	-	140		30230-30476	Random 2 tubs
Selwyn In.	4	330	330	100 ^a	330	-	115		30477-30576	Random 2 tubs
Selwyn In.	5	290	290	100 ^a	290	100	190		30577-30676	Random 2 tubs
Dana Inlet	6	269	269	-	269	-	160		-	Random 2 tubs
White Rock	7	1	1	-	1	-	-		-	Total catch (adult)
South Flats	8	5	5	-	5	-	-		30677	Total catch (adults)
Two Peaks	10	200	200	100 ^a	200	-	120		30678-30777	Random 2 tubs (juveniles) ^b
Butterworth	11	216	216	50 ^a	216	C	120		30778-30827	Random sample (juveniles) ^b
Butterworth	12	316	316	-	316	C	200		-	Random sample (juveniles) ^b
Butterworth	12	14	14	-	14	-	14		-	Total catch (adults)
South Flats	13	288	288	248	288	-	140	15 Ovaries	30828-31076	Random ^c 6 tubs - dry otoliths for storing.
South Flats	14	44	44	-	44	44	44	2 Ovaries	31077-31078	Total catch
Butterworth	16	30	30	-	30	C	30		-	Random 30 (juveniles)
Butterworth	16	60	60	-	60	60	30	20 Ovaries	31079-31098	Total catch (adults)
Portland In.	18	186	186	186	186	106	186	C	31099-31284	Total catch
Portland In.	19	217	217	217	217	-	217	C	31285-31501	Random 5 tubs
Cordova Bay	20	149	149	149	149	60	71	Ovaries	31502-31699	Total catch: sample nos 31573-31621 were not used

Table 3 (cont'd)

Location	Set no.	Number of fish sampled									Sample numbers	Remarks
		Length	Sex	Age (left pectoral fin)	Maturity	Stomachs	Lamprey scars	Diseases	Fecundity	Kept for Lab		
Cordova Bay	21	195	195	195	195	-	195				31700-31894	Total catch. Ovary volumes measured.
Clarence Str.	23	224	224	224	224	60	224				31895-32118	Total catch. Ovary volumes measured.
Thorne Arm	24	50	50	-	50	50	50				32119-32123	Total catch. Ovary volumes measured.
Behm Canal	25	21	21	-	21	-	-				-	Total catch. Ovary volumes measured.
Main Pass	26	13	13	-	13	-	13				-	Total catch
Hastings Arm	27	300	300	300 ^a	300	100	300				-	Random 2.5 tubs
Freeman	29	-	-	-	2(C)	-	-				-	Total catch
South Flats	30	72	72	-	72	72	72				-	Total catch

^aFins and otoliths.^bNot stratified: these are representative of the catches.^cIncludes selected 40 small fish (<37 cm).

Table 4. Walleye pollock length frequencies by set. SCOTIA BAY,
March 14-30, 1979.

Set	2			3			4			5		
Date	14/3/79			14/3/79			15/3/79			15/3/79		
Ground	Selwyn In.			Selwyn In.			Selwyn In.			Selwyn In.		
Net	D7			D7			D7			D7		
Codend	2.5 cm			2.5 cm			2.5 cm			2.5 cm		
Remarks	Random			Random			Random			Random		
	2 tubs			2 tubs			2 tubs			2 tubs		
Fork length (cm)	M	F	T	M	F	T	M	F	T	M	F	T
20												
21	1		1				4		4			
22	0		0				6	3	9			
23	0		0				8	2	10	2	1	3
24	0		0				18	2	20	1	0	1
25	1		1				10	1	11	0	0	0
26	3		3				10	2	12	0	0	0
27	0		0				3	0	3	1	0	1
28	0		0				1	0	1	0	0	0
29	0		0				0	1	1	0	0	0
30	1		1				2	0	2	0	1	1
31	4		4				7	1	8	7	0	7
32	18		18	2	2	4	22	1	23	18	7	25
33	30	1	31	2	10	12	41	1	42	31	3	34
34	63	1	64	0	10	10	51	2	53	44	5	49
35	49	0	49	4	26	30	43	2	45	47	11	58
36	37	3	40	4	37	41	37	2	39	28	12	40
37	15	5	20	3	51	54	22	1	23	13	6	19
38	12	1	13	3	34	37	9	2	11	9	13	22
39	6	2	8	1	24	25	7	0	7	3	4	7
40	3	1	4	0	14	14	2	1	3	7	8	15
41	2	0	2	0	5	5	1	0	1	1	2	3
42	1	0	1	0	4	4	1	1	2	0	1	1
43				0	6	6				1	0	1
44				1	1	2				2	2	2
45					2	2				1	1	1
46					1	1						
Total	246	14	260	20	227	247	305	25	330	213	77	290

Table 4 (cont'd)

Set	6			10			11			12		
Date	15/3/79			18/3/79			18/3/79			19/3/79		
Ground	Dana In.			Two Peaks			Butterworth			Butterworth		
Net	D7			D7			D7			D7		
Codend	2.5 cm			2.5 cm			2.5 cm			2.5 cm		
Remarks	Random			Random			Random			Adults T. C.		
	2 tubs			2 tubs			subsample			juv. random		
Fork length (cm)	M	F	T	M	F	T	M	F	T	M	F	T
21								1	1			
22								0	0			
23								0	0			
24	3	3					3	5	8	5	1	6
25	6	6		1	1		5	6	11	9	5	14
26	2	2		0	0		14	10	24	16	15	31
27	0	0		5	2	7	28	20	48	35	24	59
28	0	0		2	2	4	28	24	52	42	26	68
29	0	0		5	9	14	22	14	36	22	17	39
30	4	4		18	7	25	11	12	23	26	16	42
31	3	3		17	11	28	2	3	5	7	10	17
32	12	12		14	18	32	4	3	7	5	7	12
33	36	36		15	13	29		1	1	6	5	11
34	38	38		12	11	23				0	4	4
35	48	5	53	10	8	18				0	0	0
36	37	2	39	4	4	8				4	3	7
37	25	1	26	1	4	5				0	3	3
38	14	1	15	1	1	2				1		1
39	7	1	8	2	1	3				1	2	3
40	7	2	9	1	0	1				1	1	2
41	6	0	6		1	1				0	0	0
42	1	1	2							0	1	1
43	2	2	4							0	0	0
44	2		2							0	0	0
45	1		1							0	0	0
46										0	1	1
47										0	0	0
48										0	0	0
49										0	2	2
50										1		1
51										1	1	2
52										1		1
53										2		2
54										1		1
Total	254	15	269	107	93	200	117	99	216	181	149	330

Table 4 (cont'd)

Set	13			14			16			18		
Date	20/3/79			21/3/79			21/3/79			23/3/79		
Ground	South Flats			South Flats			Butterworth			Portland		
Net	W III			W III			D7			D7		
Codend	12.7 cm			12.7 cm			2.5 cm			2.5 cm		
Remarks	Random ^a 6 tubs			Total catch			Total adults			Total Random juv. catch		
Fork length (cm)	M	F	T	M	F	T	M	F	T	M	F	T
15							1		1			
16							0		0			
17							0		0			
18							0		0			
19							0		0			
20							0		0			
21							0		0			
22							0		0			
23							0		0			
24							0		0			
25							0	1	1			
26	(1)	(1) ^a	2				0	1	1			
27	(3)	(0)	3				0	0	0			
28	(3)	(2)	5				0	0	0			
29	(3)	(0)	3				1	1	2			
30	(6)	(2)	8				5	1	6			
31	(5)	(0)	5				3	1	4			
32	(4)	(1)	5	2	2		0	2	2			
33	(3)	(1)	4	0	0		1	3	4			
34	(1)	(3)	4	1	1		4	1	5			
35	1	(0)	1	1	1		1	4	5			
36	1	(1)	2	1	1		0	0	0	1		1
37	0		0	1	1		1	1	2	0	1	1
38	1		1	1	1		0	0	0	1	1	2
39	1		1	0	0		0	1	1	0	1	1
40	0		0	0	0		1	1	2	2	0	2
41	1	1	2	1	1		1	0	1	2	2	4
42	1	1	2	1	1		0	1	1	5	2	7
43	0	2	2	4	1	5	3	1	4	7	1	8
44	3	4	7	4	0	4	2	2	4	8	2	10
45	0	7	7	0	0	0	0	1	1	7	6	13
46	4	10	14	1	0	1	2	1	3	10	5	15
47	5	8	13	3	0	3	1	1	2	5	7	12
48	3	13	16	5	1	6	0	8	8	7	8	15
49	6	15	21	5	0	0	1	3	4	8	5	13
50	4	23	27	4	0		2	2	4	7	10	17
51	2	18	20	0	1		1	6	7	6	8	14

Table 4 (cont'd)

Set	13			14			16			18		
Date	20/3/79			21/3/79			21/3/79			23/3/79		
Ground	South Flats			South Flats			Butterworth			Portland		
Net	W III			W III			D7			D7		
Codend	12.7 cm			12.7 cm			2.5 cm			2.5 cm		
Remarks	Random 6 tubs			Total catch			Total adults			Total catch		
Fork length (cm)	M	F	T	M	F	T	M	F	T	M	F	T
52	0	16	16	0	1		3	3		2	3	5
53	0	8	8	2			2	2		3	7	10
54	1	16	17	2			1	1		3	8	11
55	1	11	12	1			1	1		2	6	8
56	1	15	16				1	1		1	3	4
57	1	6	7				0	0		0	1	1
58	9	9					1	1		1	2	3
59	1	1					2	2		1	2	3
60		13	13				2	2			4	4
61	2	2					0	0			0	0
62	5	5					0	0			0	0
63	3	3					1	1			1	1
64	1	1					0	0			0	0
65	0	0					1	1			1	1
66	0	0										
67	1	1										
68												
69												
Total	66	222	288	40	4	44	31	59	90	89	97	186

Table 4 (cont'd)

Set	19			20			21			23		
Date	23/3/79			24/3/79			25/3/79			26/3/79		
Ground	Portland			Cordova Bay			Cordova Bay			Clarence Str.		
Net	D7			D7			D7			D7		
Codend	2.5 cm			2.5 cm			2.5 cm			2.5 cm		
Remarks	Random			Total catch			Total catch			Total catch		
Fork length (cm)	M	F	T	M	F	T	M	F	T	M	F	T
27	1		1									
28	0		0							1		1
29	0	1	1							0		0
30	1	0	1							0	1	1
31	0	0	0							0	0	0
32	0	3	3							0	1	1
33	3	1	4							0	0	0
34	3	0	3							0	0	0
35	0	2	2							0	0	0
36	2	1	3							1	1	2
37	0	0	0							0	0	0
38	3	1	4							0	1	1
39	0	2	2							0	0	0
40	1	0	1							0		
41	4	5	9							0		
42	6	4	10							0		
43	4	4	8							1		1
44	6	4	10							1		1
45	4	4	8							0		0
46	10	6	16							0		0
47	4	3	7							1		1
48	7	13	20							0	1	1
49	5	6	11				1		1	8	3	11
50	4	11	15	0	0	0	1	0	1	8	1	9
51	2	9	11	1	0	1	1	2	3	12	0	12
52	0	11	11	2	0	2	5	1	6	22	5	27
53	2	2	4	9	1	10	5	3	8	23	4	27
54	4	8	12	8	4	12	14	5	19	26	7	33
55	2	5	7	11	7	18	14	10	24	18	4	22
56	1	7	8	8	11	10	9	16	25	12	8	20
57	0	6	6	4	10	14	4	24	28	11	9	20
58	0	8	8	5	19	24	3	25	28	4	9	13
59	0	1	1	1	10	11	1	24	25	2	9	11
60	0	2	2		20	20	1	12	13		4	4
61	0	1	1		9	9	1	6	7		2	2
62	2	2	4		5	5		4	4		2	2
63	1	1			2	2		2	2		1	1

Table 4 (cont'd)

Set	19	20	21	23									
Date	23/3/79	24/3/79	25/3/79	26/3/79									
Ground	Portland	Cordova Bay	Cordova Bay	Clarence Str.									
Net	D7	D7	D7	D7									
Codend	2.5 cm	2.5 cm	2.5 cm	2.5 cm									
Remarks	Random	Total	Total	Total									
	5 tubs	catch	catch	catch									
Fork length (cm)	M	F	T	M	F	T	M	F	T	M	F	T	
64		0	0		2	2		0	0				
65		1	1					1	1				
66													
67													
68													
69													
Total	81	135	217	49	100	149	60	135	195	151	73	224	

Table 4 (cont'd)

Set	24			25			26			27			
Date	27/3/79			27/3/79			27/3/79			28/3/79			
Ground	Thorne Arm			Behm C.			N. Dundas I.			Observatory			
Net	D7			D7			D7			D7			
Codend	2.5 cm			2.5 cm			2.5 cm			2.5 cm			
Remarks	Total catch			Total catch			Total catch			Random 300			
Fork length (cm)	M	F	T	M	F	T	M	F	T	M	F	T	
24								1			1		
25								0			0		
26								0			0		
27								2		1	3		
28								1		1	2		
29								4		0	4		
30									2	3	5		
31									9	2	11		
32									7	4	11		
33									8	3	11		
34									8	10	18		
35									14	5	19		
36									23	10	33		
37		1		1					16	4	20		
38		0		0					20	12	32		
39		0		0					19	13	32		
40		0		0					26	14	40		
41		0		0					11	11	22		
42		0		0					10	5	15		
43		0		0					3	9	12		
44		0		0					3	3	6		
45		0	1	1			1		1		2	2	
46		0	0	0			0		0		0	0	
47		0	0	0			0		0		0	0	
48		0	0	0			0	1	1		1	1	
49		0	0	0			0	0	0		0	0	
50		0	0	0			1	0	1				
51		0	0	0				0	0				
52	3	1	4	1	0	1		0	0				
53	0	2	2	0	2	2		0	0				
54	0	1	1	1	0	1		2	2				
55	2	4	6	3	2	5		0	0				
56	1	2	3	1	0	1		1	1				
57	2	4	6	1	4	5		1	1				
58	4	4		2	2			1	1				
59	5	5		1	1			0	0				
60	4	4		1	1			3	3				

Table 4 (cont'd)

Set	24	25	26	27								
Date	27/3/79	27/3/79	27/3/79	28/3/79								
Ground	Thorne Arm	Behm C.	N. Dundas I.	Observatory								
Net	D7	D7	D7	D7								
Codend	2.5 cm	2.5 cm	2.5 cm	2.5 cm								
Remarks	Total catch	Total catch	Total catch	Random 300								
Fork length (cm)	M	F	T	M	F	T	M	F	T	M	F	T
61	8	8					0	0				
62	3	3					0	0				
63	3	3					1	1				
64	1	1					0	0				
65							1	1				
Total	8	42	50	8	13	21	2	11	13	187	113	300

Table 4 (cont'd)

Set	30		
Date	29/3/79		
Ground	South Flats		
Net	D7		
Codend	2.5 cm		
Remarks	Total catch		
Fork length (cm)		M	F
30		1	1
31		0	0
32		1	1
33		0	0
34		0	0
35		0	0
36		1	0
37		0	0
38		1	0
39		0	0
40		1	0
41		2	0
42		2	0
43		3	1
44		1	0
45		2	0
46		6	0
47		4	1
48		9	0
49		2	0
50		7	0
51		5	0
52		6	1
53		4	0
54		4	0
55		1	0
56		1	0
57		1	0
58		1	0
59		0	1
Total		64	8
			72

^aIncludes 30 selected (<37 cm) fish (in parentheses).

