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The 1986 4T Herring Gillnet Questionnaire

by

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INTRODUCTION

Intensive surveys of southern Gulf herring gillnetters from the three Maritime provinces were carried out in 1979 and 1982 (O'Boyle and Cleary 1981, Cleary MS 1983). A major objective of these surveys was to gather information on gears used, effort expended, use of the catch, and some characteristics of the herring population in the 4T fishery. A less intensive survey was conducted in 1983 to gather information on mesh size distribution (Ahrens and Nielsen MS 1984). In 1985, the Gulf Region conducted a survey to collect data from a representative sample of all herring gillnetters in the southern Gulf of St. Lawrence (Nielsen MS 1986). This paper reports results of a similar survey carried out in 1986. The objectives of these surveys were:

1. To determine the distribution and intensity of fishing effort.
2. To determine the sizes and distribution of mesh used.
3. To measure the percentage of herring catch accounted for by purchase slips.

METHODS

Sample selection

The southern Gulf of St. Lawrence coastline was divided into 7 fishing areas (Table 1, Figure 1) and samples of gillnetters were chosen from each one to ensure complete areal coverage of all gillnetters. In 1986, the Magdalen Islands were not included in the survey because of their low herring landings in recent years.

To choose an unbiased representative sample of all gillnetters fishing for herring in the southern Gulf, we obtained a list of all licenced herring gillnetters in the Gulf portion of the three Maritime provinces and Quebec. Since many people hold herring licences but do not fish herring (Table 2), we identified active gillnetters in the Maritime Provinces by obtaining a list of Canadian Fishing Vessel Numbers (CFVN's) of all boats for which herring purchase slips had been submitted. This list, which was sorted by home port, was used to choose a random sample of 455 gillnetters. The sample size in each area was chosen proportional to the number of active gillnetters in the area. The CFV numbers were cross-referenced with the list of licenced gillnetters to obtain the telephone numbers and addresses of the selected sample. Because a purchase slip file was unavailable for Quebec, we chose a random sample from the list of licenced gillnetters.

The interviews were conducted by telephone in the official language of the gillnetters' choice, during December 1986 and January 1987. Each respondent in the Maritime provinces was given up to three telephone calls to be contacted. Quebec respondents were contacted only once due to time constraints.

The questionnaire

The interview was divided into four sections (detailed in Appendix A):

1. The first set of questions "located" the respondents in the fishery. The status of the respondents was verified - that they were active herring gillnetters in 1986; the number of nets owned was asked (to prevent confusion over how many were used as opposed to owned); and the seasons fished were recorded.

2. The second set of questions dealt with fishing effort. For each season fished respondents were asked:
   - their fishing location
   - the total number of days fished and the number of days fished in the peak
   - the number of nets used during the peak as well as during the rest of the season
   - the number of times a day the nets were hauled.

3. For each season fished, the mesh sizes and numbers of nets for each mesh size used were determined .

4. For each season fished, the catch and percent of the catch that was kept for bait, dumped, or sold to processors were recorded.

RESULTS AND DISCUSSION

In total, 342 herring gillnetters were interviewed. The area-by-area breakdown of the responses (Tables 3 and 4) shows that all areas and both seasons were well covered. As in 1985, it was evident that the areal division of the southern Gulf by address of gillnetter reflected the areal division by location fished. Two gillnetters from western P.E.I. fished in southeastern N.B. in the fall, otherwise gillnetters fished near their homeport.

Effort Index Parameters

The responses to the questions concerning the intensity of effort show large differences among areas and seasons (Tables 5 and 6). Comparisons of the fishing effort for 1984-1986 (updating the results of the 1985 survey) are shown in Figures 2 to 5. Since 1984 the number of nets fished per respondent in the spring fishery has increased in two areas (Escuminac and south east New Brunswick), and decreased in two (Quebec and west P.E.I.). In the fall fishery, the number of nets fished per respondent has decreased in Nova Scotia and all of P.E.I. since 1984. Escuminac and south east New Brunswick continue to use the greatest number of nets per respondent; the Acadian Peninsula and Nova Scotia in general use the fewest.

The number of days fished per respondent, both during the peak and during the non-peak of the season, has generally decreased in the spring fishery except in south east N.B. and west P.E.I. The number of days fished in the peak of the fishery in the fall has generally decreased, but the number of days in the non-peak has not shown a trend since 1984.

