Fisheries Development Branch

Newfoundland Region

EXPLORATORY SURVEY FOR ICELAND SCALLOPS

LABRADOR 1982
(NAIN AREA)

PROJECT REPORT FDB 1982/83 - 21

Canada

EXPLORATORY SCALLOP SURVEY

Labrador 1982

(Nain area)

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ACKNOWLEDGMENTS

Sincere appreciation is expressed to Mr. Chesley Webb and Mr. Jim Webb, owners and operators of the chartered vessel *GERTRUDE 'N RONALD*, and to Mr. Wayne Jenkins, owner and operator of the chartered vessel *JOLENE VICTORIA*, and to the crews of these vessels.

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FOREWORD

Experimental and exploratory scallop fishing has been conducted in the past decade by the Fisheries Development Branch of the Department of Fisheries and Oceans, Newfoundland Region, in an attempt to identify scallop stocks with potential for commercial development along the Newfoundland and Labrador coast. As a result of these surveys, commercial scallop fishing is currently being pursued off the Bay of Islands, on St. Pierre Bank, around Nain, and in the Strait of Belle Isle.

Scallops are among the better known shellfishes and contribute substantially to the commercial fishery in Newfoundland. Scallops are bivalves and the valves, or shells are held together by a small, straight hinge. The scallop contains a large white muscle which opens and closes the shell. This white muscle is called the "meat" and is the only part sold in Canada. However, other countries also market the roe from the scallop. Scallops are found in dense populations called "beds" on firm gravel, shells or rock on the ocean floor. They feed on minute plants and animals which they strain from the sea using a filter mechanism involving the gills.

This report covers a scallop survey carried out within a 30-mile radius of Nain, Labrador. Several scallop beds in this area were discovered prior to 1978. However, these beds were never commercially fished so they were surveyed again this year to determine if scallop occurred in commercial quantities. Several new scallop beds were discovered during the survey.

INTRODUCTION

The purpose of this exploration was to determine the commercial distribution and abundance of the scallop beds in the Nain area of Labrador. The project was undertaken as a result of fishermen requesting more detailed information on the distribution and abundance of known scallop beds, as well as the existence of new scallop beds. It is hoped that the survey will generate more effort in the area's scallop fishery and extend the season beyond the current 1 to 2 months a year.

The survey covered an area of coastline from South of Voisey Bay to North of Port Manvers (Fig. 1). This area was divided into five subareas and each subarea was further subdivided into units of 25 sq miles.

In order to carry out this project, two scallop draggers, M/V *GERTRUDE 'N RONALD* and M/V *JOLENE VICTORIA*, both from Nain, were chartered for 30 sea days. The charter was conducted between August 31 and October 10, 1982, in water depths less than 50 fath and within a 30-mile radius of Nain.

A technician was assigned to each survey vessel and was responsible for the recording of a detailed set log book and scallop length frequency measurment log book.

The report confirms the existence of a limited scallop resource in the Nain area. There are problems which will have to be overcome with regard to the fishing effort, but these can be effectively dealt with.

FIG. 1

MAP OF 30 MILE RADIUS OF NAIN SHOWING THE SURVEY AREA

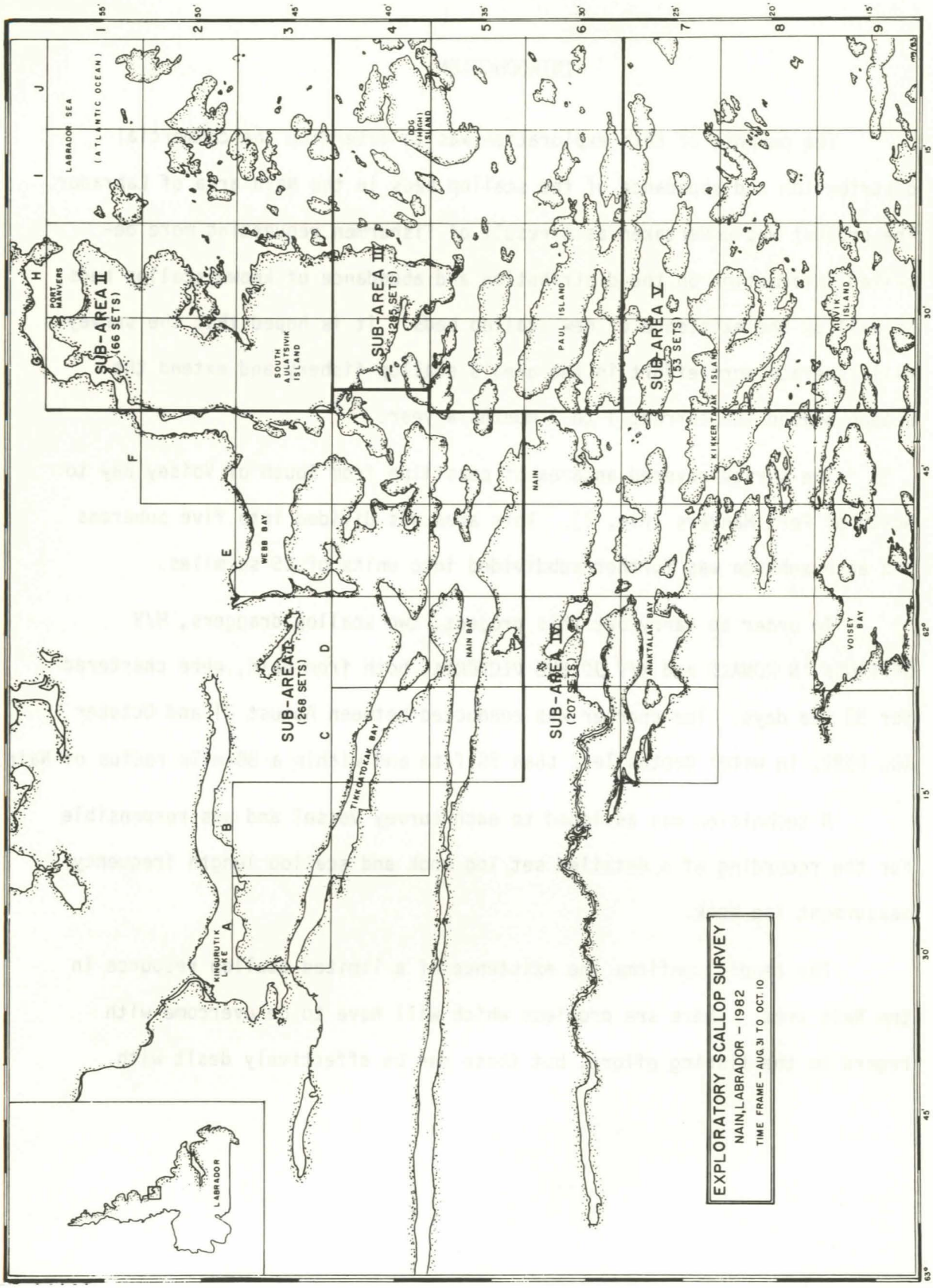


FIGURE 1

EXPLORATORY VESSELS AND EQUIPMENT

Two vessels, the M/V *GERTRUDE 'N RONALD* and the M/V *JOLENE VICTORIA* were chartered for 30 sea days each to carry out the survey. Each vessel was crewed by four men, including the skipper, and spent 6 to 13 hours per day at sea, depending on weather conditions. (The charter contract required 6 or more hours at sea to justify a charter day). Each vessel completed 30 sea-days between August 31 and October 8, 1982.