Table 5. Walleye pollock length frequencies by maturity and region. SCOTIA BAY, March 13-30, 1979.

Location Set Nos.	Dana and Selwyn Inlets 2-6					Two Peaks to South Flats 8-16 and 30				
	Frequency (No. of Fish)									
Fork length (cm)	Male		Female			Male		Female		
	I ^a	I+M ^a	I	I+M	T	I	I+M	I	I+M	T
15						1	1			1
16						0	0			0
17						0	0			0
18						0	0			0
19						0	0			0
20						0	0	0	0	0
21		5		5		0	0	1	1	1
22		6	3	9		0	0	0	0	0
23		10	3	13		0	0	0	0	0
24		22	2	24		8	8	6	6	14
25	1	17	1	18		14	14	13	13	27
26	1	15	2	17		31	31	27	27	58
27	0	4	0	4		71	71	46	46	117
28	0	1	0	1		75	75	54	54	129
29	0	0	1	1		53	53	41	41	94
30	0	7	1	8		66	66	39	39	105
31	1	21	1	22		34	34	25	25	59
32	0	72	10	82		27	29	31	32	61
33	1	140	1	155		25	25	23	23	48
34	0	196	18	214		17	18	19	19	37
35	2	191	44	235		11	13	12	12	25
36		143	56	199		10	11	10	10	21
37		78	64	142		2	3	8	8	11
38		47	51	98		3	5	1	1	6
39		24	31	55		3	4	4	4	8
40		19	26	45		3	4	2	2	6
41		10	7	17		1	5	1	2	7
42		3	7	10		0	4	2	3	7
43		3	8	11		1	10	1	5	15
44		3	3	6		0	10	1	6	16
45		1	3	4		0	2	1	8	10
46			1	1		1	15	0	14	29
47							13	0	10	23
48							17	3	23	40
49							14	2	21	35

Table 5 (cont'd)

Location Set Nos.	Dana and Selwyn Inlets 2-6					Two Peaks to South Flats 8-16 and 30				
	Frequency (No. of Fish)									
Fork length (cm)	Male		Female		T	Male		Female		T
	I	I+M	I	I+M		I	I+M	I	I+M	
50						17	2	26	43	
51						9		27	36	
52						7		22	29	
53						6		12	18	
54						7		18	25	
55						3		13	16	
56						2		16	18	
57						2		6	8	
58						2		9	11	
59						0		4	4	
60								15	15	
61								2	2	
62								5	5	
63								4	4	
64								1	1	
65								1	1	
66								0	0	
67								1	1	
Totals	6	1,038	1	358	1,396	458	610	373	635	1246

Table 5 (cont'd)

Location Set Nos.	S. E. Alaska 20-26					Portland Inlet 18-19					
	Frequency (No. of Fish)										
Fork length (cm)	Male		Female			T	Male		Female		
	I	I+M	I	I+M	T		I	I+M	I	I+M	T
27							1	1			1
28	1	1			1		0	0			0
29	0				0		0	0	1	1	1
30	0	1	1	1			1	1	0	0	1
31	0	0	0	0			0	0	0	0	0
32	0	1	1	1			0	0	2	3	3
33	0	0	0	0			3	3	0	1	4
34	0	0	0	0			2	3	0	0	3
35	0	0	0	0				0	0	2	2
36	1	1	1	2				3	1	1	4
37	1	0	0	1				0	0	1	1
38	0	0	1	1				4	0	2	6
39	0	0	0	0				0	1	3	3
40	0	0	0	0				3	0	0	3
41	0	0	0	0				6	1	7	13
42	0	0	0	0					11	0	6
43	1	0	0	1					11	0	5
44	1	0	0	1					14	0	6
45	1	1	1	2					11	0	10
46	0		0	0				20	0	11	31
47	1		0	1				9	0	10	19
48	0		2	2				14	1	21	35
49	9		3	12				13	0	11	24
50	10		1	11				11		21	32
51	14		2	16				8		17	25
52	33		7	40				2		14	16
53	37		12	49				5		9	14
54	49		19	68				7		16	23
55	48		27	75				4		11	15
56	31		38	69				2		10	12
57	22		52	74				0		7	7
58	12		60	72				1		10	11
59	4		49	53				1		3	4
60	1		44	45				0		6	6
61	1		25	26				0		1	1
62			14	14				2		2	4
63			9	9					2		2
64			3	3					0		0
65			2	2					2		2
66											
67											
Totals	1	278	4	374	652		7	170	7	232	402

Table 5 (cont'd)

Location Set Nos.	Observatory Inlet				
	Frequency (No. of Fish)				
Fork length (cm)	Male		Female		T
	I	I+M	I	I+M	
24	1	1			1
25	0	0			0
26	0	0			0
27	0	2	1	1	3
28	0	1	1	1	2
29	3	4	0	0	4
30	1	2	1	3	5
31	4	9	2	2	11
32	3	7	2	4	11
33	1	8	2	3	11
34	2	8	2	10	18
35	0	14	0	5	19
36	0	23	1	10	33
37	1	16	0	4	20
38	0	20	0	12	32
39	0	19	0	13	32
40	0	26	1	14	40
41	1	11		11	22
42		10		5	15
43		3		9	12
44		3		3	6
45				2	2
46				0	0
47				0	0
48				1	1
49					
Totals	17	187	13	113	300

^aI=Immature (never spawned and not ripening).
I+M=Immature + Mature (all fish).

Table 6. Age-length frequencies of pollock in Selwyn and Dana inlets
(Sets 3, 4, 5) March 1979.

Length (cm)	2		3		4		5	
	M	F	M	F	M	F	M	F
21	2	-	-	-	-	-	-	-
22	2	1	-	-	-	-	-	-
23	3	1	-	-	-	-	-	-
24	9	1	-	-	-	-	-	-
25	5	-	-	-	-	-	-	-
26	4	-	1	-	-	-	-	-
27	1	-	0	-	-	-	-	-
28	1	-	0	-	-	-	-	-
29	1	-	0	-	-	-	-	-
30	1	-	0	-	-	-	-	-
31	0	-	5	-	-	-	-	-
32	2	-	6	3	1	1	1	-
33	-	-	17	5	3	1	1	-
34	-	-	23	6	3	0	0	-
35	-	-	22	14	1	2	0	-
36	-	-	19	14	5	2	0	-
37	-	-	6	13	4	5	1	1
38	-	-	2	14	1	5	0	1
39	-	-	2	2	1	8	0	1
40	-	-	1	2	1	4	0	1
41	-	-	-	1	2	3	0	0
42	-	-	-	0	-	0	0	2
43	-	-	-	0	-	1	1	-
44	-	-	-	0	-	-	-	-
45	-	-	-	1	-	-	-	-
Total	31	3	104	75	22	32	4	6
Mean	25.1	23.0	34.5	36.2	36.1	38.1	36.2	39.7

Number aged as ranges: 11

Number missing or unreadable: 12

Table 7. Age-length frequencies of walleye pollock at South Flats (Set 13) March 1979.

Length (cm)	3		4		5		6		7		8	
	M	F	M	F	M	F	M	F	M	F	M	F
35	1	-	-	-	-	-	-	-	-	-	-	-
36	1	-	-	-	-	-	-	-	-	-	-	-
37	0	-	-	-	-	-	-	-	-	-	-	-
38	0	-	1	-	-	-	-	-	-	-	-	-
39	1	-	0	-	-	-	-	-	-	-	-	-
40	0	-	0	-	-	-	-	-	-	-	-	-
41	0	1	0	-	1	-	-	-	-	-	-	-
42	0	1	1	-	0	-	-	-	-	-	-	-
43	0	0	0	2	0	-	-	-	-	-	-	-
44	0	1	1	2	0	1	1	-	-	-	-	-
45	0	1	0	4	0	1	0	-	-	-	-	-
46	0	3	2	6	0	3	0	-	-	-	-	-
47	2	2	1	5	1	1	1	-	-	-	-	-
48	-	1	1	9	1	0	0	1	-	-	-	-
49	-	1	2	6	4	6	0	1	-	-	-	-
50	-	2	2	5	1	12	1	2	-	-	-	1
51	-	0	1	5	0	9	0	4	-	-	-	0
52	-	1	-	2	0	4	0	8	-	1	-	0
53	-	-	-	2	0	3	0	1	-	2	-	0
54	-	-	-	3	1	7	0	3	-	1	-	1
55	-	-	-	1	1	6	0	3	-	1	-	0
56	-	-	-	0	1	7	0	5	-	2	-	0
57	-	-	-	0	0	1	1	1	-	3	-	0
58	-	-	-	1	1	4	-	2	-	1	-	0
59	-	-	-	0	-	0	-	1	-	0	-	0
60	-	-	-	0	-	3	-	5	-	5	-	1
61	-	-	-	0	-	0	-	1	-	1	-	0
62	-	-	-	0	-	2	-	-	-	1	-	1
63	-	-	-	1	-	0	-	-	-	0	-	1
64	-	-	-	-	-	1	-	-	-	0	-	-
65	-	-	-	-	-	-	-	-	-	0	-	-
66	-	-	-	-	-	-	-	-	-	0	-	-
67	-	-	-	-	-	-	-	-	-	1	-	-
Total	5	14	12	54	12	71	4	38	0	19	0	5
Mean	40.8	46.6	46.7	49.0	50.4	52.8	49.5	54.5	-	57.8	-	57.8

Number aged as ranges: 11

Number missing or unreadable: 3

Table 8. Age-length frequencies of walleye pollock in southeastern Alaska (Sets 21 and 23) March 1979.

Length (cm)	2		3		4		5		6		7	
	M	F	M	F	M	F	M	F	M	F	M	F
28	1	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	1	-	-	-	-	-	-	-	-
31	-	-	-	0	-	-	-	-	-	-	-	-
32	-	-	-	1	-	-	-	-	-	-	-	-
33	-	-	-	0	-	-	-	-	-	-	-	-
34	-	-	-	0	-	-	-	-	-	-	-	-
35	-	-	-	0	-	-	-	-	-	-	-	-
36	-	-	-	1	1	-	-	-	-	-	-	-
37	-	-	-	0	0	-	-	-	-	-	-	-
38	-	-	-	1	0	-	-	-	-	-	-	-
39	-	-	-	-	0	-	-	-	-	-	-	-
40	-	-	-	-	0	-	-	-	-	-	-	-
41	-	-	-	-	0	-	-	-	-	-	-	-
42	-	-	-	-	0	-	-	-	-	-	-	-
43	-	-	-	-	1	-	-	-	-	-	-	-
44	-	-	-	-	1	-	-	-	-	-	-	-
45	-	-	-	-	0	-	-	-	-	-	-	-
46	-	-	-	-	0	-	-	-	-	-	-	-
47	-	-	-	-	1	-	-	-	-	-	-	-
48	-	-	-	-	0	1	-	-	-	-	-	-
49	-	-	-	-	2	2	3	-	-	-	2	-
50	-	-	-	-	0	1	1	-	3	-	2	-
51	-	-	-	-	0	0	2	-	0	1	3	1
52	-	-	-	-	1	1	1	1	2	1	6	0
53	-	-	-	-	-	1	1	0	4	2	3	1
54	-	-	-	-	-	-	-	1	5	1	7	1
55	-	-	-	-	-	-	-	1	3	1	12	4
56	-	-	-	-	-	-	-	1	2	5	6	5
57	-	-	-	-	-	-	-	2	1	6	6	6
58	-	-	-	-	-	-	-	0	1	3	2	8
59	-	-	-	-	-	-	-	1	-	2	1	9
60	-	-	-	-	-	-	-	-	-	4	0	2
61	-	-	-	-	-	-	-	-	-	0	1	4
62	-	-	-	-	-	-	-	-	-	0	-	1
63	-	-	-	-	-	-	-	-	-	1	-	1
Total	1	0	0	4	7	6	8	7	21	27	51	43
Mean	28.0	-	-	34.0	45.7	50.2	50.5	55.7	53.7	56.9	54.4	57.8

Table 8 (cont'd)

Length (cm)	8		9		10		11		12	
	M	F	M	F	M	F	M	F	M	F
28	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-
33	-	-	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-
37	-	-	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	-	-	-	-
43	-	-	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-
50	2	-	1	-	-	-	-	-	-	-
51	4	-	1	-	-	-	-	-	-	-
52	8	1	1	1	1	-	-	-	-	-
53	9	1	2	1	1	-	1	-	-	-
54	14	2	6	6	0	-	-	-	1	-
55	6	6	5	0	0	1	-	-	-	-
56	3	8	4	3	1	0	-	-	-	-
57	2	11	3	4	-	2	-	-	-	-
58	3	9	0	4	-	0	-	-	-	-
59	1	11	1	4	-	0	-	-	-	1
60	1	3	-	5	-	1	-	-	-	-
61	-	1	-	1	-	0	-	-	-	-
62	-	2	-	0	-	2	-	-	-	-
63	-	-	-	1	-	-	-	-	-	-
Total	53	55	24	30	3	6	1	0	1	1
Mean	53.9	57.3	54.7	57.2	53.7	57.1	53.0	-	54.0	59.0

Number aged as ranges: 36

Number missing or unreadable: 3

Table 9. Walleye pollock maturity frequencies by sex and set number. M.V. SCOTIA BAY, March 14-29, 1979.

Date	Location	Haul no.	Sex	Frequency													
				I1	I2	I	R1	R2	R	1R	2R	RR	S	RSB	Rec.	Rest.	Total
79-3-14	Selwyn Inlet	2	M	-	-	-	1	9	34	-	-	187	12	-	3	-	246
			F	-	-	-	-	-	4	2	4	-	4	-	-	-	14
79-3-14	Selwyn Inlet	3	M	-	3	-	2	1	6	-	-	-	6	-	-	2	20
			F	-	1	-	7	6	55	4	4	-	100	2	46	2	227
79-3-14	Selwyn Inlet	4	M	-	2	-	-	4	159	-	-	40	96	-	4	-	305
			F	-	-	-	1	1	5	3	4	1	7	-	2	1	25
79-3-15	Selwyn Inlet	5	M	-	-	-	1	2	113	-	-	31	57	-	8	1	213
			F	-	-	-	-	2	16	7	12	9	23	-	8	-	77
79-3-15	Dana Inlet	6	M	-	1	-	-	1	83	-	-	38	104	-	27	-	254
			F	-	-	-	-	-	1	3	4	-	7	-	-	-	15
79-3-16	South Flats	8	M	-	-	-	-	-	-	-	-	3	-	-	-	-	3
			F	-	-	-	-	-	-	1	1	-	-	-	-	-	2
79-3-18	Two Peaks	10	M	21	23	-	-	-	-	-	-	-	-	-	-	-	44
			F	18	2	36	-	-	-	-	-	-	-	-	-	-	56
79-3-18	Butterworth	11	M	17	8	1	-	-	-	-	-	-	-	-	-	-	26
			F	8	-	15	-	-	-	-	-	-	-	-	-	-	23
79-3-19	Butterworth	12	M	-	1	-	-	-	1	-	-	-	-	-	-	-	2
			F	-	-	3	-	2	4	-	1	-	2	-	-	-	12
79-3-20	South Flats	13	M	2	1	-	1	1	22	2	-	1	8	-	-	-	38
			F	-	2	1	1	22	31	25	85	2	31	-	10	-	210
79-3-21	South Flats	14	M	-	1	-	-	1	3	-	-	27	8	-	-	-	40
			F	-	-	-	-	-	2	-	1	-	-	-	1	-	4

Table 9. Walleye pollock (cont'd)

Date	Location	Haul no.	Sex	Frequency													
				I1	I2	I	R1	R2	R	1R	2R	RR	S	RSB	Rec.	Rest.	Total
79-3-21	Butterworth	16	M	4	16	-	-	1	3	-	-	2	1	-	4	-	31
			F	1	8	17	2	11	6	3	-	-	7	-	4	-	59
79-3-23	Portland Inlet ^a	18	M	-	-	-	-	-	5	-	-	1	75	-	7	1	89
			F	-	-	-	8	-	3	1	1	-	67	-	15	1	96
79-3-23	Portland Inlet ^a	19	M	4	3	-	-	1	7	-	-	1	59	-	4	2	81
			F	1	4	2	-	9	10	-	1	-	89	6	11	1	134
79-3-24	Cordova Bay	20	M	-	-	-	-	-	48	-	-	-	-	-	-	1	49
			F	-	-	-	1	4	92	2	-	-	-	-	-	1	100
79-3-25	Cordova Bay	21	M	-	-	-	-	-	31	-	-	26	-	-	2	1	60
			F	-	-	-	-	-	124	7	2	1	-	-	-	1	135
79-3-26	Clarence Strait	23	M	1	-	-	-	-	78	-	-	68	1	-	-	2	151
			F	3	-	-	-	1	61	7	1	-	-	-	-	-	73
79-3-27	Thorne Arm	24	M	-	-	-	-	-	2	-	-	5	1	-	-	-	8
			F	-	-	-	-	-	14	14	9	-	4	-	-	1	42
79-3-27	Behm Canal	25	M	-	-	-	-	-	2	-	-	5	1	-	-	-	8
			F	1	-	-	-	-	11	-	-	-	-	-	1	-	13
79-3-27	Main Passage	26	M	-	-	-	-	-	2	-	-	-	-	-	-	-	2
			F	-	-	-	-	-	7	3	1	-	-	-	-	-	11
79-3-28	Observatory Inlet	27	M	1	15	1	-	-	3	-	-	2	133	-	30	2	187
			F	1	-	12	-	1	1	-	1	-	15	-	62	20	113
79-3-29	South Flats	30	M	-	-	-	-	-	7	-	-	22	28	-	7	-	64
			F	-	-	1	-	-	-	2	3	-	2	-	-	-	8

^aSee text.

Table 10. Walleye pollock sex ratios by set number, SCOTIA BAY, March 13-29, 1979.

Set no.	Locality	Gear ^a	Depth (m)		No. fish		Sex ratio (% female)	Fork length range (cm)
			Net	Bottom	Male	Total		
2	Selwyn In.	D7	115	143	246	260	5.4	21-42
3	Selwyn In.	D7	37	180	20	247	91.9	32-46
4	Selwyn In.	D7	112	145	305	330	7.6	21-42
5	Selwyn In.	D7	62	160	213	290	26.6	23-45
6	Dana In.	D7	73	110	254	269	5.6	24-45
10	Two Peaks	D7	42	86	107	200	46.5	25-41
11	Butterworth	D7	30	102	117	216	45.8	21-33
12	Butterworth	D7	77	113	181	330	45.2	24-54
13	South Flats	WIII	Bottom trawl	102	66	288	77.1	26-67
14	South Flats	WIII	Bottom trawl	95	50	44	9.1	32-55
16	Butterworth	D7	90	110	31	90	65.6	25-65
18	Portland	D7	59	210	89	186	52.2	36-65
19	Portland	D7	76	220	81	217	62.7	27-65
20	Cordova Bay	D7	310	371	49	149	67.1	51-64
21	Cordova Bay	D7	318	366	60	195	69.2	49-65
23	Clarence Str.	D7	113	393	151	224	32.6	28-63
24	Thorne Arm	D7	165	266	8	50	84.0	52-64
25	Behm Canal	D7	394	494	8	21	61.9	37-60
26	N. Dundas I.	D7	265	384	2	13	84.6	45-55
27	Observatory	D7	55	201	187	300	37.7	24-49
30	South Flats	D7	68	95	64	72	11.1	30-59

^aD7- Midwater trawl, WIII - Bottom trawl.

Table 11. Walleye pollock stomach contents by set, M/V SCOTIA BAY, March 12-30, 1979.

Set no.	Sex	Sample size	Empty stomachs		Mean stomach contents volume (mL)		Contents	No. stomachs ^a
			Number	%	Total sample	Excluding empty stomachs		
2	male	106	22	21	.21	.26	euphausiids	83
	female	5	1	20	.25	.31	herring scales	3
	both	111	23	21	.21	.26	Douglas fir needles unidentified, digested	1 1
5	male	73	32	44	.16	.27	digested euphausiids herring and pollock	44
	female	23	10	43	.17	.30	scales shrimp	9 2
	both	96	42	44	.16	.28	small zooplankters unidentified; digested	1 1
10							juvenile pollock, feeding on euphausiids	
11							juvenile pollock, feeding on euphausiids	
12							juvenile pollock, feeding on euphausiids	
14	male	40	16	40	1.19	2.16	euphausiids	20
							digested, euphausiids	4
	female	4	0	0	1.13	1.13	shrimp	2
	both	44	16	36	1.18	2.00	everted amphipods digested fish	2 1 1

Table 11 (cont'd)

Set no.	Sex	Sample size	Empty stomachs		Mean stomach contents volume (mL)			No. stomachsa
			Number	%	Total sample	Excluding empty stomachs	Contents	
16	male	16	0	0	5.03	5.03	euphausiids	56
	female	43	1	2	10.35	10.35	srhimp	1
	both	59	1	2	8.90	9.06	digested, unidentified juveniles feeding on euphausiids	1
18	male	44	8	18	12.14	14.84	digested fish (1-6 per stomach)	55
	female	62	13	21	16.57	20.97	digested, unidentified	25
	both	106	21	20	14.73	18.37	digested shrimp digested squid (stomach contents very greasy)	3 1
20	male	22	6	27	3.34	4.59	digested fish	12
	female	38	6	16	3.57	5.90	fresh eulachon	2
	both	60	12	20	3.49	4.46	glass shrimp	6
23	male	44	21	48	1.96	3.75	fresh glass shrimp	15
	female	16	3	19	2.98	3.67	digested fish	6
	both	60	24	40	2.23	2.91	fresh eulachon fresh <u>Leuroglossus</u>	2 3
							digested <u>Leuroglossus</u>	1

Table 11 (cont'd)

Set no.	Sex	Sample size	Empty stomachs		Mean stomach contents volume (mL)			No. stomachs ^a	
			Number	%	Total sample	Excluding empty stomachs			
						Contents	No. stomachs ^a		
24	male	8	4	50	0.53	1.06	fresh <u>Leuroglossus</u>	5	
	female	41	6	15	5.32	6.24	digested <u>Leuroglossus</u>	5	
	both	49	10	20	4.54	5.71	fresh eulachon	2	
27	both	100	2	2	1.51	1.54	digested fish	5	
							blackmouth eelpout	1	
							fresh squid	1	
							digested squid	4	
							fresh shrimp	1	
							digested shrimp	5	
							digested glass shrimp	1	
							digested euphausiids	3	
							amphipod	2	
							unidentified, digested	5	
30	both	72	9	13	3.08	3.57	red fluid	2	
							everted	1	
							unidentified digested	58	
							digested euphausiids	19	
							fresh euphausiids	1	
							digested copepods	6	
							copepods	7	
							digested fish	5	
							digested crustaceans	8	
							polychaete	1	
150	1	1	1	1	1	1	shrimp	1	
							euphausiids	53	
							shrimp	4	
							herring scales	2	
							fish scales	1	
							digested herring	1	
							digested fish	1	

Table 12. Chinook salmon samples by set number. SCOTIA BAY, March 12-30, 1979.

Location	Set no.	Length	Sex	Number of fish sampled						Fish numbers	Remarks
				Maturity	Stomachs	Lamprey scars	Diseases	Missing adipose fins	Kept for lab (heads)		
	5	1	1	1	1	1		1			Total catch
	7	1	1	1	1	1		1			" "
	8	10	10	10	10			10			" "
	12	5	5	5	5	5		5			" "
	13	3	3	3	3	3		3			" "
	15	2	2					2			" "
	16	26	26		23	26		26	4	79321-1 to 79321-4	" "
	18	1	1	1	1	1		1			" "
	19	1	1	1	1	1		1			" "
	20	1						1			" "
	21	1	1		1	1		1			" "
	22	1						1			" "
	26	3	3	3	3	3		3			" "
	27	2	2		2	2		2			" "
	29	1	1		1						" "
	30	5	5		5	5			1	790329-1	" "

Table 13. Chinook salmon data collected on SCOTIA BAY, March 12-30, 1979

Set no.	Fork length (cm)	Sex	Maturity*	Stomach contents		Number lamprey scars	Location
				volume (cc)	Identity		
5	36	M	I	- ^b	Herring	0	Selwyn Inlet
7	30	M	I	0	Empty	0	White Rocks
8	43	F	R	0	Empty	-	South Flats
	41	F	I	0	Empty	-	
	53	M	I	0	Empty	-	
	40	M	I	30	1 herring	-	
	32	F	I	0.5	Euphausiids	-	
	29	M	I	1.5	Fish larvae, euphausiids & amphipods	-	
	34	M	I	5	Squid	-	
	34	M	I	0	Empty	-	
	31	F	I	15	Squid and needlefish	-	
	46	M	I	-	-	-	
12	52	M	I	0	Empty	0	Butterworth
	46	F	I	0	Empty	0	
	57	F	I	5	Euphausiids and sandlance	0	
	48	F	I	0	Empty	0	
	42	M	I	0	Empty	0	
13	45	M	I	0	Empty	0	South Flats
	48	F	I	0	Empty	0	
	51	M	I	0	Empty	0	
15	55	F	-	-	8 sandlance	-	Butterworth
	48	M	-	15	Euphausiids	-	
16	52	M	-	70	Euphausiids and herring	0	Butterworth
	52	F	-	30	Euphausiids	0	
	63	F	-	6	Euphausiids	0	
	40	M	-	1	Euphausiids	0	
	53	F	-	30	Euphausiids	0	
	53	M	-	0	Empty	0	
	58	M	-	5	Euphausiids	0	
	43	F	-	3	Sandlance	0	

Table 13 (cont'd).

Set no.	Fork length (cm)	Sex	Maturity*	Volume (cc)	Stomach contents	Identity	Number lamprey scars	Location
(16)	37	F	-	2	Euphausiids		0	(Butterworth)
	35	F	-	1	Euphausiids		0	
	33	M	-	15	Euphausiids		0	
	56	F	-	80	Euphausiids		0	
	47	M	-	15	Euphausiids		0	
	50	M	-	25	Euphausiids		0	
	33	M	-	15	Euphausiids		0	
	33	M	-	7	Euphausiids		0	
	41	F	-	0	Empty		0	
	30	F	-	2	Euphausiids		0	
	32	M	-	10	Euphausiids		0	
	39	M	-	5	Euphausiids		0	
	46	M	-	2	Euphausiids		0	
	42	M	-	-	-		0	
	56	M	-	-	-		-	
	52	M	-	-	-		-	
18	55	M	I	-	1 eulachon		0	Off Nass Bay
19	60	F	-	-	Eulachon		0	Off Nass Bay
20	45	-	-	-	-		0	Cordova Bay
21	45	F	-	0	Empty		0	Cordova Bay
22	36	-	-	-	-		-	Cordova Bay
26	45	M	I	2	Crustaceans		0	Main Passage
	56	M	I	10	Crustaceans		0	
	54	M	I	5	Crustaceans and polychaete		0	
27	48	M	-	8	Euphausiids		0	Hastings Arm
	34	M	-	0.5	Euphausiids		0	
29	28	M	-	1	Euphausiids		-	Freeman

Table 13 (cont'd).

Set no.	Fork length (cm)	Sex	Maturity ^a	Stomach contents		Number lamprey scars	Location
				Volume (cc)	Identity		
30	35	F	-	4	Euphausiids	0	South Flats
	39	F	-	4	Euphausiids	0	
	49	M	-	5	Euphausiids	0	
	40	M	-	1	Euphausiids	0	
	33	M	-	0.5	Euphausiids	0	

^aR = ripening, I = immature.^bA dash (-) signifies no data.

Table 14. Chinook salmon length frequency data collected on SCOTIA BAY,
March 12-30, 1979 (total catch).

Fork length (cm)	Number of fish				
	Male	Female	Unsexed	Total	Tagged
28	1			1	
29	1			1	
30	1	1		2	
31	0	1		1	
32	1	1		2	
33	4	0		4	
34	3	0		3	
35	0	2		2	
36	1	0	1	2	
37	0	1	0	1	1 (female)
38	0	0	0	0	
39	1	1	0	2	1 (female)
40	3	0	0	3	
41	0	2	0	2	
42	2	0	0	2	1 (male)
43	0	2	0	2	
44	0	0	0	0	
45	2	1	1	4	
46	2	1		3	
47	1	0		1	1 (male)
48	2	2		4	
49	1	0		1	
50	1	0		1	
51	1	0		1	
52	3	1		4	
53	2	1		3	
54	1	0		1	
55	1	1		2	
56	2	1		3	
57	0	1		1	
58	1	0		1	
59		0		0	
60		1		1	
61		0		0	
62		0		0	
63		1		1	1 (female)
Total	36	22	2	60	5

Table 15. Inventory of data collected from species other than walleye pollock and chinook salmon, SCOTIA BAY March 12-30, 1979.

Species	Set no.	Number of fish sampled										Sample numbers	Remarks
		21	82	-	-	-	-	-	-	-	-		
Eulachon	21	82	-	-	-	-	-	-	-	-	-	-	Total catch
Lemon sole	14	148	148	-	-	-	-	50	-	-	-	-	Random 1 tub
Lingcod	14	2	-	-	-	-	-	-	-	-	-	-	Total catch
Northern smoothtongue	26	102	30	-	30	-	-	-	5	6	-	-	Representative sample
Pac. halibut	13	9	9	-	9	9	9	-	-	-	-	-	Total catch
Pac. halibut	14	1	-	-	-	-	-	-	-	-	-	-	Total catch
Pac. herring	1	352	352	-	-	-	-	-	-	-	-	-	Total catch
Pac. herring	7	269	269	-	C ^a	-	130	-	-	-	-	-	Random 1 tub
Pac. herring	29	173	173	-	173	C	173	-	-	-	-	-	Random 1/2 tub
Sablefish	13	111	111	50	111	51	50	-	-	-	1-50	-	Random 100 otoliths
Spiny dogfish	6	4	-	-	-	-	-	-	-	-	-	-	Total catch
Squid	8	1	1	-	-	-	-	-	-	-	-	-	Total catch
Yellowtail rockfish	9	200	200	200	100	C	100	-	-	-	1-200	-	Random 7 tubs

^aC = comment

Table 16. Pacific halibut length frequencies by set,
SCOTIA BAY, March 12-30, 1979.

Set no.	13		14	
Date:	79-3-21		79-3-21	
Ground:	South Flats		South Flats	
Net:	WIII		WIII	
Codend (cm)	12.7		12.7	
Remarks:	total catch		total catch	
Fork length (cm)	M	F	T	T
54	1		1	
55	0		0	
56	0		0	
57	0		0	
58	0		0	
59	0		0	
60	0	1	1	
61	0	0	0	
62	1	0	1	
63	1	1	2	
64	0	0	0	
65	1	0	1	1
66		0	0	
67		0	0	
68		1	1	
69		0	0	
70		0	0	
71		0	0	
72		1	1	
73		0	0	
74		0	0	
75		0	0	
76		0	0	
77		1	1	
Total	4	5	9	1

Table 17. Stomach contents of sablefish and Pacific halibut (SCOTIA BAY, March 12-30, 1979).