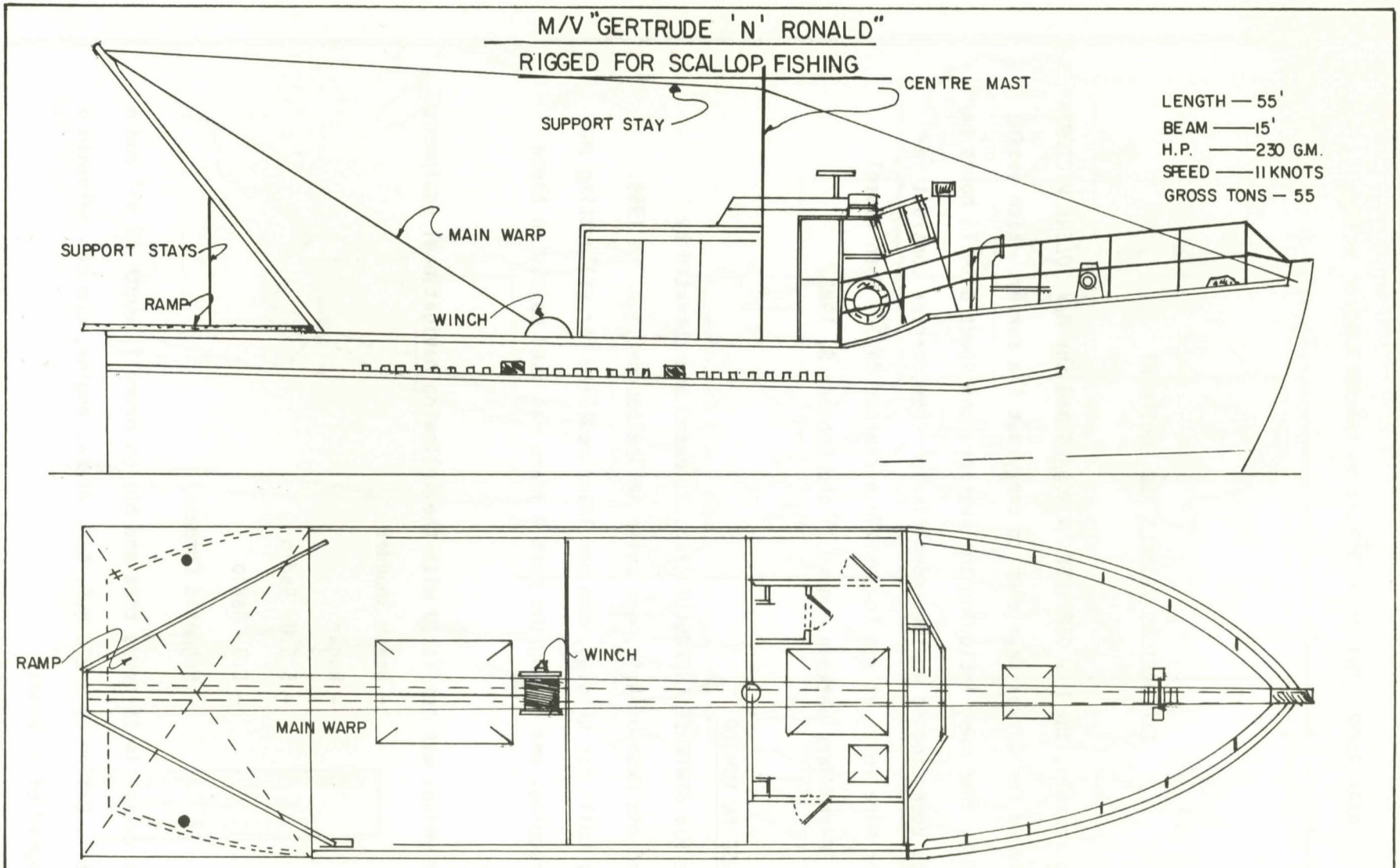
M/V *GERTRUDE 'N RONALD*

The M/V *GERTRUDE 'N RONALD* (Fig. 2) owned and operated by Chesley and Jim Webb of Nain, was built in Shelbourne, N.S. in 1956. Originally built for seining, she was later modified for gillnetting and scallop dragging, and during the past 4 years was used mainly on these fisheries.

The vessel was outfitted with the following navigational equipment:

- Depth Sounder
- Radar
- S.S.B. Radio
- C.B. Radio
- Magnetic Compass

The vessel is 55 gross tons and has an overall length of 55' and a beam of 15'. Driven by a 230 H.P. G.M. diesel engine, she can maintain a cruising speed of 11 knots.



PROFILE & DECK LAYOUT

DEPT. OF FISHERIES & OCEANS FISHERIES DEVELOPMENT BRANCH	
DWN BY: L. HOLDEN	DATE: 17/12/82

FIG. NO. 2

M/V *JOLENE VICTORIA*

The M/V *JOLENE VICTORIA* (Fig. 3), owned and operated by Wayne Jenkins of Nain, was built at Summerfield, Newfoundland in 1979. She is a multi-purpose vessel and has been used for gillnetting and scalloping since construction.

The vessel was outfitted with the following navigational equipment:

- Depth Sounder
- Radar
- Magnetic Compass
- VHF Radio

The vessel has an overall length of 36' and a beam of 16'6". Powered by a 90 H.P. Volvo Penta diesel engine, she has a cruising speed of 9 knots.

FISHING GEAR AND METHOD OF OPERATION

Fishing Gear

The Digby scallop buckets used to carry out this survey were the typical scallop buckets used in the Atlantic provinces commercial scallop fishery. Each bucket (Fig. 4) has an iron frame 30" wide by 10" high. A bag 36" long and made from 2½" diameter iron rings, held together by staples, is attached to the iron frame. The bag is tapered and is attached at the small end to a 2" x 4" x 30" wooden block to which a 2' piece of chain is attached. This chain, along with a 5" steel ring, acts as a "tail" which helps the bucket stay straight while fishing. The bucket is

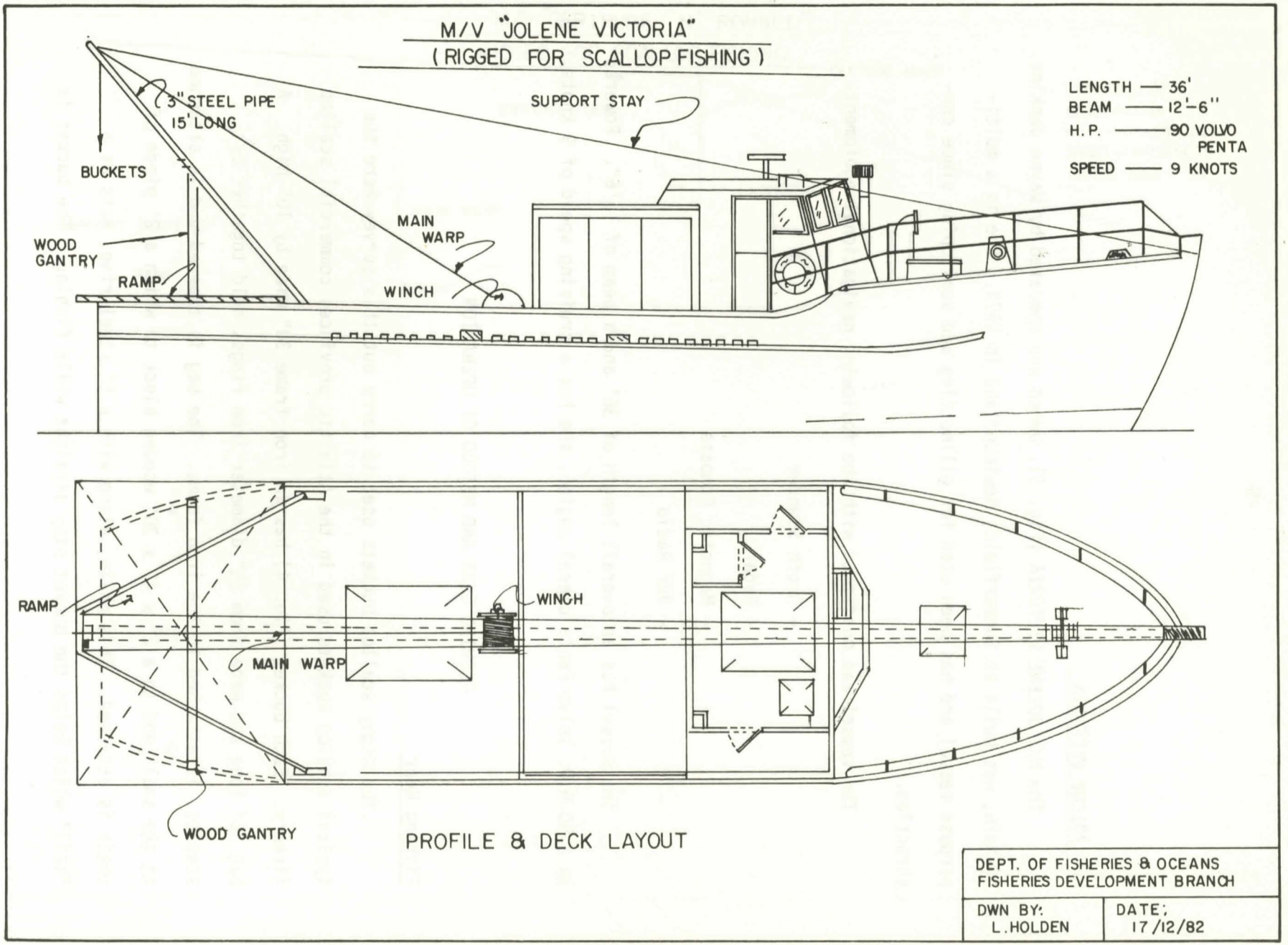

M/V "JOLENE VICTORIA"
(RIGGED FOR SCALLOP FISHING)
3" STEEL PIPE
15' LONG
SUPPORT STAY
BUCKETS
LENGTH — 36'
BEAM — 12'-6"
H.P. — 90 VOLVO PENTA
SPEED — 9 KNOTS
WOOD GANTRY
MAIN WARP
RAMP
WINCH
RAMP
WINCH
MAIN WARP
WOOD GANTRY
PROFILE & DECK LAYOUT
DEPT. OF FISHERIES & OCEANS
FISHERIES DEVELOPMENT BRANCH
DWN BY: L.HOLDEN
DATE: 17/12/82

FIG. NO. 3

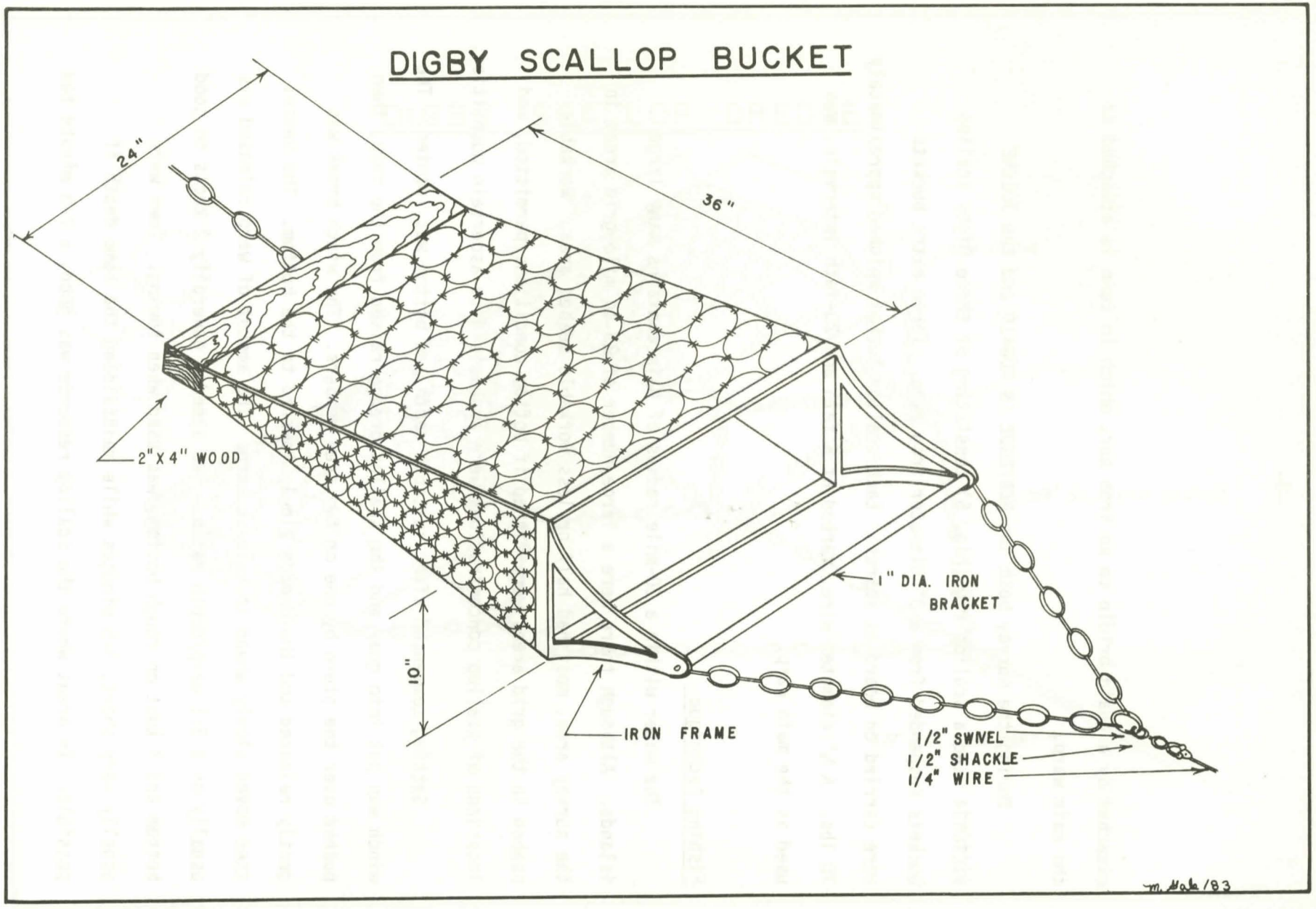

DIGBY SCALLOP BUCKET
24"
36"
2"X4" WOOD
1" DIA. IRON BRACKET
10"
IRON FRAME
1/2" SWIVEL
1/2" SHACKLE
1/4" WIRE
M. Wade/83

FIGURE 4

attached by a chain bridle to an iron bar, which in turn is attached to the main warp.

During the survey both the *GERTRUDE 'N RONALD* and the *JOLENE VICTORIA* used a scallop rig (Fig. 5) consisting of three Digby scallop buckets suspended from a 3" diameter iron pipe. Three extra buckets were carried on board as spares. Each scallop bucket weighed approximately 70 lbs. A ½" diameter wire, marked at 6 fath and 20-fath intervals, was used as the main warp.

Fishing Technique

The water within a 30-mile radius of Nain contains many large islands. Although there were a large number of 25 sq mile grid areas in the survey area, most had half or less workable seabed area. Workable seabed in the grid areas were fished if bottom conditions permitted, and locations of scallop concentrations were emphasized to ascertain quantities.

Setting commenced after suitable depth and bottom was located. The winch was put into gear and the scallop dredge raised from the ramp, then pushed over the stern by one or two crew members. The winch break was gently released and the dredge slowly lowered to the bottom. The vessel then moved slowly ahead to release warp. The amount of warp released was usually on a 3:1 warp/depth ratio. Two speeds, generally 2 knots on good bottom and 1 knot on rough bottom, was used when towing. Tows were usually very short, 3-5 minutes while maintaining the same depth if possible. In areas where the scallop resource was good, a 2-3 minute tow

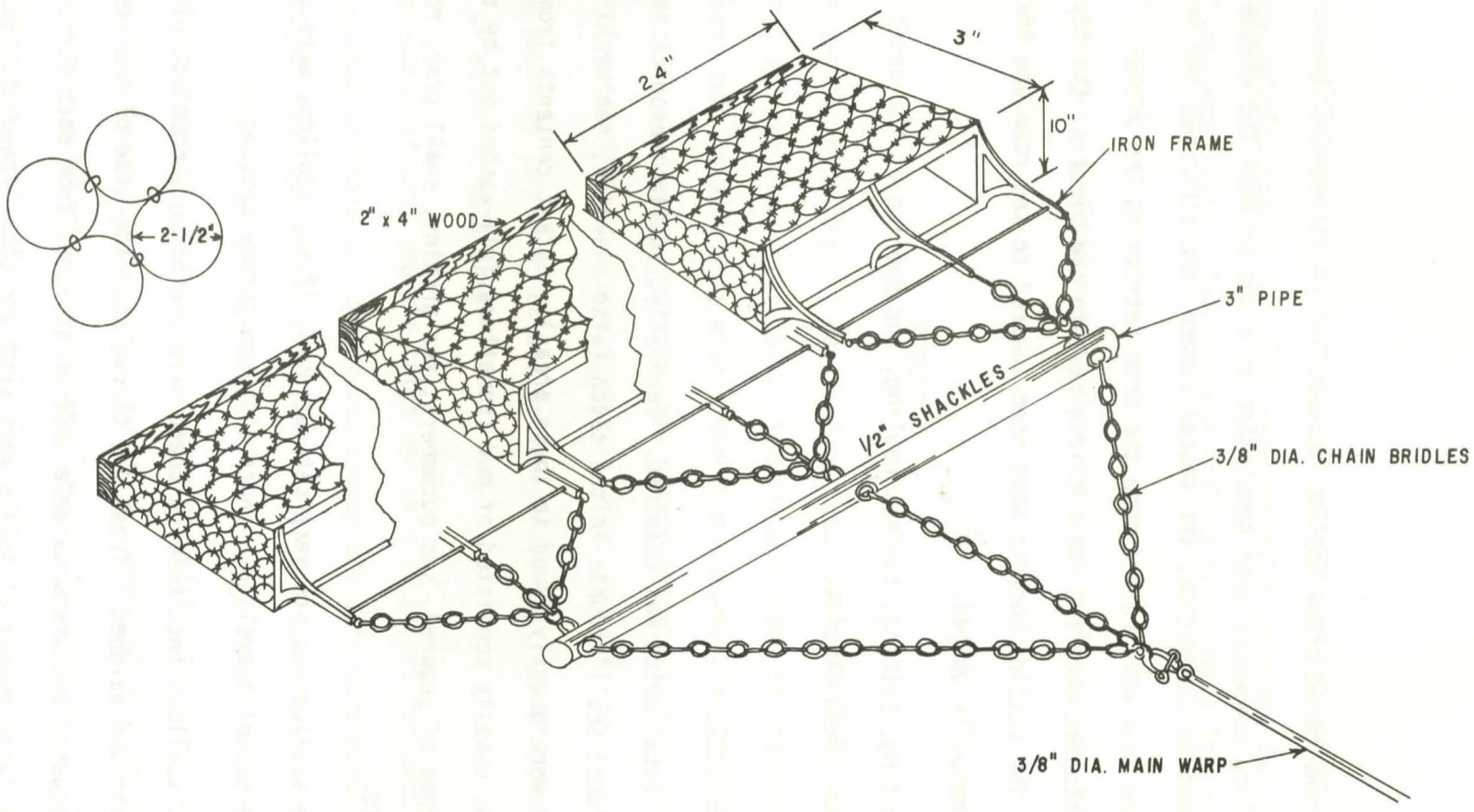

DIGBY SCALLOP DREDGE
24"
3"
10"
IRON FRAME
2" x 4" WOOD
2-1/2"
3" PIPE
1/2" SHACKLES
3/8" DIA. CHAIN BRIDLES
3/8" DIA. MAIN WARP
m. Hale /83

FIGURE 5

would fill the three Digby scallop buckets.