Set no.	Sample size	Number empty stomachs	Stomach content	Frequency (no. stomachs)
<u>Sablefish</u>				
13	51	41	Digested matter	4
			Sand	3
			Kelp	2
			Egg case	1
<u>Pacific halibut</u>				
13	9	3	Squid	2
			27 cm pollock	1
			Crab	3
			Chiton	1

Table 18. Length frequencies by set of eulachon, herring, lemon sole, northern smoothtongue, sablefish, and yellowtail rockfish, SCOTIA BAY, March 12-30, 1979.

Species:	Eulachon	Herring	Herring	Herring
Set no.:	21	1	7	29
Date:	March 25, 1979	March 13, 1979	March 16, 1979	March 29, 1979
Ground:	Cordova Bay	White Rocks	White Rocks	Freemans
Net ^a :	D7	D7	D7	D7
Codend (cm):	2.5	2.5	2.5	2.5
Remarks:	Total catch	Total catch	1 tub	Random sample
Length (cm)	T	M	F	T
0				
1				
2				
3				
4				
5				
6	3			
7	4			
8	2			
9	1			
10	3			
11	5			
12	7			
13	7			
14	6			
15	14	1	1	
16	10	0	0	1
17	12	0	1	0
18	7	0	0	2
19	1	4	1	5
20		8	3	11
21		17	7	24
22		22	10	32
23		27	19	46
24		29	26	55
25		21	36	57
26		25	42	67
27		6	21	27
28		5	17	22
29			4	4
30				1
31				1
32				
33				
34				
35				
Total		82	165	187
			352	105
			164	269
			103	70
				173

Table 18 (cont'd)

Species:	Lemon sole	Northern smoothtongue	Sablefish
Set no.:	14	26	13
Date:	March 21, 1979	March 27, 1979	March 21, 1979
Ground:	South Flats	N. Dundas I.	South Flats
Net #:	W III	D7	W III
Codend (cm):	12.7	2.5	12.7
Remarks:	Random-1 tub	Non-stratified	Random-100
Length (cm)	M	F	T
0			
1			
2			
3			
4			
5			
6			2
7			3
8			1
9			0
10			6
11			13
12			25
13			36
14			14
15			1
16			1
17			
18			
19			
20			
21	1	1	
22	1	1	
23	1	3	4
24	1	4	6
25	4	3	7
26	1	8	9
27	3	2	5
28	4	0	4
29	3	2	5
30	3	3	6
31	6	3	9
32	7	6	13
33	7	2	9
34	7	4	11
35	11	3	14
36	5	1	6
37	6	2	8

Table 18 (cont'd)

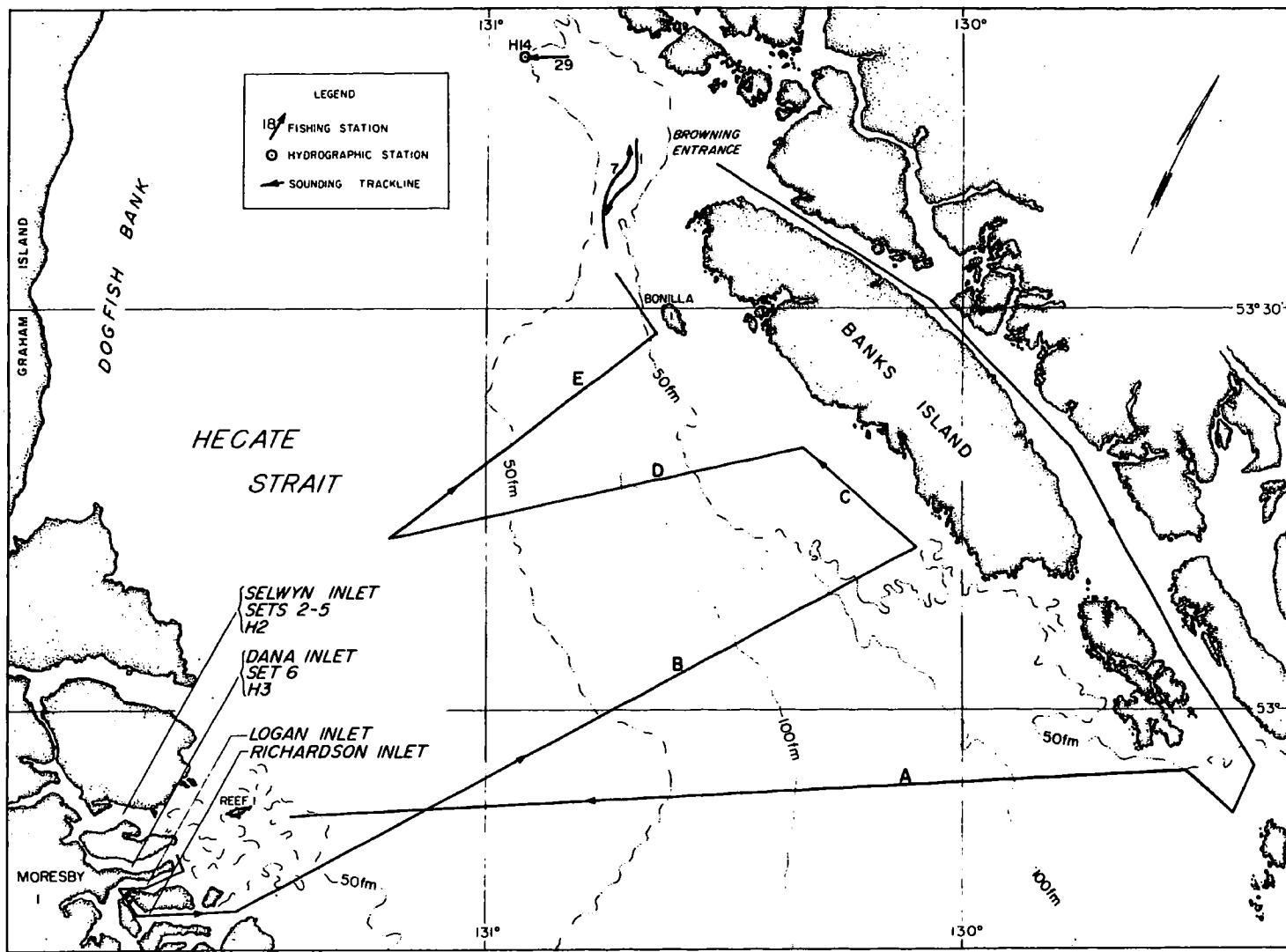
Species:	Lemon sole	Northern smoothtongue	Sablefish				
Set no.:	14	26	13				
Date:	March 21, 1979	March 27, 1979	March 21, 1979				
Ground:	South Flats	N. Dundas I.	South Flats				
Net ^a :	W III	D7	W III				
Codend (cm):	12.7	2.5	12.7				
Remarks:	Random-1 tub	Non-stratified	Random-100				
Length (cm)	M	F	T		M	F	T
38	7	4	11		7	8	15
39	1	6	7		5	6	11
40	2	1	3		6	7	13
41	0	2	2		5	8	13
42	2	1	3		0	1	1
43	2	2			1	1	2
44	1	1					
45	0	0					
46	1	1					
47							
48					1		1
49							
50						1	1
51							
52							
Total	83	64	148	102	48	52	100

Table 18 (cont'd)

Species:	Yellowtail rockfish		
Set no.:	9		
Date:	March 18, 1979		
Ground:	Two Peaks		
Net ^a :	D7		
Codend (cm):	2.5		
Remarks:	Random-7 tubs		
Length (cm)	M	F	T
36		2	2
37		0	0
38		0	0
39	1	0	1
40	3	1	4
41	3	2	5
42	6	4	10
43	8	5	13
44	9	0	9
45	22	1	23
46	34	4	38
47	37	2	39
48	26	0	26
49	13	1	14
50	2	6	8
51		5	5
52		3	3
Total	164	36	200

^aNets used: D7 - Canadian Diamond 7 midwater trawl.
WIII - Western box bottom trawl.

Fig. 1. Sounding tracklines, set locations and hydrographic stations in Hecate Strait.



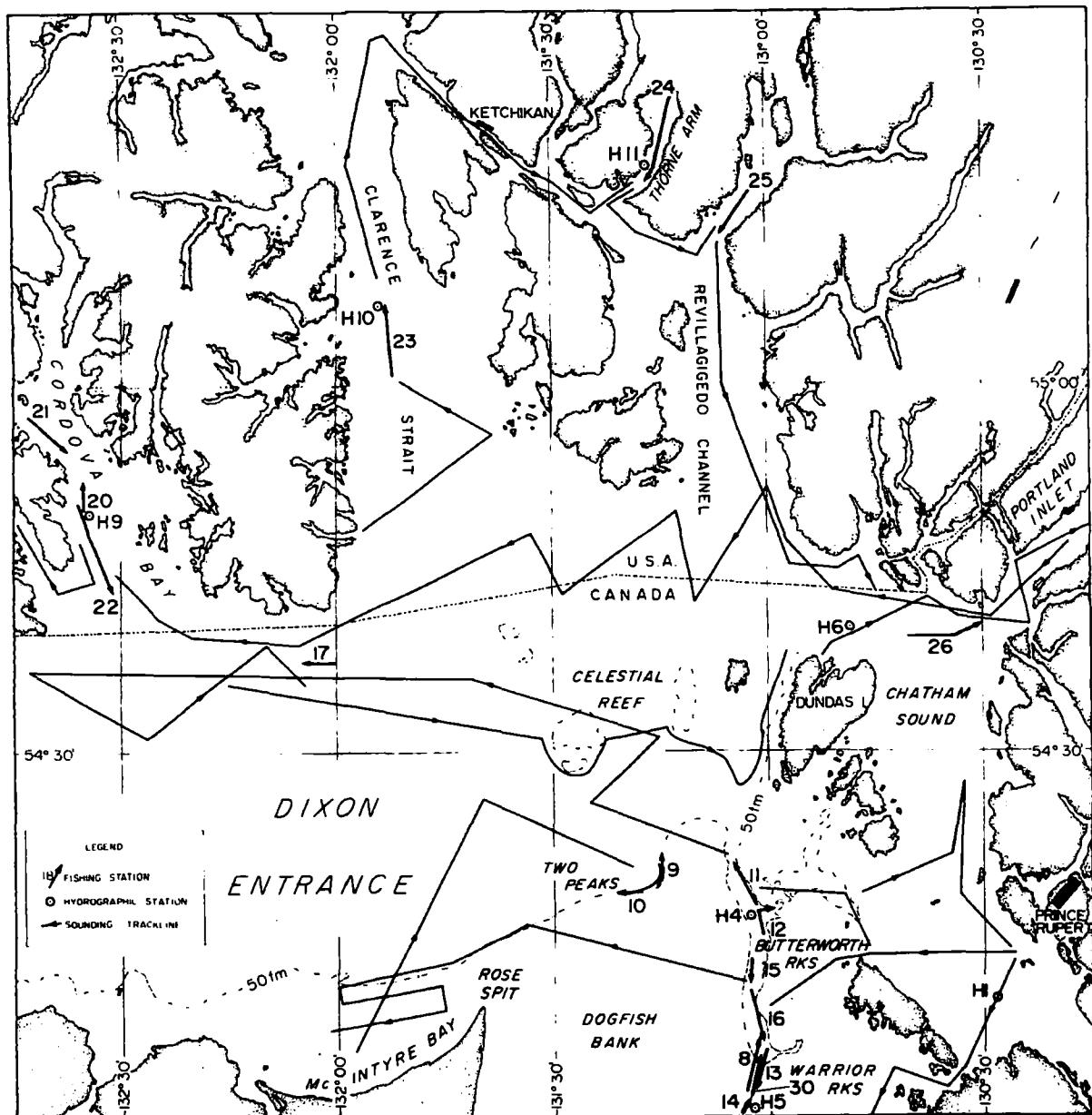


Fig. 2. Sounding tracklines, set locations and hydrographic stations in Dixon Entrance and southeastern Alaska.

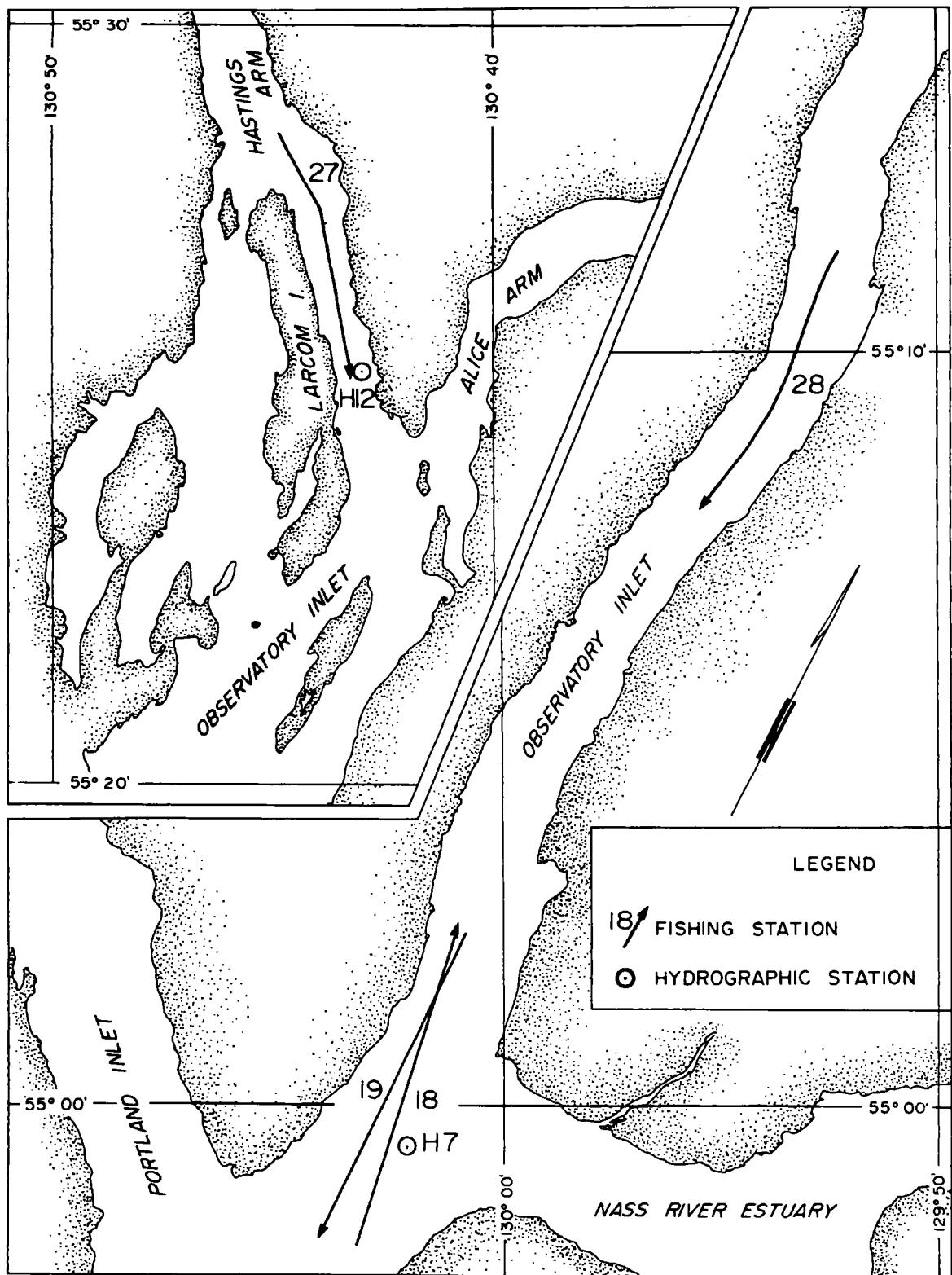


Fig. 3. Set locations and hydrographic stations in Portland and Observatory inlets.

SURFACE

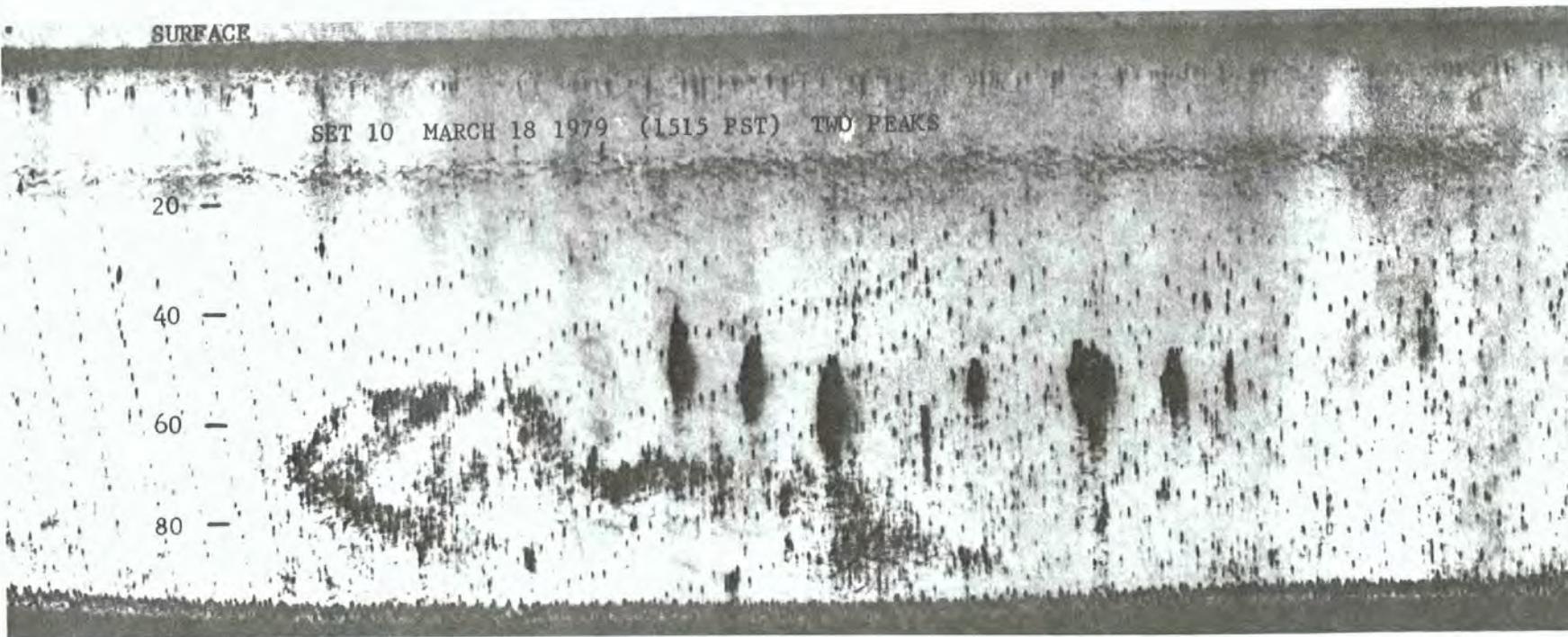
SET 10 MARCH 18 1979 (1515 PST) TWO PEAKS

20 -

40 -

60 -

80 -



SET 11 MARCH 18 1979 (1945 PST) BUTTERWORTH

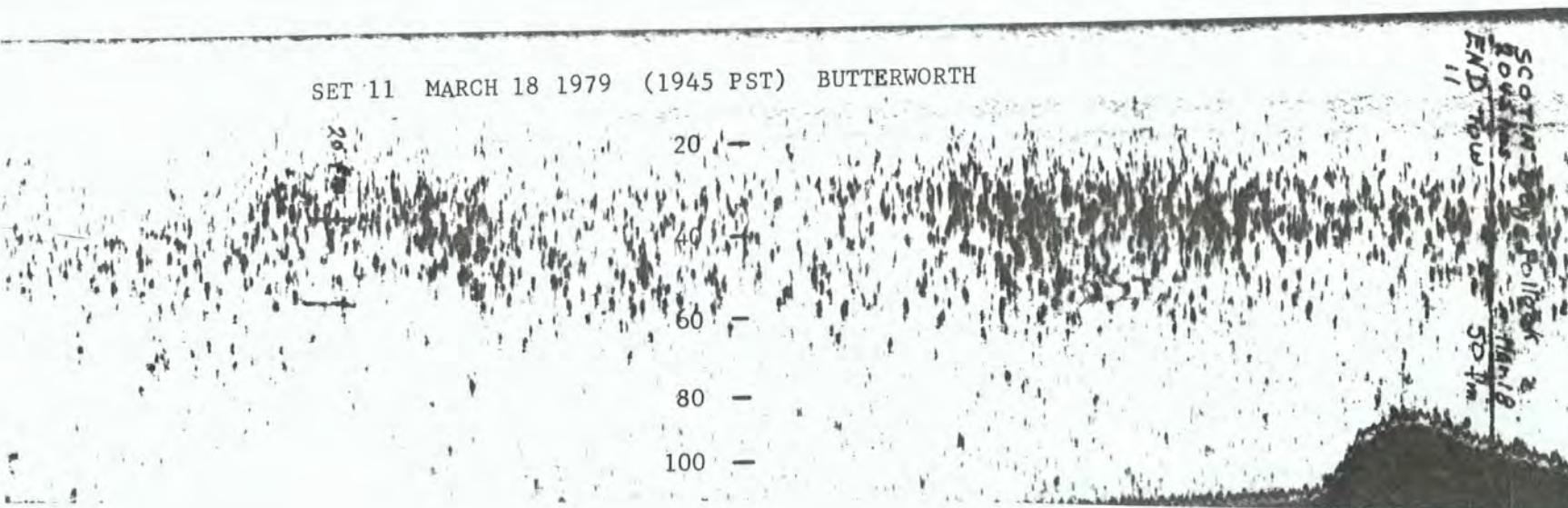
20 -

60 -

80 -

100 -

110
100
90
80
70
60
50
40
30
20
10



- Fig. 4. Vertical echograms at Two Peaks and Butterworth.

SET 13 MARCH 20 1979 (1515 PST) SOUTH FLATS

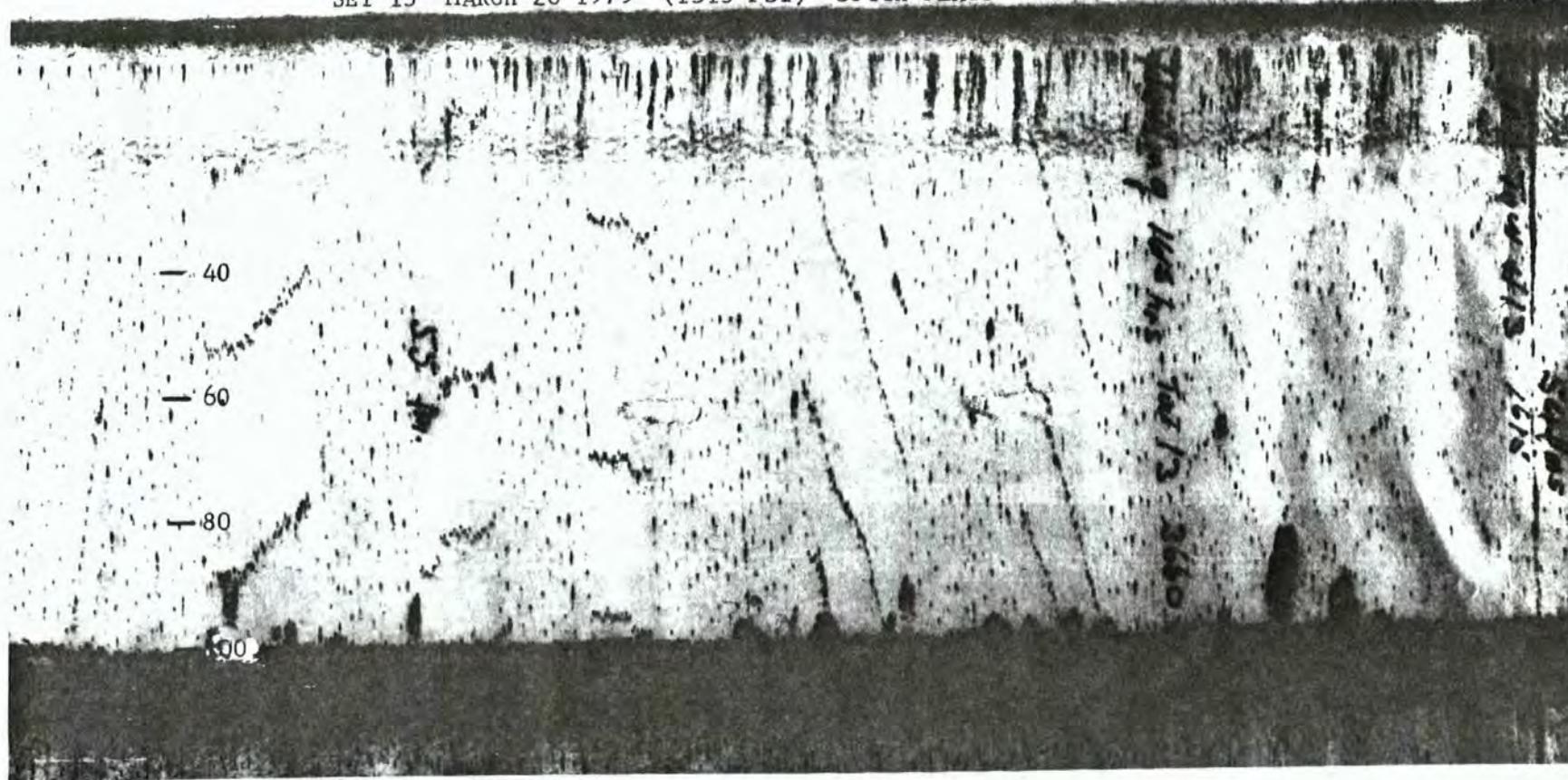
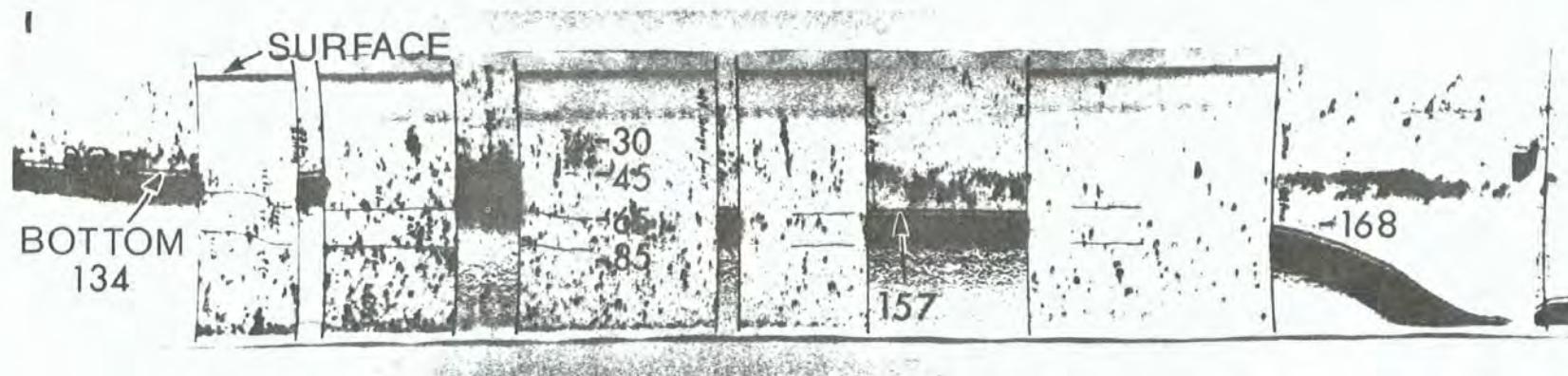


Fig. 5. Wet paper echogram at South Flats. Soundings in meters. Regular pattern of dots in midwater was caused by electrical interference.

SET 5 SELWYN INLET 1045 (PST) MARCH 15 1979



SET 6 DANA INLET 1405 (PST) MARCH 15 1979

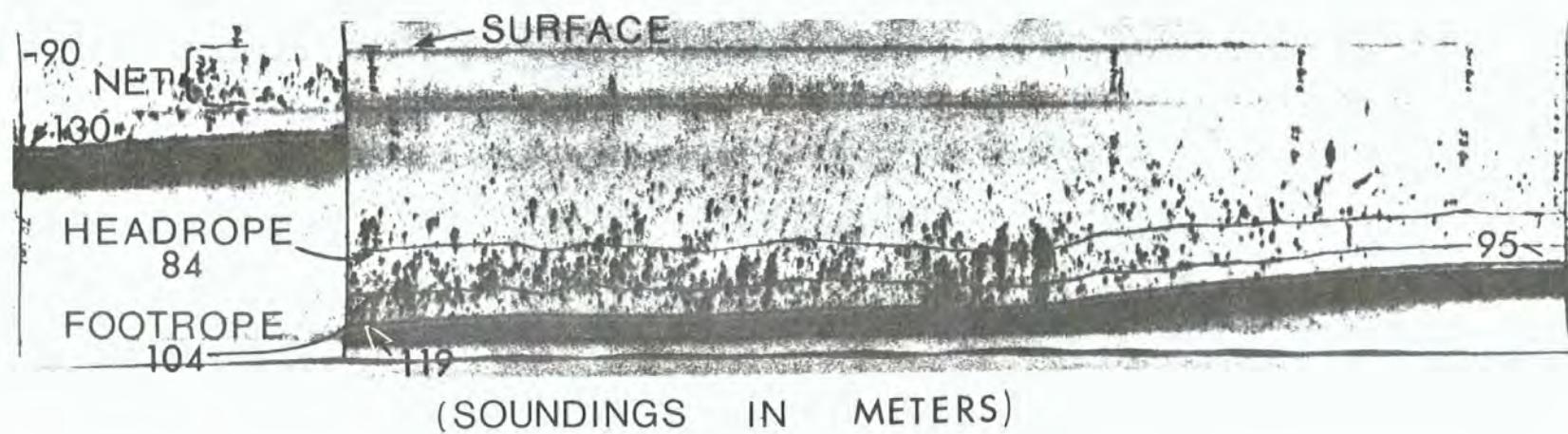


Fig. 6. Wet paper echograms in Selwyn and Dana inlets. Headrope and footrope positions were drawn by [redacted]