Hauling commenced upon completion of a tow or when the dredge became hooked in the bottom; the vessel slowed, the winch was put into gear and the main warp rolled onto the drum retrieving the dredge. The winch was stopped when the chain bridle came to the block at the top of the boom. The scallop buckets were then lowered to the ramp and the catch was manually dumped.

Shooting, setting, towing, hauling, and dumping of the catch usually took 15-20 minutes.

Onboard Handling

The total catch was examined. Generally, scallop resource areas had high "dead shell" counts in the catch (also starfish, sea urchins and cobble were usually found in these areas). Bucket contents from other areas usually consisted of mud (sometimes full-washed out by towing), various types of seaweed, sea cucumbers, sea urchins, small crab, rock cobble, etc.

The scallop buckets were set out again if any scallops were present; if not the vessel travelled a short distance before setting.

All scallops that came on board were picked out, counted, placed into baskets and weighed. Trash was thrown over the side of the vessel. Length frequency measurements were made on scallops from each different area and a large number of shells were kept for other research. Scallops larger than 65 mm were shucked onboard.

Detailed information on each set was recorded in two log books. Shucked meat weights (total for sets) were generally recorded for areas where scallops were found. Two separate scallop measurement logs were also kept.

Shucked scallop meats were sold to the fish plant in Nain upon returning to port.

RESULTS

The survey area (Fig. 1) was divided into five subareas. Data from each subarea are reported separately. A Table and chart is included to show the sets made in each unit within the five subareas, and the subsequent results. The chart indicates the number of sets in each unit and the areas of potential and active commercial scallop beds.

The position for each set was determined by the type of bottom and the depth of water in each area.

The number of sets and the catch per unit of effort for each subarea is recorded in Table 1. During the survey 879 sets were made yielding 60,385 scallops. This resulted in 17,619.8 lbs of scallops in the shell or 1,298 lbs of scallop meats. The average number of meats per lb for the total survey was 46.5. The catch per effort for this survey does not reflect the catch per effort during a commercial fishing operation. During the survey a lot of time was spent looking for scallop beds and not in determining the catch rate on individual beds.

Table 1. Catch per unit of effort for Scallop Survey.

Subarea	Dates	# of Sets	Depth Range (fms)	Fishing Time (mins)	Catch (lbs)					
					No. of Scallops	Ave. No. per set	Total wt in shell	Meat Weight	No. meats per lb	% Yield
1	Sept. 1-Oct. 8	268	4-50	1159	21,526	80.3	6,227.1	443.5	48.5	7.1
2	Sept. 8-Sept. 11	66	8-56	251	122	1.8	39.7	4.4	27.7	11.1
3	Aug. 31-Sept. 25	285	6-54	1068	17,203	60.4	5,796.0	397.0	43.3	6.8
4	Aug. 31-Oct. 9	207	8-60	853	19,397	93.7	4,898.3	423.2	45.8	8.6
5	Sept. 25-Oct. 6	53	8-55	229	2,137	40.3	658.7	29.5	72.4	4.5
	TOTALS	879	4-60	3560	60,385	68.7	17,619.8	1297.6	46.5	7.4

Table 2 gives a summary of the scallop beds which were surveyed during the charter period, while Fig. 6 shows the position of these beds.

Subarea I: North of Nain to Webb Bay

This subarea, situated north of Nain, covered 350 sq miles. However, over one-half of this is land while the remaining one-half consists mostly of Nain Bay and Webb Bay. The area was subdivided into 15 units of 25 sq miles each.

The bays in this area have rough bottoms scattered with boulders and mud. Some of the subarea consisted of water depths in excess of 50 fath, therefore no dragging could be carried out within parts of several units.

The subarea was surveyed in 11 charter days between September 1 and October 7, 1982. Two hundred sixty eight sets were conducted in water depths ranging from 4-50 fath. A total of 21,526 scallops were taken, yielding 443 lbs of scallop meats. However, most of this was taken from two scallop beds in units F4 and F5. One bed located south of Webb Point yielded 5,356 scallops in 42 tows. This resulted in 1,734 lbs of scallops in the shell or 111 lbs of scallop meats. The range of depths where best fishing occurred on this bed was between 12 and 14 fath.

The second bed, which was found between Base Point and Topsy Point, yielded 14,831 scallops in 89 tows. This resulted in 4,748 lbs of scallop in the shell or 287 lbs of scallop meats. The best fishing on this bed occurred in the 13 to 28 fath range.

Table 2. Catch per unit of effort on several scallop beds which were surveyed in the Nain area.

Scallop * Bed Location	No. of Sets	Best Depths	Fishing Time (mins)	Catch (lbs)					
				No. of Scallops	Aver. No. per set	Total Weight	Meat Weight	No. of meats per lb	% Yield
Kauk Bluff Isl. run (Mouth of Ten Mile Bay)	77	16-21	324	16,245	211	4,067	358	45	8.8
Harmony Run (N. of Hillbury Isl.)	80	24-50	335	12,821	160	4,583	313	41	6.8
Sandy Pt. to Base Pt. (N. of Base Isl)	89	13-28	383	14,831	167	4,748	297	50	6.3
Strathcona Run (S. of Hillbury Isl)	36	14-50	155	4,862	135	1,505	121	40	8.0
West of Kikkertavak Island	35	20-25	151	3,061	87	803	65	47	7.8
South of Paul Island	20	18-38	95	2,117	106	659	30	71	4.6
South of Webb Point	42	12-14	196	5,356	128	1,734	111	48	6.4
* Some of these scallop beds were discovered during earlier surveys while others were discovered during this survey.									

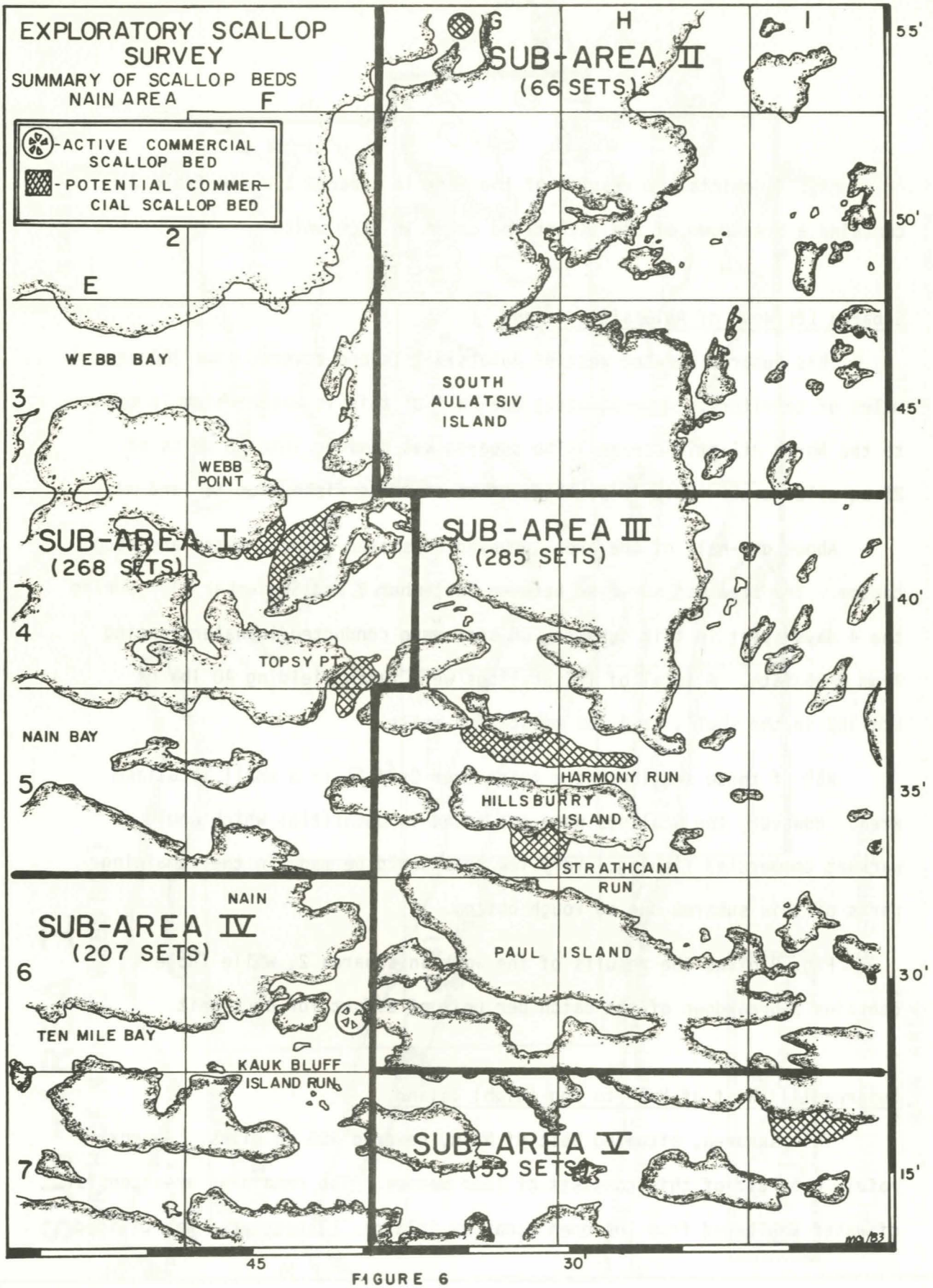

EXPLORATORY SCALLOP SURVEY
SUMMARY OF SCALLOP BEDS
NAIN AREA
-ACTIVE COMMERCIAL SCALLOP BED
-POTENTIAL COMMERCIAL SCALLOP BED
SUB-AREA II
(66 SETS)
SUB-AREA I
(268 SETS)
SUB-AREA III
(285 SETS)
SUB-AREA IV
(207 SETS)
SUB-AREA V
(55 SETS)
WEBB BAY
WEBB POINT
SOUTH AULATSIV ISLAND
TOPSY PT.
NAIN BAY
HARMONY RUN
HILLSBURRY ISLAND
STRATHCANA RUN
PAUL ISLAND
NAIN
TEN MILE BAY
KAUK BLUFF ISLAND RUN
55'
50'
45'
40'
35'
30'
15'
45
30'

FIGURE 6

Fig. 7 depicts the results of the work in subarea I while Table 3 contains a breakdown of the effort and catch in each unit.

Subarea II: West of Aulatsivik Island

This subarea located west of Aulatsivik Island covered some 300 sq miles of territory. Approximately one-half of this is water which is open to the North Atlantic Ocean. The subarea was divided into 12 units of 25 sq miles each. Only 10 of these units could be fished due to land mass.

About one-half of the area surveyed consisted of deep water and rough bottom. The area was surveyed between September 8 and September 11. During the 4 days spent in this subarea, 66 sets were conducted in water ranging from 8-56 fath. A total of 122 scallops were taken yielding 40 lbs of scallop in the shell, or 4 lbs of scallop meats.

All of these scallops were taken from Grid G1 in a small localized area. However, the scallops were not found in quantities which would warrant commercial fishing. Very few sets could be made in the remaining parts of this subarea due to rough bottom.

Fig. 8 gives the results of the work in subarea 2, while Table 4 contains a breakdown of the catch per unit of effort for each unit.

Subarea III: West of Nain to Dog (High) Island

This subarea, situated West of Nain, covered 350 sq miles. Approximately one-half of this consists of land masses. The remaining area consists of water sheltered from the open ocean by islands. The subarea was divided

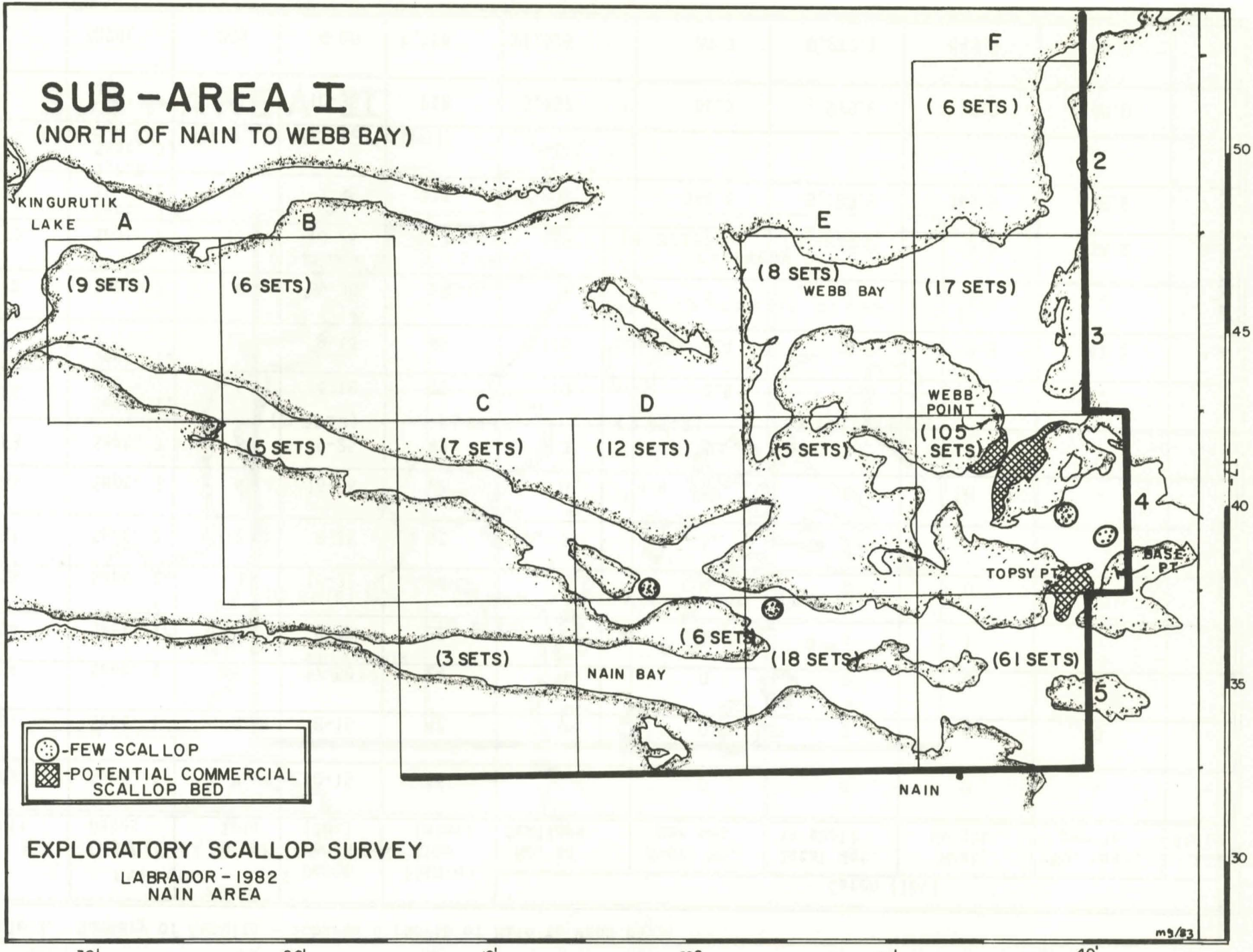

SUB-AREA I
(NORTH OF NAIN TO WEBB BAY)
KINGURUTIK LAKE
A
B
C
D
E
F
(9 SETS)
(6 SETS)
(5 SETS)
(7 SETS)
(12 SETS)
(8 SETS)
WEBB BAY
(17 SETS)
(6 SETS)
(5 SETS)
WEBB POINT
(105 SETS)
2
3
4
5
BASE PT.
TOPSY PT.
(6 SETS)
(3 SETS)
NAIN BAY
(18 SETS)
(61 SETS)
NAIN
-FEW SCALLOP
-POTENTIAL COMMERCIAL SCALLOP BED
EXPLORATORY SCALLOP SURVEY
LABRADOR - 1982
NAIN AREA
50
45
40
35
30
30'
20'
10'
62°
50'
40'
ms/83

FIGURE 7

Table 3. Summary of Results - Subarea 1 (North of Nain to Webb Bay).

Unit	Dates	No. of Sets	Depth range (fms)	Fishing Time (mins)	Catch (lbs)					
					No. of Scallops	Aver. No. per set	Total Wgt. in shell	Meat Weight	No. meats per lb	% Yield
A3	Sept. 1	9	10-15	46	0	0	0	0	-	-
B3	Sept. 1	6	8-18	42	0	0	0	0	0	-
B4	Sept. 1	5	17-50	24	0	0	0	0	-	-
C4	Sept. 1/2	7	9-30	35	1	1	1	1	-	-
C5	Sept. 2	3	18-32	14	0	0	0	0	-	-
D4	Sept. 2	12	8-25	42	3	1	1	1	-	-
D5	Sept. 3	6	16-36	22	0	0	0	0	-	-
E3	Sept. 7	8	9-25	49	3	1	1	1	-	-
E4	Sept. 1, 2,6	5	4-18	22	10	2.0	1.0	1	-	-
E5	Sept. 1, 2	18	8-44	86	115	6.4	38.0	2.8	41.1	7.4
F2	Sept. 7	6	20-36	29	1	1	1	1	-	-
F3	Sept. 7	17	10-26	53	129	7.6	26.0	2.2	58.6	8.5
F4	Sept. 3,6 18; Oct. 1,7,8	105	7-35	477	17,807	169.6	5,182.5	366.5	48.6	7.1
F5	Sept. 3, 7,8									
	Oct. 1, 4,7	61	10-36	218	3,457	56.7	979.6	72.0	48.0	7.3
	TOTAL	268	4-50	1,159	21,526	80.3	6,227.1	443.5	48.5	7.1