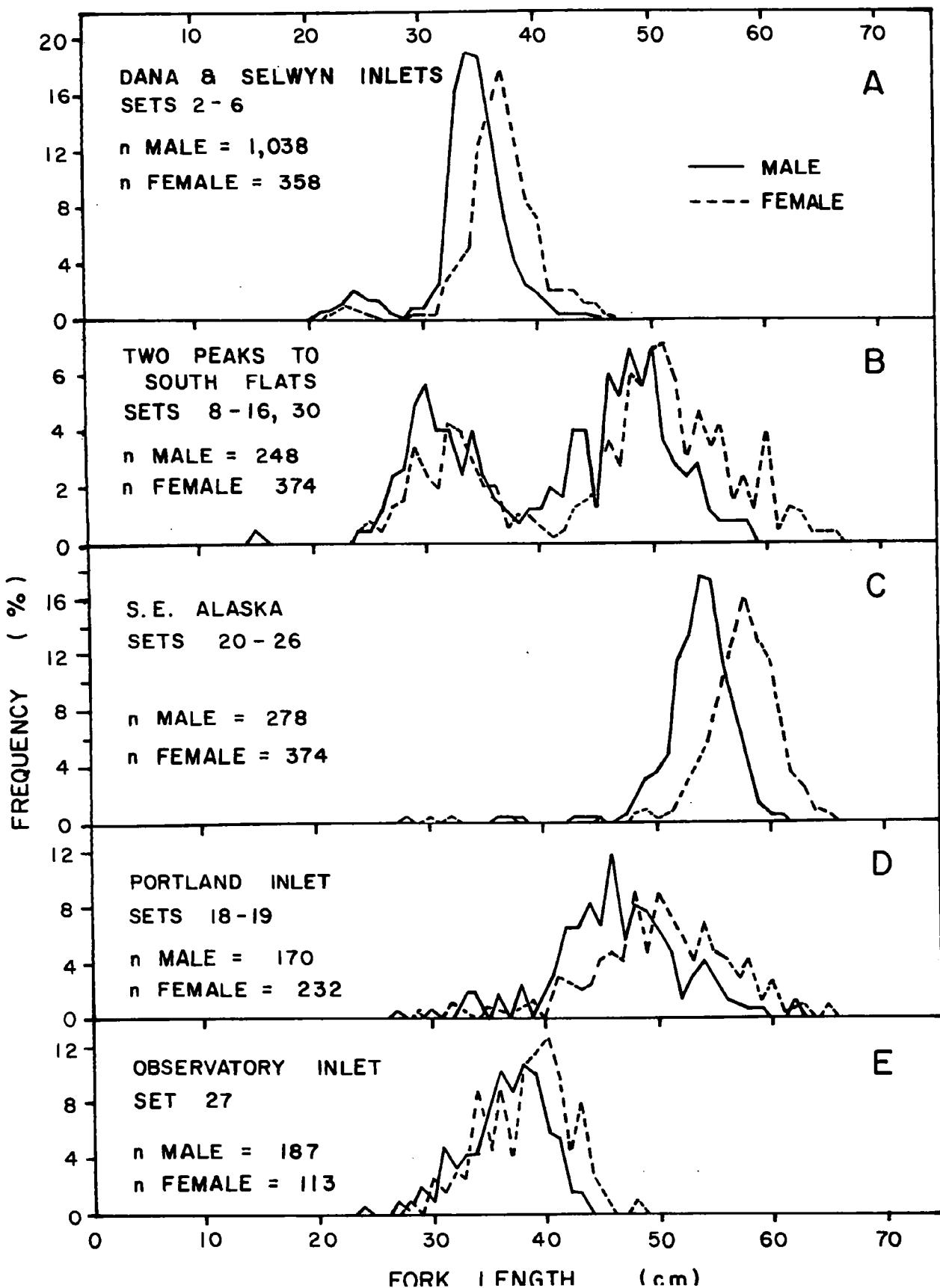


Fig. 7. Pollock length frequencies by region.

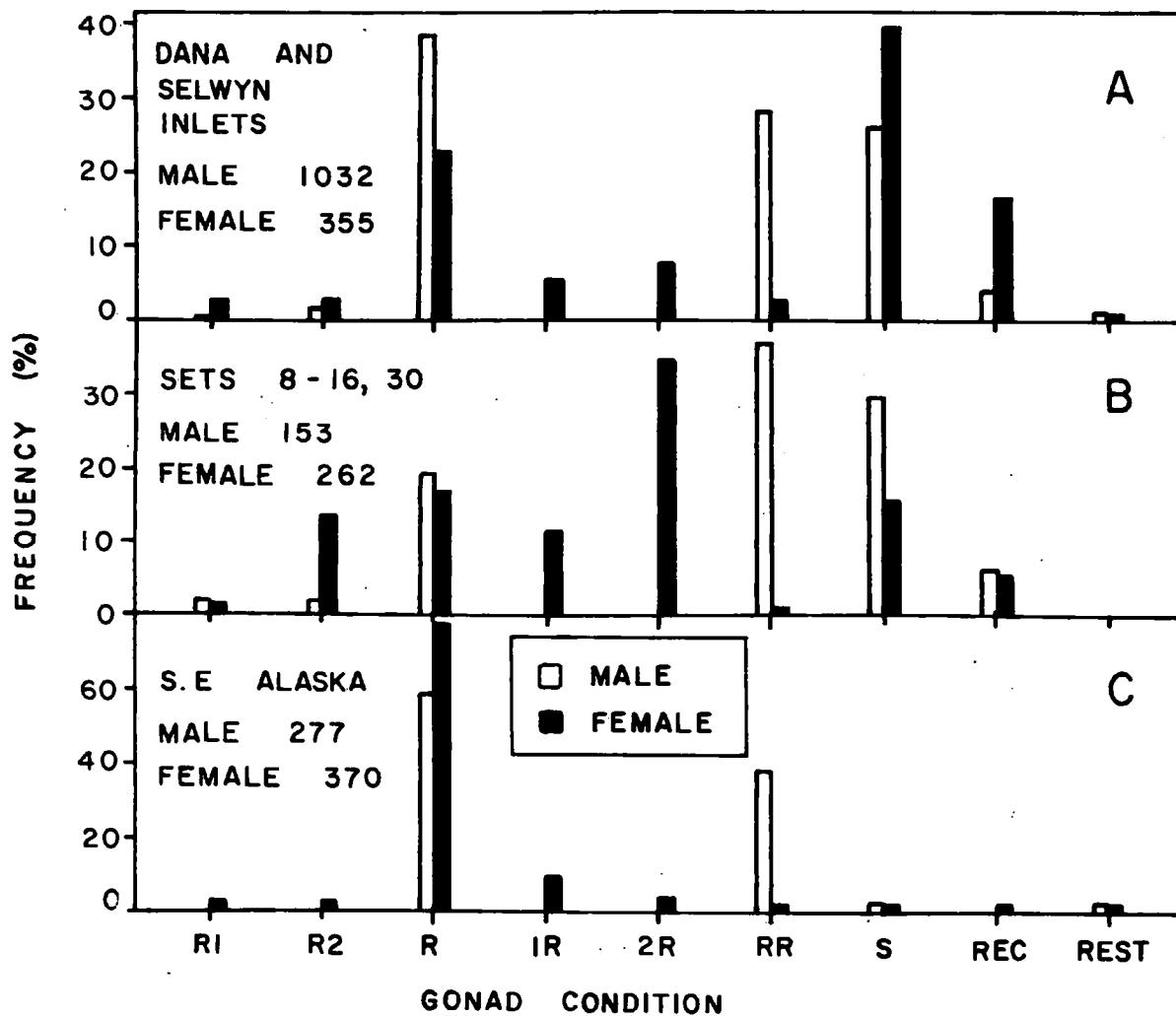


Fig. 8. Pollock maturity frequencies by region.

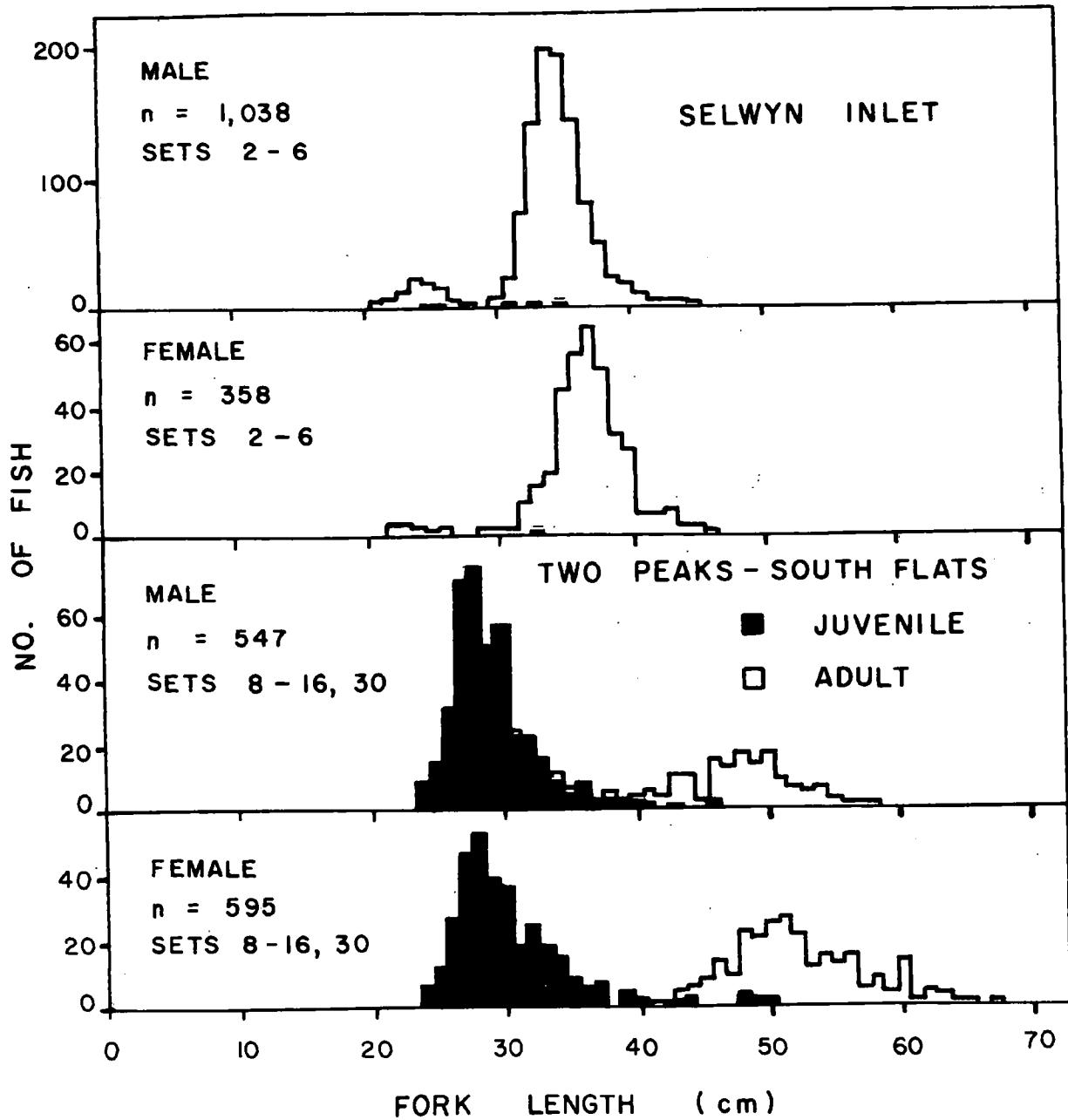


Fig. 9. Length frequencies of immature and mature pollock in Selwyn and Dana inlets (sets 2-6) and Two Peaks-Butterworth-South Flats (sets 8-16, 30).

APPENDIX TABLE 1
Bridge Log Data

VESSEL: SCOTIA BAY DATE: 79 3 13 Yr Mo Day SET/HAUL NO: 1
LOCATION: White Rocks AREA: Hecate Strait
START: Lat. 53 ° 44' N Long. 130 ° 19' W
END: Lat. 53 ° 39' N Long. 130 ° 45' W
GEAR: D-7 (2.5 cm) START TIME (PST): 0850 DURATION: 90 min.
BOTTOM DEPTH m: Start: 143 (78F) End: 115 (63F) Est. Av. Depth: 133 (73F)
NET DEPTH RANGE m: Headline 73-108 (40-59 fm) Est. Av. Depth: 100 (55F) mi.
DIRECTION OF SET °true: Var SPEED kn: 3.1 DISTANCE TRAVELED: 4.7
SET ON: WATER CONDITION: TIDE: flooding
WIND DIRECTION: SE WIND SPEED: 10 RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:

SOUNDER SUMMARY:

Light spotting near bottom. 10-12 F opening

VESSEL: SCOTIA BAY DATE: 79 3 14 Yr Mo Day SET/HAUL NO: 2
LOCATION: Selwyn Inlet AREA: Moresby Island
START: Lat. 52 ° 53.5' N Pass.) Long. 131 ° 51.0' W
END: Lat. 52 ° 22.4' N Long. 131 ° 49.7' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1200 DURATION: 45 min.
BOTTOM DEPTH m: Start: 128 (70 fm) End: 159 (87 fm) Est. Av. Depth: 143 (78 fm)
NET DEPTH RANGE m: Headline 99 to 132 (54-72 fm) Est. Av. Depth: 115 (63 fm) mi.
DIRECTION OF SET °true: 152 SPEED kn: 1.9 DISTANCE TRAVELED: 1.4
SET ON: WATER CONDITION: Calm TIDE: Flooding
WIND DIRECTION: - WIND SPEED: Calm RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA: XBT H2, bucket
REMARKS: Codend part open

SOUNDER SUMMARY:

Heavy concentrations near bottom, lighter above.

VESSEL: SCOTIA BAY DATE: 79 3 14 SET/HAUL NO: 3
LOCATION: Selwyn Inlet off Trurston Hr AREA: Moresby Island
START: Lat. 52° 51.8' N Long. 131° 42.3' W
END: Lat. 52° 51.5' N Long. 131° 47.8' W
GEAR: M.W. D-7 (2.5 cm) START TIME (PST): 1600 DURATION: 95 min.
BOTTOM DEPTH m: Start: 192 (105 fm) End: 170 (88 fm) Est. Av. Depth: 180 (98 fm)
NET DEPTH RANGE m: Headline - 30 to 44 (16-24 fm) Est. Av. Depth: 37 (21 fm)
DIRECTION OF SET °true: Var. SPEED kn: 2.5 DISTANCE TRAVELED: 4 mi.
SET ON: WATER CONDITION: TIDE: Ebbing
WIND DIRECTION: SE WIND SPEED: RECORDER: DD
TIM: TDM: BT: OTHER OCEANOGRAPHIC DATA: XBT H3
REMARKS:

SOUNDER SUMMARY: Heavy concentrations of pollock over six sq. miles of bottom between Trotter Bay and Hawell Is. Heaviest just off bottom, lighter above.

VESSEL: SCOTIA BAY DATE: 79 3 15 SET/HAUL NO: 4
LOCATION: Selwyn Inlet AREA: Moresby Is.
START: Lat. 52° 53.5' N Long. 131° 51.6' W
END: Lat. 52° 52.1' N Long. 131° 50.3' W
GEAR: M.W. D-7 2.5 cm START TIME (PST): 0905 DURATION: 30 min.
BOTTOM DEPTH m: Start: 137 (75 fm) End: 155 (85 fm) Est. Av. Depth: 145 (79 fm)
NET DEPTH RANGE m: Headline 104-124 (57-68 fm) Est. Av. Depth: 112 (61 fm)
DIRECTION OF SET °true: SPEED kn: 3.5 DISTANCE TRAVELED: 1.75 mi.
SET ON: WATER CONDITION: Calm TIDE: Flooding
WIND DIRECTION: WIND SPEED: Calm RECORDER: DD
TIM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:

SOUNDER SUMMARY: Heavy layer near bottom, moderate spotting in most of the water column.