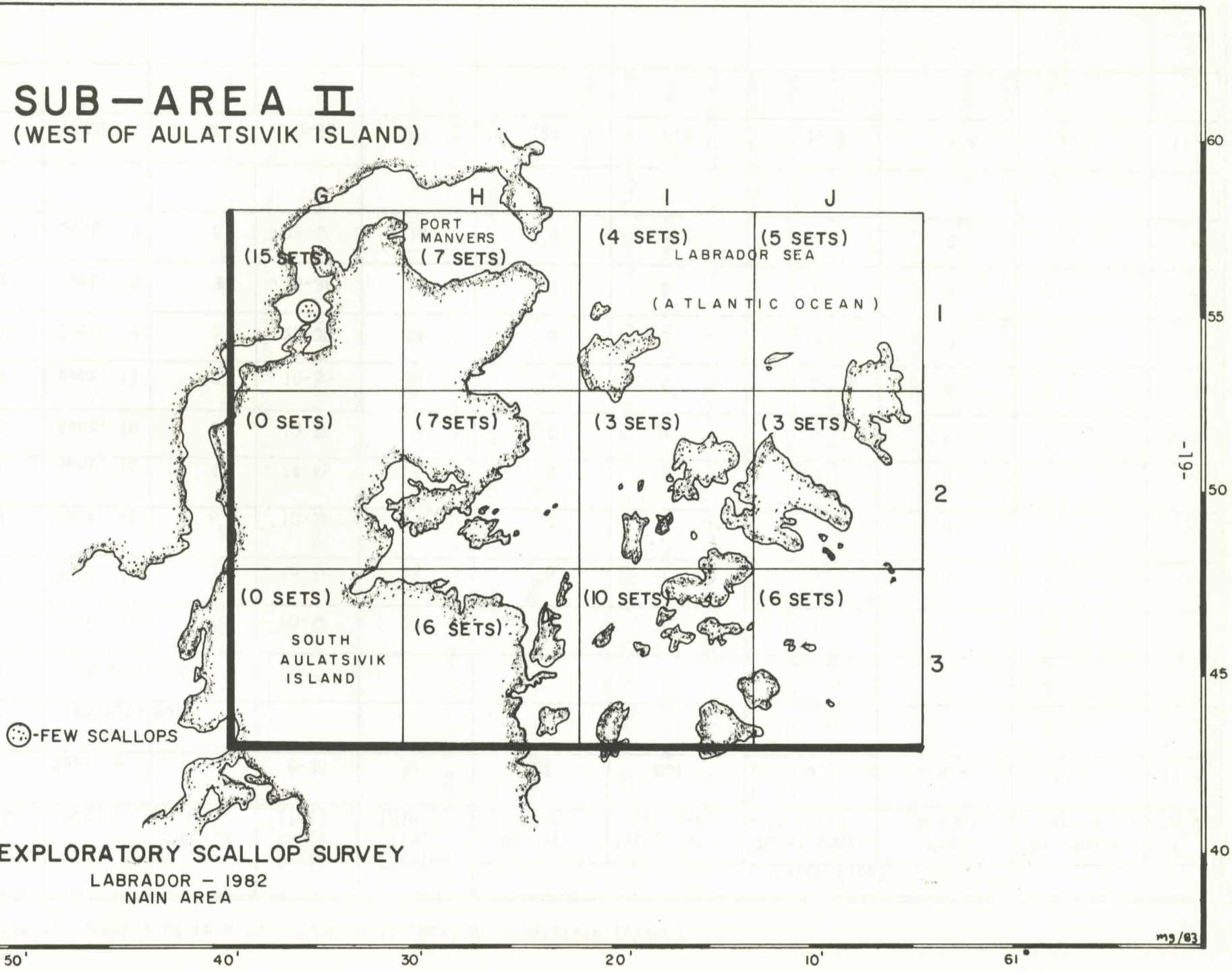

SUB – AREA II
(WEST OF AULATSIVIK ISLAND)
G
H
I
J
PORT MANVERS
(15 SETS)
(7 SETS)
(4 SETS)
(5 SETS)
LABRADOR SEA
(ATLANTIC OCEAN)
1
(0 SETS)
(7SETS)
(3 SETS)
(3 SETS)
2
(0 SETS)
(6 SETS)
(10 SETS)
(6 SETS)
SOUTH AULATSIVIK ISLAND
3
-FEW SCALLOPS
EXPLORATORY SCALLOP SURVEY
LABRADOR – 1982
NAIN AREA
60
55
50
45
40
50'
40'
30'
20'
10'
61°
mg/83

FIGURE 8

Table 4. Summary of results - subarea 11 (West of Aulatsivik Island).

Unit	Dates	No. of sets	Depth Range (fms)	Fishing Time (Mins)	Catch (lbs)					
					No. of Scallops	Averg. No. per set	Total Wght. in shell	Meat Weight	No. Meats per lb	% Yield
G1	Sept. 9	15	8-30	49	122	8.1	39.7	4.4	27.7	11.1
G2	No Sets	Made								
G3	No Sets	Made								
H1	Sept. 9	7	20-52	32	0	0	0	0	-	-
H2	Sept. 9, 10	7	20-48	35	0	0	0	0	-	-
H3	Sept. 10	6	10-38	29	0	0	0	0	-	-
I1	Sept. 10	4	24-56	9	0	0	0	0	-	-
I2	Sept. 10	3	10-38	6	0	0	0	0	-	-
I3	Sept. 11	10	10-56	24	0	0	0	0	-	-
J1	Sept. 9	5	20-38	24	0	0	0	0	-	-
J2	Sept. 8	3	16-36	13	0	0	0	0	-	-
J3	Sept. 8	6	16-50	30	0	0	0	0	-	-
	TOTAL	66	8-56	251	122	8.1	39.7	4.4	27.7	11.1

into 12 units of 25 sq miles each. This subarea is characterized by several large islands and many small islands, which made the area very rough for dragging.

This subarea was surveyed in 13 charter days between August 31 and October 10. A total of 285 sets were conducted in water ranging from 6-54 fath. A total of 17,203 scallop were taken, yielding 5,796 lbs of scallop in the shell or 397 lbs of scallop meats. Most of the scallops were taken from two scallop beds in unit G5. One of these beds, situated in Harmony Run, north of Hillsbury Island, produced 12,821 scallops in 80 tows. This yielded 4,583 lbs of scallops in the shell or 313 lbs of scallop meats. Best fishing on this bed was conducted in the 24 to 50 fath range.

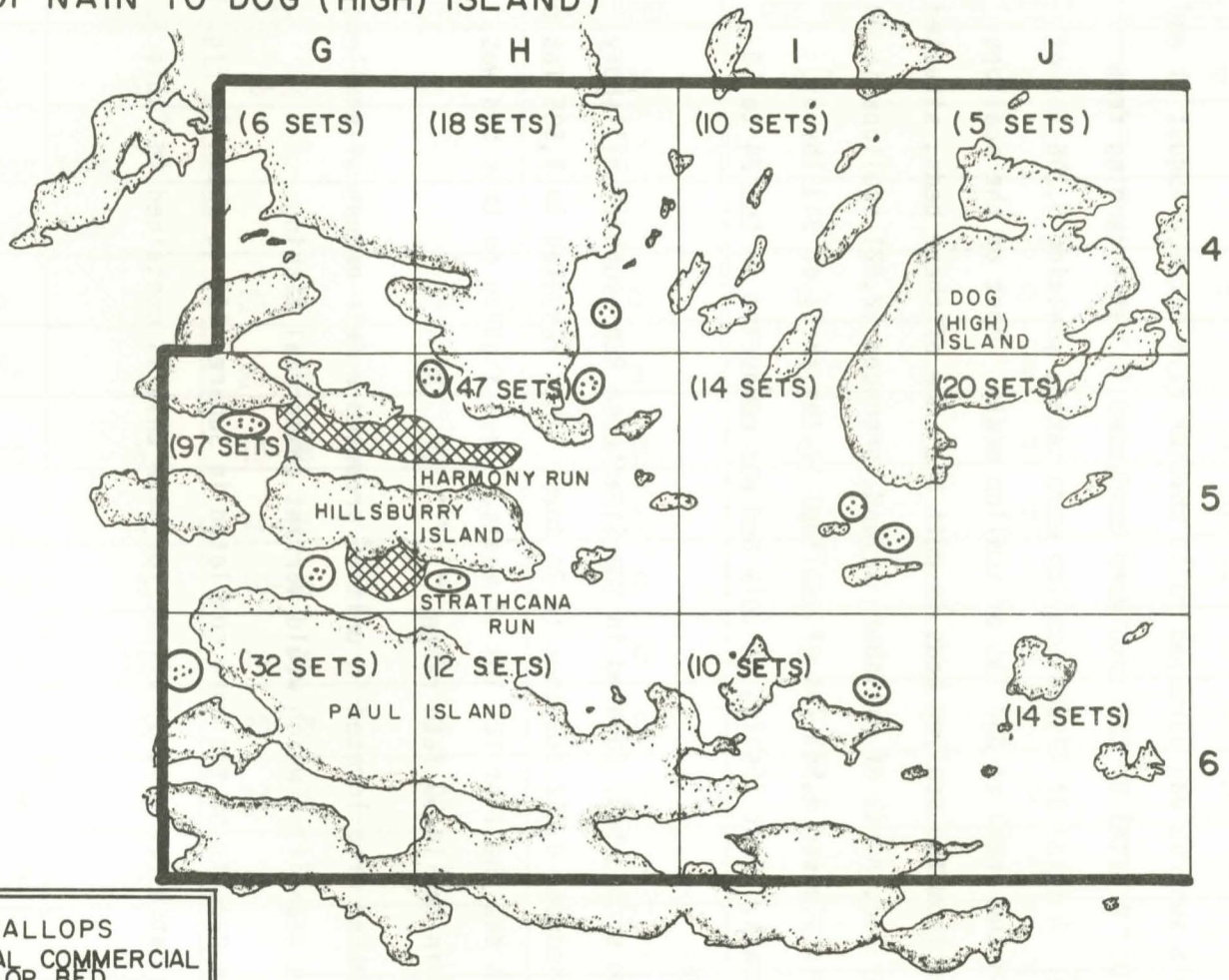
The second bed, located in the Strathcona Run south of Hillsbury Island, produced 4,862 scallops in 26 tows. This resulted in 1,505 lbs of scallop in the shell or 121 lbs of meats. Best fishing on this bed was conducted in the 14-50 fath range.