VESSEL: SCOTIA BAY DATE: 79 3 15 SET/HAUL NO: 5
LOCATION: Selwyn Inlet AREA: Moresby Is.
START: Lat. 52° 53.2' N Long. 131° 51.6' W
END: Lat. 52° 51.8' N Long. 131° 46.0' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1045 DURATION: 75 min.
BOTTOM DEPTH m: Start: 119 (65 fm) End: 206 (113 fm) Est. Av. Depth: 160 (87 fm)
NET DEPTH RANGE m: Headline 55-66 (30-36 fm) Est. Av. Depth: 62 (34 fm)
DIRECTION OF SET °true: Var. SPEED kn: 2.9 DISTANCE TRAVELED: 3.6 mi.
SET ON: WATER CONDITION: calm TIDE: ebbing
WIND DIRECTION: WIND SPEED: calm RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:
SOUNDER SUMMARY:

VESSEL: SCOTIA BAY DATE: 79 3 15 SET/HAUL NO: 6
LOCATION: Dana Inlet AREA: Moresby Is.
START: Lat. 52° 48.6' Long. 131° 40.7'
END: Lat. 52° 48.5' Long. 131° 45.6'
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1405 DURATION: 65 min.
BOTTOM DEPTH m: Start: 128 (70 fm) End: 95 (52 fm) Est. Av. Depth: 110 (60 fm)
NET DEPTH RANGE m: Headrope 66-80 (36-46 fm) Est. Av. Depth: 73 (40 fm)
DIRECTION OF SET °true: Var. SPEED kn: 3.0 DISTANCE TRAVELED: 3.25 mi.
SET ON: WATER CONDITION: Calm TIDE:
WIND DIRECTION: WIND SPEED: Calm RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:
SOUNDER SUMMARY:

VESSEL: SCOTIA BAY DATE: Yr 79 Mo 3 Day 16 SET/HAUL NO: 7
 LOCATION: White Rocks AREA: Hecate Strait
 START: Lat. 53 ° 34.7 ' N Long. 130 ° 45.0 ' W
 END: Lat. 53 ° 42.5 ' N Long. 130 ° 42.0 ' W
 GEAR: MW D-7 (2.5 cm) START TIME (PST): 1050 DURATION: 150 min.
 BOTTOM DEPTH m: Start: 161 (88 fm) End: 137 (75 fm) Est. Av. Depth: 146 (80 fm)
 NET DEPTH RANGE m: Headline 139-106 (76- 58 fm) Est. Av. Depth: 119 (65 fm) m.
 DIRECTION OF SET °true: 355 SPEED kn: 3.5 DISTANCE TRAVELED: 8.8
 SET ON: WATER CONDITION: Rippled TIDE:
 WIND DIRECTION: East WIND SPEED: 05 RECORDER: DD (see!)
 TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
 REMARKS:
 SOUNDER SUMMARY: A few very large spots 100 m (55 fm) to bottom.

VESSEL: SCOTIA BAY DATE: 79 3 16 SET/HAUL NO: 8
 LOCATION: South Flats (Warriors) AREA: N. Hecate Strait
 START: Lat. 54 ° 02.0 'N Long. 131 ° 04.0 'W
 END: Lat. 54 ° 06.5 'N Long. 131 ° 01.6 'W
 GEAR: MW D-7 (2.5 cm) START TIME (PST): 1615 DURATION: 120 min.
 BOTTOM DEPTH m: Start: 86 (47 fm) End: 99 (54 fm) Est. Av. Depth: 90 (49 fm)
 NET DEPTH RANGE m: Headline 58-66 (32-36 fm) Est. Av. Depth: 60 (33 fm)
 DIRECTION OF SET °true: 017 SPEED kn: 2.3 DISTANCE TRAVELED: 4.7 mi.
 SET ON: fish (close to bottom) WATER CONDITION: Rippled TIDE:
 WIND DIRECTION: ESE WIND SPEED: 8-10 RECORDER: DD
 TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
 REMARKS:
 SOUNDER SUMMARY: 27 spots 55 m (30 fm) to bottom. Many large dense spots hard on bottom.

VESSEL: SCOTIA BAY DATE: 79 3 18 SET/HAUL NO: 9
LOCATION: Two Peaks Bend AREA: Upper Hecate Strait
START: Lat. 54 ° 18.8 ' N Long. 131 ° 16.5' W
END: Lat. 54 ° 21.8 ' N Long. 131 ° 14.8' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1310 DURATION: 100 min.
BOTTOM DEPTH m: Start: 93 (51 fm) End: 102 (56 fm) Est. Av. Depth: 101 (53 fm)
NET DEPTH RANGE m: Headline 37-66 (20-36 fm) Est. Av. Depth: 58 (32 fm)
DIRECTION OF SET °true: Vari. SPEED kn: 2.2 DISTANCE TRAVELED: 3.6 mi.
SET ON: WATER CONDITION: chop & TIDE:
WIND DIRECTION: SE WIND SPEED: 10-15 swell RECORDER: DD
TIM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:
SOUNDER SUMMARY:

VESSEL: SCOTIA BAY DATE: 79 3 18 SET/HAUL NO: 10
LOCATION: Two Peaks Bend AREA: Upper Hecate Strait
START: Lat. 54 ° 21.0 ' N Long. 131 ° 15.2' W
END: Lat. 54 ° 18.5 ' N Long. 131 ° 21.5' W
GEAR: START TIME (PST): 1515 DURATION: 135 min.
BOTTOM DEPTH m: Start: 88 (48 fm) End: 91 (50 fm) Est. Av. Depth: 86 (47 fm)
NET DEPTH RANGE m: Headline 40-51 (22-28 fm) Est. Av. Depth: 42 (23 fm)
DIRECTION OF SET °true: Vari. SPEED kn: 2.7 DISTANCE TRAVELED: 6.1 mi.
SET ON: WATER CONDITION: Low swell TIDE:
WIND DIRECTION: S.E. WIND SPEED: 15 RECORDER: DD
TIM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:

SOUNDER SUMMARY: Dense speckling layer 18 m (10 fm) thick 46-61 m (25-35 fm) deep; a few large dense spots 37-55 m (20-30 fm); very few targets hard on bottom.

VESSEL: SCOTIA BAY DATE: 79 Mo 3 Day 18 SET/HAUL NO: 11
LOCATION: Butterworth AREA: Upper Hecate Strait
START: Lat. 54 ° 18.2 ' N Long. 131 ° 01.9 ' W
END: Lat. 54 ° 21.0 ' N Long. 131 ° 05.0 ' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1945 DURATION: 60 min.
BOTTOM DEPTH m: Start: 101 (55 fm) End: 91 (50 fm) Est. Av. Depth: 102 (56 fm)
NET DEPTH RANGE m: Headline 27-37 (15-20 fm) Est. Av. Depth: 30 (16 fm)
DIRECTION OF SET °true: 335 SPEED kn: 4.3 DISTANCE TRAVELED: 4.3 mi.
SET ON: WATER CONDITION: Low swell TIDE:
WIND DIRECTION: S.E. WIND SPEED: 10 RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:
SOUNDER SUMMARY: Dense spotting 27-46 m (15-25 fm) throughout tow; very light spotting below.

VESSEL: SCOTIA BAY DATE: 79 Mo 3 Day 19 SET/HAUL NO: 12
LOCATION: Butterworth AREA: Upper Hecate Strait
START: Lat. 54 ° 15.0 ' N Long. 131 ° 01.5 ' W
END: Lat. 54 ° 17.1 ' N Long. 131 ° 00.2 ' W
GEAR: MW D-7 (2-5 cm) START TIME (PST): 0910 DURATION: 60 min.
BOTTOM DEPTH m: Start: 117 (64 fm) End: 95 (52 fm) Est. Av. Depth: 113 (62 fm)
NET DEPTH RANGE m: Headline 37-84 (20-46 fm) Est. Av. Depth: 77 (42 fm)
DIRECTION OF SET °true: Vari. SPEED kn: 3.4 DISTANCE TRAVELED: 3.4 mi.
SET ON: WATER CONDITION: Calm TIDE:
WIND DIRECTION: Light airs WIND SPEED: calm RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:
SOUNDER SUMMARY: Light spotting 37-110 m (20-60 fm); heavy speckling 110 m (60 fm) to bottom for one-sixth of tow.

VESSEL: SCOTIA BAY DATE: Yr 79 Mo 3 Day 20 SET/HAUL NO: 13
LOCATION: South Flats AREA: Upper Hecate Strait
START: Lat. 54 ° 05.4' N Long. 131 ° 01.0' W
END: Lat. 54 ° 02.0' N Long. 131 ° 02.3' W
GEAR: W III No liner START TIME (PST): 1515 DURATION: 60 min.
BOTTOM DEPTH m: Start: 110 (60 fm) End: 99 (54 fm) Est. Av. Depth: 102 (56 fm)
NET DEPTH RANGE m: Bottom trawl Est. Av. Depth: _____
DIRECTION OF SET °true: 195 SPEED kn: 3.6 DISTANCE TRAVELED: 3.6 mi.
SET ON: _____ WATER CONDITION: Swell and chop TIDE: _____
WIND DIRECTION: _____ WIND SPEED: _____ RECORDER: DD
TTM: _____ TDM: _____ BT: _____ OTHER OCEANOGRAPHIC DATA: _____
REMARKS: _____
SOUNDER SUMMARY: A few large spots 73 m (40 fm) to bottom. Several large spots hard on bottom.

VESSEL: SCOTIA BAY DATE: Yr 79 Mo 3 Day 21 SET/HAUL NO: 14
LOCATION: South flats AREA: Upper Hecate Strait
START: Lat. 54 ° 00.3' N Long. 131 ° 03.2' W
END: Lat. 54 ° 01.2' N Long. 131 ° 02.8' W
GEAR: W III No liner START TIME (PST): 1010 DURATION: 15 min.
BOTTOM DEPTH m: Start: 90 (49 fm) End: 99 (54 fm) Est. Av. Depth: 95 (52 fm)
NET DEPTH RANGE m: Bottom Est. Av. Depth: _____
DIRECTION OF SET °true: _____ SPEED kn: _____ DISTANCE TRAVELED: _____
SET ON: _____ WATER CONDITION: Swell and chop TIDE: _____
WIND DIRECTION: _____ WIND SPEED: _____ RECORDER: DD
TTM: _____ TDM: _____ BT: _____ OTHER OCEANOGRAPHIC DATA: _____
REMARKS: _____
SOUNDER SUMMARY: Many large spots 20 fm (37 m) to bottom and hard on bottom.

VESSEL: SCOTIA BAY DATE: 79 3 21 SET/HAUL NO: 15
LOCATION: Butterworth AREA: Upper Hecate Straits
START: Lat. 54 ° 13.0 ' N Long. 131 ° 02.8 ' W
END: Lat. 54 ° 11.4 ' N Long. 131 ° 02.8 ' W
GEAR: W III. No liner. START TIME (PST): 1220 DURATION: 30 min.
BOTTOM DEPTH m: Start: 106 (58 fm) End: 106 (58 fm) Est. Av. Depth: 106 (58 fm)
NET DEPTH RANGE m: Bottom Est. Av. Depth: Bottom
DIRECTION OF SET °true: SPEED kn: 3.2 DISTANCE TRAVELED: 1.6 mi.
SET ON: WATER CONDITION: TIDE:
WIND DIRECTION: N.W. WIND SPEED: 12-15 RECORDER:
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:
SOUNDER SUMMARY: Very dense layer 46-73 m (24-40 fm) for first half of tow,
then light spotting. Small spots common hard on bottom.

VESSEL: SCOTIA BAY DATE: 79 3 21 SET/HAUL NO: 16
LOCATION: Butterworth AREA: Upper Hecate Strait
START: Lat. 54 ° 10.6 ' N Long. 131 ° 03.6' W
END: Lat. 54 ° 06.0 ' N Long. 131 ° 01.2' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1540 DURATION: 80 min.
BOTTOM DEPTH m: Start: 110 (60 fm) End: 101 (55 fm) Est. Av. Depth: 110 (60 fm)
NET DEPTH RANGE m: Headline 70-81 (38-44 fm) Est. Av. Depth: 90 (49 fm)
DIRECTION OF SET °true: 170 SPEED kn: 3.4 DISTANCE TRAVELED: 4.5 mi.
SET ON: Swell and WATER CONDITION: chop TIDE:
WIND DIRECTION: N.W. WIND SPEED: 12-15 RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:
SOUNDER SUMMARY:
Light to moderate spotting 55 m (35 fm) to bottom.

VESSEL: SCOTIA BAY DATE: Yr 79 Mo 3 Day 22 SET/HAUL NO: 17
LOCATION: Off Cape Chacon AREA: Dixon Entrance
START: Lat. 54° 37.7' N Long. 132° 00.3' W
END: Lat. 54° 37.8' N Long. 132° 04.6' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1235 DURATION: 60 min.
BOTTOM DEPTH m: Start: 166 (91 fm) End: 168 (92 fm) Est. Av. Depth: 161 (88 fm)
NET DEPTH RANGE m: Headline 110-137 (60-75 fm) Est. Av. Depth: 119 (65 fm)
DIRECTION OF SET °true: 270 SPEED kn: 2.8 DISTANCE TRAVELED: 2.8 mi.
SET ON: WATER CONDITION: Calm TIDE:
WIND DIRECTION: WIND SPEED: Calm RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS: Tow aborted.

SONDER SUMMARY:

VESSEL: SCOTIA BAY DATE: Yr 79 Mo 3 Day 23 SET/HAUL NO: 18
LOCATION: Off Nass Bay AREA: Portland Inlet
START: Lat. 54 ° 58.3' N Long. 130 ° 03.4' W
END: Lat. 55 ° 02.3' N Long. 130 ° 01.0' W
GEAR: MW-7 (2.5 cm) START TIME (PST): 1525 DURATION: 90 min.
BOTTOM DEPTH m: Start: 265 (145 fm) End: 205 (112 fm) Est. Av. Depth: 210 (115 fm)
NET DEPTH RANGE m: Headline 46-70 (25-38 fm) Est. Av. Depth: 59 (32 fm)
DIRECTION OF SET °true: 30 SPEED kn: 2.9 DISTANCE TRAVELED: 4.4 mi.
SET ON: Very little WATER CONDITION: choppy TIDE:
WIND DIRECTION: South WIND SPEED: 25 RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:

SONDER SUMMARY:

Light spotting 20-46 F (37-84m), moderate spotting 40-50 F (73-91 m).

VESSEL: SCOTIA BAY DATE: Yr 79 Mo 3 Day 23 SET/HAUL NO: 19
 LOCATION: Off Nass Bay AREA: Portland Inlet
 START: Lat. 55° 02.2' N Long. 130 ° 01.1' W
 END: Lat. 54° 58.2' N Long. 130 ° 04.3'
 GEAR: MW D-7 (2.5 cm) START TIME (PST): 1735 DURATION: 120
 BOTTOM DEPTH m: Start: 183 (100 fm) End: 271 (148 fm) Est. Av. Depth: 220 (120 fm)
 NET DEPTH RANGE m: Headline 55-82 (30-45 fm) Est. Av. Depth: 76 (42 fm)
 DIRECTION OF SET °true: 210 SPEED kn: 2.2 DISTANCE TRAVELED: 4.4 mi.
 SET ON: WATER CONDITION: Choppy TIDE:
 WIND DIRECTION: South WIND SPEED: 25 RECORDER: DD
 TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
 REMARKS:
 SOUNDER SUMMARY: Light spotting 55-128 m (30-70 fm).