Another area located in unit G6 produced a fair amount of scallops but not in quantities which would warrant commercial fishing.

The results of the work completed in Subarea III is shown in Fig. 9, while the catch per unit of effort for each unit is contained in Table 5.

SUB - AREA III

(WEST OF NAIN TO DOG (HIGH) ISLAND)



EXPLORATORY SCALLOP SURVEY

LABRADOR - 1982
NAIN AREA

FIGURE 9

45 40 35 30 25

50' 40' 30' 20' 10' 61°

ms/83

Table 5. Summary of results - Subarea III (West of Nain to Dog (High) Island).

Unit	Dates	No. of sets	Depth Range (fms)	Fishing Time (mins)	Catch (lbs)					
					No. of Scallops	Averg. No. per set	Total Wght. in shell	Meat Weight	No. Meats per lb.	% Yield
G4	Sept. 18	6	6-22	27	128	21.3	45.0	2.4	53.5	5.3
G5	Sept. 10, 11,13,17, 18 Oct. 8, 10	97	7-54	364	12,723	131.2	4,172.4	284.5	44.7	6.8
G6	Aug. 31 Sept.8, 17	32	6-30	133	1,058	33.1	350.8	20.7	51.1	5.9
H4	Sept. 16	18	10-38	68	37	2.1	11.0	1.1	33.6	10.0
H5	Sept. 13, 16-18, 25	47	10-38	177	2,993	63.7	1,128.0	83.7	35.8	7.4
H6	Sept. 15, 25	12	16-48	38	0	0	0	0	-	-
I4	Sept. 14	10	17-47	45	9	<1	2.2	0.2	-	-
I5	Sept. 16	14	14-45	58	159	11.4	61.8	2.8	56.8	4.5
I6	Sept. 16	10	13-40	44	95	9.5	24.8	1.6	59.4	6.5
J4	Sept. 13	5	12-36	13	0	0	0	0	-	-
J5	Sept. 13, 14	20	10-54	60	1	<1	<1	<1	-	-
J6	Sept. 14, 15	14	12-40	41	0	0	0	0	-	-
	TOTAL	285	6-54	1,068	17,203	60.4	5,796.0	397.0	43.3	6.8

Subarea IV: South of Nain to Voisey Bay

Subarea IV was situated south of Nain and included Voisey Bay. Three-quarters of the area's 350 sq miles consists of land masses. The subarea was divided into 12 units of 25 sq miles each. The subarea is characterized by narrow runs and bays which are shallow along the edges but deeper in the centre.

The subarea was surveyed in 10 charter days between August 31 and October 9. Two hundred and seven sets produced 19,397 scallops, yielding 4,898 lbs of scallop in the shell or 423 lbs of scallop meats. Most of this was taken from one bed located in the Kauk Bluff Run at the mouth of Ten Mile Bay. This bed has been fished commercially during the past several years. The bed produced 16,245 scallops in 77 tows, yielding 4,067 lbs of scallop in the shell or 358 lbs of scallop meats. Best fishing in this area was found in the 16-21 fath range.

Another, smaller bed was located between units E7 and F7, West of Kikkertavik Island. This bed produced 3,061 scallops in 35 tows, for 830 lbs of scallop in the shell or 65 lbs of scallop meats. Best fishing on this bed occurred in the 20-25 fath range.

Fig. 10 depicts the results of the work in subarea IV, while Table 6 contains a breakdown of the effort and catch in each unit.

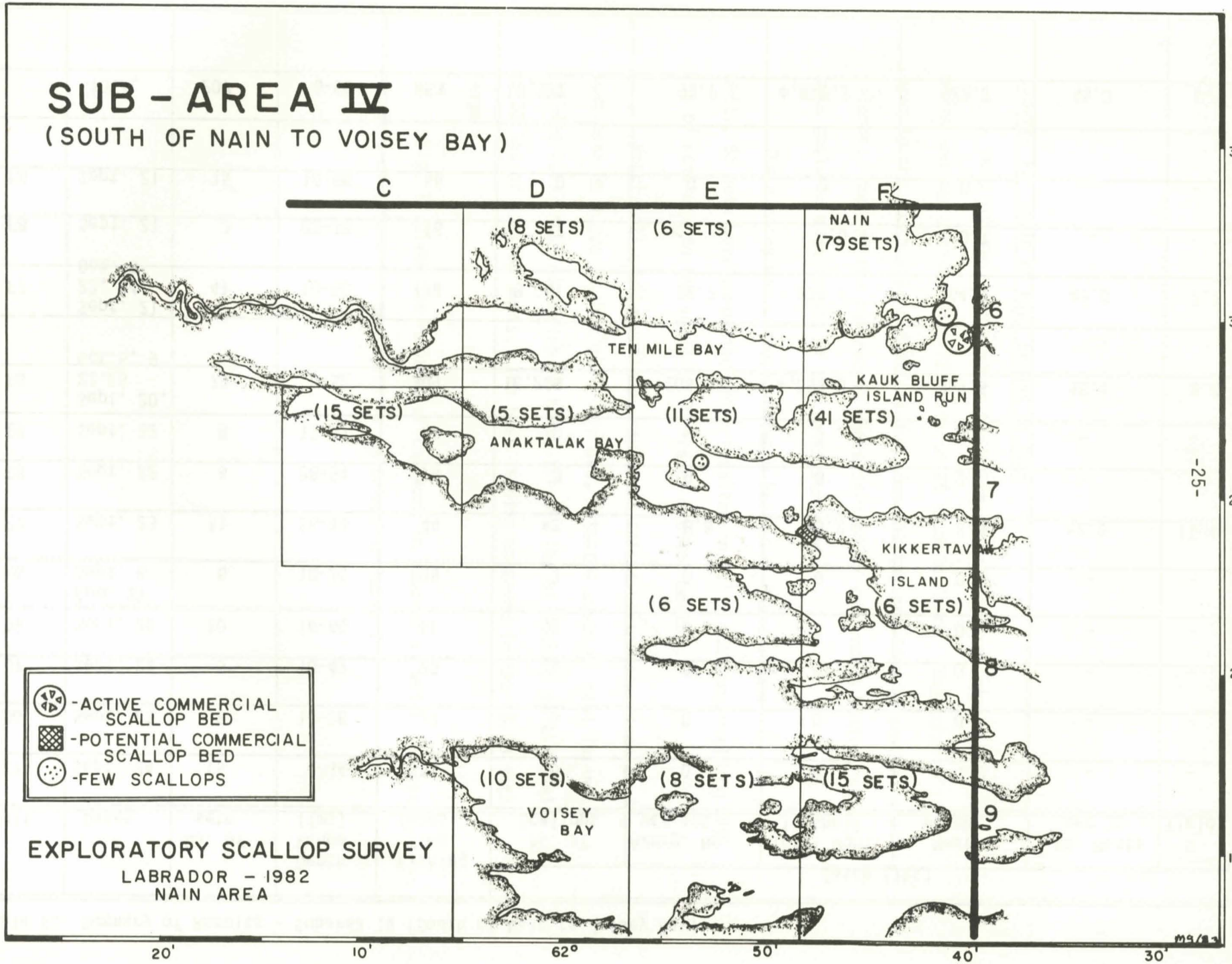

SUB - AREA IV
(SOUTH OF NAIN TO VOISEY BAY)
C
D
E
F
(8 SETS)
(6 SETS)
NAIN
(79 SETS)
TEN MILE BAY
KAUK BLUFF
ISLAND RUN
(15 SETS)
(5 SETS)
(11 SETS)
(41 SETS)
ANAKTALAK BAY
KIKKERTAV
ISLAND
(6 SETS)
(6 SETS)
(10 SETS)
(8 SETS)
(15 SETS)
VOISEY
BAY
6
7
8
9
-ACTIVE COMMERCIAL SCALLOP BED
-POTENTIAL COMMERCIAL SCALLOP BED
-FEW SCALLOPS
EXPLORATORY SCALLOP SURVEY
LABRADOR - 1982
NAIN AREA
35
30
25
20
15
20'
10'
62°
50'
40'
30'

FIGURE 10

Table 6. Summary of Results - Subarea IV (South of Nain to Voisey Bay).