VESSEL: SCOTIA BAY DATE: Yr 79 Mo 3 Day 24 SET/HAUL NO: 20
 LOCATION: Off Coning Point AREA: Cordova Bay -- Alaska
 START: Lat. 54 ° 49.8' N Long. 132 ° 36.0' W
 END: Lat. 54 ° 52.3' N Long. 132 ° 36.0' W
 GEAR: MW D-7 (2.5 cm) START TIME (PST): 1920 DURATION: 60 min.
 BOTTOM DEPTH m: Start: 348 (T90 fm) End: 373 (204 fm) Est. Av. Depth: 371 (203 fm)
 NET DEPTH RANGE m: Headline 302-329 (165-180 fm) Est. Av. Depth: 310 (567 fm)
 DIRECTION OF SET °true: 358 SPEED kn: 2.75 DISTANCE TRAVELED: 2.75 mi.
 SET ON: Blind WATER CONDITION: Calm TIDE:
 WIND DIRECTION: N.W. WIND SPEED: 15 RECORDER: DD
 TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
 REMARKS:
 SOUNDER SUMMARY:

VESSEL: SCOTIA BAY DATE: 79 3 25 SET/HAUL NO: 21
LOCATION: Off Tlevak Strait AREA: Cordova Bay -- Alaska
START: Lat. 54 ° 57.5 ' N Long. 132 ° 43.5 ' W
END: Lat. 54 ° 54.8 ' N Long. 132 ° 37.5 ' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1445 DURATION: 90 min.
BOTTOM DEPTH m: Start: 353 (193 fm) End: 368 (201 fm) Est. Av. Depth: 366 (200 fm)
NET DEPTH RANGE m: Headline 307-331 (168-181 fm) Est. Av. Depth: 318 (474 fm)
DIRECTION OF SET °true: 130 SPEED kn: 2.7 DISTANCE TRAVELED: 4.0 mi.
SET ON: Blind WATER CONDITION: Rippled TIDE: _____
WIND DIRECTION: N.W. WIND SPEED: 15 RECORDER: DD
TTM: _____ TIM: _____ BT: _____ OTHER OCEANOGRAPHIC DATA: _____
REMARKS: _____

SOUNDER SUMMARY:

350 fms for half tow, 325 fms for half. Sounder ate the sounder tape.

VESSEL: SCOTIA BAY DATE: 79 3 25 SET/HAUL NO: 22
LOCATION: Off Round Islands AREA: Cordova Bay -- Alaska
START: Lat. 54 ° 50.6 ' N Long. 132 ° 36.0 ' W
END: Lat. 54 ° 42.9 ' N Long. 132 ° 31.0 ' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1700 DURATION: 135 min.
BOTTOM DEPTH m: Start: 384 (210 fm) End: 384 (210 fm) Est. Av. Depth: 393 (215 fm)
NET DEPTH RANGE m: Headline 106-137 (58-75 fm) Est. Av. Depth: 113 (62 fm)
DIRECTION OF SET °true: 140 SPEED kn: 3.5 DISTANCE TRAVELED: 8 mi.
SET ON: Blind WATER CONDITION: rippled TIDE: _____
WIND DIRECTION: N.W. WIND SPEED: 10 RECORDER: DD
TTM: _____ TIM: _____ BT: _____ OTHER OCEANOGRAPHIC DATA: _____
REMARKS: _____

SOUNDER SUMMARY:

VESSEL: SCOTIA BAY DATE: Yr 26 Mo 3 Day 79 SET/HAUL NO: 23
LOCATION: 3½ mi E. off Polk Is. AREA: Clarence Strait
START: Lat. 55 ° 00.7 ' N Long. 131 ° 52.0 ' W
END: Lat. 55 ° 06.3 ' N Long. 131 ° 52.9 ' W
GEAR: MW D-7 (2.5 cm) START TIME (PST) : 1100 DURATION: 105 min.
BOTTOM DEPTH m: Start: 411 (225 fm) End: 466 (255 fm) Est. Av. Depth: 439 (240 fm)
NET DEPTH RANGE m: Headline 375-402 (205-230 fm) Est. Av. Depth: 395 (216 fm)
DIRECTION OF SET °true: 355 SPEED kn: 3.3 DISTANCE TRAVELED: 5.7 mi.
SET ON: Blind WATER CONDITION: choppy TIDE: _____
WIND DIRECTION: N.W. WIND SPEED: 20 RECORDER: DD
TTM: _____ TDM: _____ BT: _____ OTHER OCEANOGRAPHIC DATA: _____
REMARKS: _____
SOUNDER SUMMARY: _____

VESSEL: SCOTIA BAY DATE: Yr 79 Mo 3 Day 27 SET/HAUL NO: 24
LOCATION: Thorne Arm AREA: Revillagigedo Channel, Alaska
START: Lat. 55 ° 23.0 ' N Long. 131 ° 13.0 ' W
END: Lat. 55 ° 16.4 ' N Long. 131 ° 17.2 ' W
GEAR: MW D-7 (2.5 cm) START TIME (PST) : 0820 DURATION: 120 min.
BOTTOM DEPTH m: Start: 145 (79 fm) End: 293 (160 fm) Est. Av. Depth: 256 (140 fm)
NET DEPTH RANGE m: Headline 73-220 (40-120 fm) Est. Av. Depth: 165 (90 fm)
DIRECTION OF SET °true: var. SPEED kn: 3.2 DISTANCE TRAVELED: 6.5 mi.
SET ON: Blind WATER CONDITION: calm TIDE: _____
WIND DIRECTION: _____ WIND SPEED: _____ RECORDER: DD
TTM: _____ TDM: _____ BT: _____ OTHER OCEANOGRAPHIC DATA: _____
REMARKS: _____
SOUNDER SUMMARY: Light spotting 183 m (100 fm) to bottom.

VESSEL: SCOTIA BAY DATE: 79 3 27 SET/HAUL NO: 25
LOCATION: 1 mi. S. Rudyard Is. AREA: Behm Canal, Alaska
START: Lat. 55 ° 15.5' N Long. 131 ° 02.3' W
END: Lat. 55 ° 12.2' N Long. 131 ° 06.2' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1320 DURATION: 100 min.
BOTTOM DEPTH m: Start: 594 (325 fm) End: 412 (225 fm) Est. Av. Depth: 494 (270 fm)
NET DEPTH RANGE m: Headline 366-512 (200-280 fm) Est. Av. Depth: 394 (215 fm)
DIRECTION OF SET °true: 215 SPEED kn: 2.7 DISTANCE TRAVELED: 4.5 mi.
SET ON: Blind WATER CONDITION: Rippled TIDE: _____
WIND DIRECTION: S.S.E. WIND SPEED: 10 RECORDER: DD
TTM: _____ TDM: _____ BT: _____ OTHER OCEANOGRAPHIC DATA: _____
REMARKS: _____
SOUNDER SUMMARY: _____

VESSEL: SCOTIA BAY DATE: 79 3 27 SET/HAUL NO: 26
LOCATION: Main Passage AREA: Chatham Sound
START: Lat. 54 ° 39.6' N Long. 130 ° 40.6' W
END: Lat. 54 ° 40.9' N Long. 130 ° 29.4' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1945 DURATION: 120 min.
BOTTOM DEPTH m: Start: 320 (175 fm) End: 640 (350 fm) Est. Av. Depth: 384 (210 fm)
NET DEPTH RANGE m: Headline 229-302 (125-165 fm) Est. Av. Depth: 265 (145 fm)
DIRECTION OF SET °true: Vari. SPEED kn: 3.2 DISTANCE TRAVELED: 6.3 mi.
SET ON: _____ WATER CONDITION: Choppy TIDE: _____
WIND DIRECTION: S.E. (snow) WIND SPEED: 15 RECORDER: DD
TTM: _____ TDM: _____ BT: _____ OTHER OCEANOGRAPHIC DATA: _____
REMARKS: _____
SOUNDER SUMMARY: _____

VESSEL: SCOTIA BAY DATE: 79 3 28 SET/HAUL NO: 27
LOCATION: Hastings Arm AREA: Observatory Inlet
START: Lat. 55° 29.5' N Long. 129° 44.8' W
END: Lat. 55° 25.5' N Long. 129° 43.4' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1500 DURATION: 85 min.
BOTTOM DEPTH m: Start: 311 (170 fm) End: 154 (84 fm) Est. Av. Depth: 201 (110 fm)
NET DEPTH RANGE m: Headline 46-64 (25-35 fm) Est. Av. Depth: 55 (30 fm)
DIRECTION OF SET °true: Vari. SPEED kn: 2.4 DISTANCE TRAVELED: 3.4 mi.
SET ON: Blind WATER CONDITION: calm TIDE: _____
WIND DIRECTION: _____ WIND SPEED: calm RECORDER: DD
TTM: _____ TDM: _____ BT: _____ OTHER OCEANOGRAPHIC DATA: _____
REMARKS: _____
SOUNDER SUMMARY:
Light to moderate spotting 20-65 F.(37-119 m)

VESSEL: SCOTIA BAY DATE: 79 3 28 SET/HAUL NO: 28
LOCATION: 6 mi South Dawkins Pt. AREA: Observatory Inlet
START: Lat. 55° 11.3' N Long. 129° 52.4' W
END: Lat. 55° 08.0' N Long. 129° 55.5' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1815 DURATION: 90 min.
BOTTOM DEPTH m: Start: 485 (265 fm) End: 426 (233 fm) Est. Av. Depth: 475 (260 fm)
NET DEPTH RANGE m: Headline 430-380 (235-208 fm) Est Av. Depth: 421 (230 fm)
DIRECTION OF SET °true: Vari. SPEED kn: 2.5 DISTANCE TRAVELED: 3.8 mi.
SET ON: Blind WATER CONDITION: calm TIDE: _____
WIND DIRECTION: _____ WIND SPEED: _____ RECORDER: DD
TTM: _____ TDM: _____ BT: _____ OTHER OCEANOGRAPHIC DATA: _____
REMARKS: _____
SOUNDER SUMMARY: .

VESSEL: SCOTIA BAY DATE: Yr 79 Mo 3 Day 29 SET/HAUL NO: 29
LOCATION: Freemans AREA: Upper Hecate Strait
START: Lat. 53° 48.7' N Long. 130° 49.8' W
END: Lat. 53° 48.3' N Long. 130° 55.3' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 0850 DURATION: 65 min.
BOTTOM DEPTH m: Start: 99 (54 fm) End: 79 (43 fm) Est. Av. Depth: 93 (51 fm)
NET DEPTH RANGE m: Headline 68-49 (37-27 fm) Est. Av. Depth: 66 (36 fm)
DIRECTION OF SET °true: 262 SPEED kn: 3.1 DISTANCE TRAVELED: 3.4 mi.
SET ON: WATER CONDITION: Choppy TIDE:
WIND DIRECTION: W.N.W. WIND SPEED: 10-12 RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA: XBT
REMARKS:

SOUNDER SUMMARY: Large spots 73 m (40 fm) to bottom and hard on bottom.

VESSEL: SCOTIA BAY DATE: Yr 79 Mo 3 Day 29 SET/HAUL NO: 30
LOCATION: South Flats AREA: Upper Hecate Straits
START: Lat. 54° 01.6' N Long. 131° 02.2' W
END: Lat. 54° 01.8' N Long. 131° 01.7' W
GEAR: MW D-7 (2.5 cm) START TIME (PST): 1300 DURATION: 60 min.
BOTTOM DEPTH m: Start: 86 (47 fm) End: 97 (53 fm) Est. Av. Depth: 95 (52 fm)
NET DEPTH RANGE m: Headline 59-70 (32-38 fm) Est. Av. Depth: 68 (37 fm)
DIRECTION OF SET °true: SPEED kn: 3.2 DISTANCE TRAVELED: 3.2 mi.
SET ON: WATER CONDITION: Rippled TIDE:
WIND DIRECTION: W.N.W. WIND SPEED: 5 RECORDER: DD
TTM: TDM: BT: OTHER OCEANOGRAPHIC DATA:
REMARKS:

SOUNDER SUMMARY: Large spots 55 m (30 fm) to bottom and hard on bottom.

Appendix Table 2 . Hydrographic data collected on MV SCOTIA BAY March 12-30, 1979, by expendable bathythermograph (XBT) and bucket casts.

Location	Chatham Sd.		Selwyn In.		Dana In.		Butterworth	
Station No.	H1		H2		H3		H4	
Date (PST)	March 13, 1979		March 14, 1979		March 14, 1979		March 19, 1979	
Time (PST)	1045		1300		1750		1050	
Latitude	54° 9.8' N		52° 52' N		52° 51.5' N		54° 16.7' N	
Longitude	130° 29.5' W		131° 50.2' W		131° 47.8' W		131° 2.3' W	
Bottom Depth (Sounder, M)	101		111		119		117	
Surface Salinity (‰)	-		-		-		-	
Surface Temp. (°C)	-		6.7		6.9		6.7	
	Z(m)	T(°C)						
	10	6.3	10	6.4	10	6.6	10	6.3
	98	6.2	101	6.3	100	6.3	114	6.3

Location	South Flats		N. Dundas I.		Portland In.		Cordova Bay	
Station No.	H5		H6		H7		H8	
Date (PST)	March 21, 1979		March 23, 1979		March 23, 1979			
Time (PST)	1035		0830		1425		(XBT Failed)	
Latitude	54° 1.2' N		54° 40.1' N		54° 49.4' N			
Longitude	131° 3.2' W		130° 47.6' W		130° 2.5' W			
Bottom Depth (Sounder, M)	95		368		238			
Surface Salinity (‰)	-		-		-			
Surface Temp. (°C)	-		-		-			
	Z(m)	T(°C)	Z(m)	T(°C)	Z(m)	T(°C)		
	10	6.2	10	5.8	10	5.6		
	95	6.2	360	6.2	210	5.9		

Appendix Table 2 (cont'd)

Location	Cordova Bay	Clarence Str.	Thorne Arm	Hastings Arm
Station No.	H9	H10	H11	H12
Date (PST)	March 25, 1979	March 26, 1979	March 26, 1979	March 28, 1979
Time (PST)	0828	1310	1040	1635
Latitude	54° 50.1' N	55° 6.0' N	55° 16.4' N	55° 24.7' N
Longitude	132° 35' W	131° 52.9' W	129° 17.2' W	129° 43.1' W
Bottom Depth (Sounder, M)	439	466	284	165
Surface Salinity (%)	30.568	-	-	-
Surface Temp. (°C)	-	6.6	6.7	-
Z (m)	T (°C)	Z (m)	T (°C)	Z (m)
10	5.9	10	5.6	10
30	5.6	50	5.0	50
200	5.6	100	5.3	100
250	5.8	466	5.7	150
300	6.0			165
400	6.3			

Location	Freeman	
Station No.	H13	H14
Date (PST)	(XBT Failed)	March 29, 1979
Time (PST)		0910
Latitude	53° 48.3' N	
Longitude	130° 55.3' W	
Bottom Depth (Sounder, M)	70	
Surface Salinity (%)	31.891	
Surface Temp. (°C)	6.9	
Z (m)	T (°C)	
10	6.1	
50	5.9	
70	6.1	

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