Unit	Dates	No. of sets	Depth Range (fms)	Fishing Time (mins)	Catch (lbs)					
					No. of Scallops	Averg. No. per set	Total Wght. in shell	Meat Weight	No. Meats per lb	% Yield
C7	Sept. 24	15	4-34	71	0	0	0	0	-	-
D6	Sept. 23	8	16-38	39	0	0	0	0	-	-
D7	Sept. 23	5	10-49	20	0	0	0	0	-	-
D9	Sept. 20	10	10-60	41	0	0	0	0	-	-
E6	Aug. 31 Sept. 8	6	18-30	25	1	0	0	0	-	-
E7	Sept. 23	11	26-44	44	93	8.5	13.2	1.5	62.0	11.4
E8	Sept. 22	6	28-54	14	0	0	0	0	-	-
E9	Sept. 22	8	17-47	32	0	0	0	0	-	-
F6	Sept. 20, 23,25 Oct.5, 9	79	8-52	309	16,235	205.5	4,053.0	357.6	45.4	8.8
F7	Sept. 21 22, 24, Oct. 3	41	10-50	176	3,061	74.7	831.1	64.0	47.8	7.7
F8	Sept. 21	3	22-36	16	7	<1	1.0	0.1	-	-
F9	Sept. 21	15	16-56	66	0	0	0	0	-	-
	TOTAL	207	8-60	853	19,397	93.7	4,898.3	423.2	45.8	8.6

Subarea V: South of Paul Island to Zoar

This subarea, situated to the south of Paul Island, covered 350 sq miles and was divided into 12 units of 25 sq miles each. The subarea is open to the North Atlantic except for some shelter provided by several small islands. Much of the subarea is characterized by very rough bottom, so no sets could be made in six of the units surveyed.

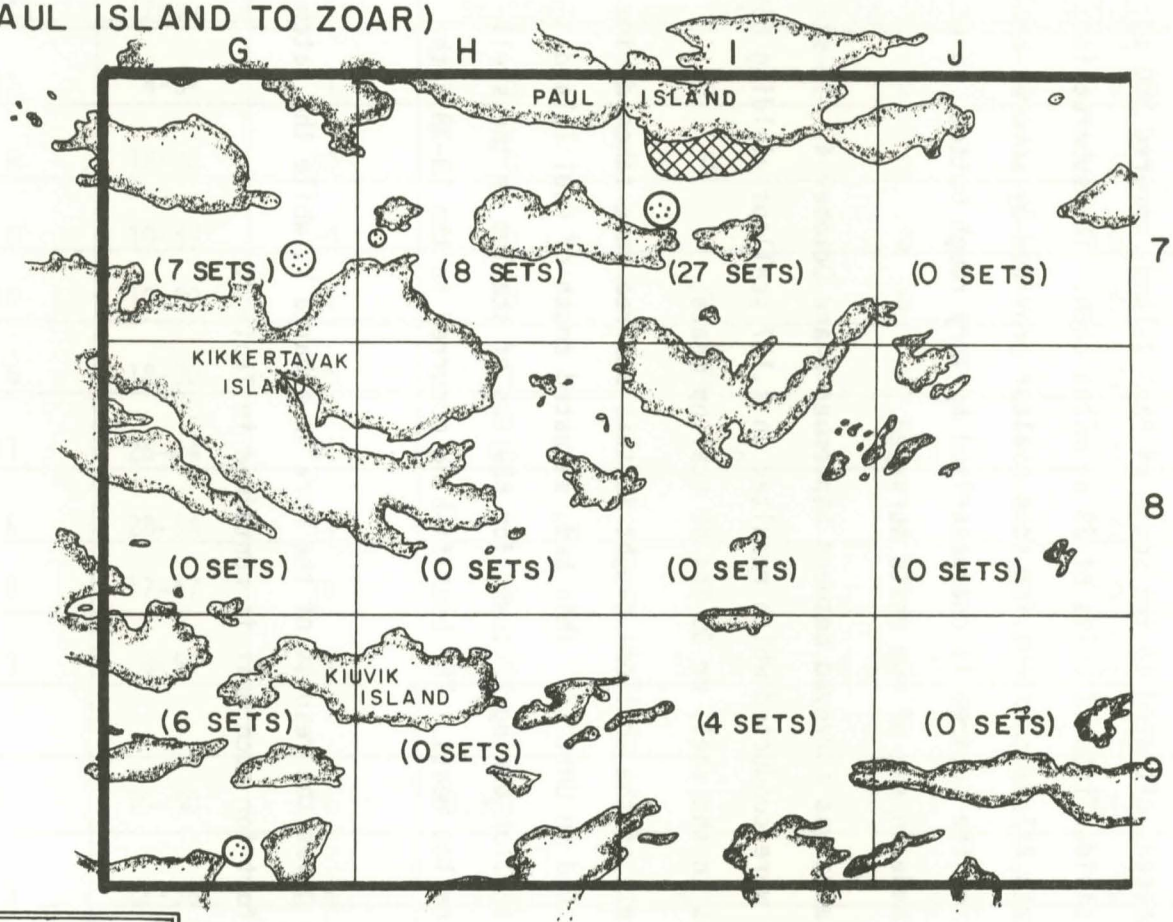
The subarea was surveyed between September 5 and October 4. In six units, 53 sets were conducted which resulted in 1,137 scallops yielding 659 lbs of scallops in the shell or 30 lbs of scallop meats.

Nearly all of the scallops caught in this subarea were taken during tows made on a bed in Unit I7. This bed, situated south of Paul Island, yielded 1,117 scallop during 20 tows, for 659 lbs of scallop in the shell or 30 lbs of scallop meats. The best fishing occurred in the 18-38 fath range.

Fig. 11 gives the results of the work in subarea V, while the catch per unit of effort for each unit is contained in Table 7.

SUB - AREA V

(SOUTH OF PAUL ISLAND TO ZOAR)



-POTENTIAL COMMERCIAL SCALLOP BED

-FEW SCALLOPS

EXPLORATORY SCALLOP SURVEY

LABRADOR - 1982

NAIN AREA

mg/83

FIGURE 11

Table 7. Summary of results - subarea V (South of Paul Island to Zoar).

Unit	Dates	No. of sets	Depth Range (fms)	Fishing Time (mins)	Catch (lbs)					
					No. of scallops	Averg. No. per set	Total Wght. in shell	Meat Weight	No. meats per lb	% Yield
G7	Sept. 25, 27	7	11-48	25	16	2.3	2.0	0.3	53.3	15
G8	No Sets Made.									
G9	Sept. 5, 6	6	8-54	29	4	<1	<1	<1	-	-
H7	Sept. 27	8	18-44	25	0	0	0	0	-	-
H8	No Sets Made.									
H9	No Sets Made.									
I7	Sept. 27 Oct. 2	28	13-54	130	2,117	75.6	656.7	29.2	72.5	4.4
I8	No Sets Made.									
I9	Oct. 4	4	12-55	20	0	0	0	0	-	-
J7	No Sets Made.									
J8	No Sets Made.									
J9	No Sets Made.									
	TOTAL	53	8-55	229	2,137	40.3	658.7	29.2	72.5	4.5

SUMMARY

The amount of time spent in each of the five subareas was independent of the total size of the survey area. It was determined by the depth of water, type of sea floor, and the presence of scallops. Thus, each subarea was surveyed by a different number of sets.

The survey was generally limited to water depths less than 50 fath. However, a few sets were made in deeper water. The depth of water and a rough seabed were major constraints in most of the subareas.

Although some scallops were found throughout most of the survey area, most were found in seven beds distributed close to the shoreline and in narrow runs. All the potentially commercial scallop beds were located on similar type bottom which consisted primarily of gravel and mud mixed with small rocks and shells. Fig. 10 shows an overall view of the scallop beds which were surveyed during the charter period. The beds surveyed produced an average of 87 to 211 scallops per set. These scallops ranged from 40-70 to the pound with a yield of between 4.5 and 8.8 percent.

Most of the Iceland scallops in the Nain area have heavy seaweed and barnacle growth. This growth varied from bed to bed, but the Kauk Bluff Island bed had the least growth, and seemed to produce better yields. It appears that as each of the beds are fished, their yields will increase, as was observed in the Kauk Bluff Island bed.

The catch rate given in this report should not be used to determine the economics of scallop fishing operations in the area surveyed. The fishing vessels used were involved in the survey and therefore could not

concentrate fishing effort in the most productive fishing areas. Catch rates are not representative of what could be expected on a vessel fishing commercially.

Samples of scallops and shells from each bed were collected and forwarded to the Fisheries Research Branch of the Department of Fisheries and Oceans for further analysis.