Three indices of effort for each area-season combination were calculated and compared to those from the 1985 survey:

1. The average number of net-hauls per gillnetter (NHF).
2. The average number of net-hauls per trip (NHT).
3. The total number of net-hauls in each fishing area (NNH).

$$1.\quad NHF_i = \frac{1}{n_i} \sum_j (dp_j * np_j + dnp_j * nnp_j) * h_j$$

where n_i = number of responses in area-season i
dp_j = number of days in the peak for resp. j in area-season i
np_j = number of nets in the peak for resp. j in area-season i
dnp_j = number of days in the non-peak for resp. j in area-season i
nnp_j = number of nets in the non-peak for resp. j in area-season i
h_j = number of hauls/day for resp. j in area-season i

$$2.\quad NHT_i = \frac{1}{n_i} \sum_j \frac{(dp_j * np_j + dnp_j * nnp_j) * h_j}{(dp_j + dnp_j)}$$

$$3.\quad NNH_i = NHF_i * N_i$$

where N_i = number of responses in area-season i times the sampling proportion adjusted for the null responses (Tables 2,3, and 4)

Overall indices for 4T were calculated by weighting the area averages by the landed catch (Table 2). They are shown in Figures 6 and 7.

In the spring fishery, the three indices are consistent for the Acadian Peninsula, south east N.B., Nova Scotia, and west P.E.I. for the three year period. In Quebec, Escuminac, and east P.E.I., the indices do not show similar trends within areas. The number of net-hauls/gillnetter, and the number of net-hauls/trip, however, show the same trends by area everywhere except Escuminac. When the area indices are weighted by landings to produce an overall Gulf index, the results for the spring fishery do not show a clear trend (Quebec is not included in the overall Gulf index).

In the fall fishery, east and west P.E.I. are the only areas with internal consistency for the three effort indices. But again, the

number of net-hauls/gillnetter and the number of net-hauls/trip generally show the same trends by area. The overall Gulf indices do not show a clear trend.

The historic effort index used in the assessment of 4T herring stocks is the average number of nets fished per trip, assuming one haul of the nets per trip and one trip per day. The overall spring Gulf averages were determined by weighting the Acadian Peninsula and a combination of the Escuminac, southeastern New Brunswick, and partial western P.E.I. averages by the landings in those areas (O'Boyle and Cleary 1981, Chadwick and Nielsen 1986). The overall fall averages were set equal to the Acadian Peninsula averages. The historic abundance index shown in Figure 8 shows no change in either the spring or the fall since 1984.

Gillnet Mesh Size Distribution

Table 7 summarizes the mesh size composition of the fisheries for 1985 and 1986. Most nets used in the spring are between 2.25 and 2.5 inch mesh, with perhaps a higher percentage of 2.63 and 2.75 in 1986. There is a large number of mesh sizes used in the spring fishery. In the fall, fewer mesh sizes are used, and they are generally larger than in the spring, with most of the nets being between 2.5 and 2.75 inch mesh. The mesh size distribution for both the spring and the fall fisheries appears to be slightly more dispersed in 1986 than in 1985.

Use Of The Catch

Questions about the percent of the catch kept for personal use, sold to processors, or dumped, reveal significant differences from 1985. In the spring, a higher proportion of the catch in the New Brunswick fishing areas was sold to processors. In the fall, much more of the catch in all areas was sold, and the high "kept" percentages in Escuminac and west P.E.I. decreased from 1985 to 1986 (Table 8).

Concluding remarks

The questionnaire elicits detailed information about peak and non-peak gillnet fishing activity, allowing a detailed calculation of fishing effort based on the number of nets or net-hauls. The calculation is, however, incompatible with the historical index based on the average number of nets per trip. Further information, such as a break-down of gillnet types (drift nets, set nets, modified drift nets), soak time for nets, and accurate information about the number of gillnetters fishing in each location may be desirable to include in effort calculations. Use of effort indices does not currently take into consideration such factors as restrictions on fishing activity imposed by processors, area quotas, or differences in the fisheries (fishing on spawning grounds or migrating stocks).

ACKNOWLEDGEMENTS

Many people deserve thanks for their participation in and contribution to this survey. Statistics Canada helped with the design of the questionnaire and development of the survey methodology. Therese Dowd interviewed the gillnetters. Quebec staff gave their full co-operation. Martina Poirier entered and validated the data. David Cairns offered helpful suggestions for the report. Special thanks are due to all the gillnetters who took the time to participate in the survey.

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Table 1. Statistical Districts making up the geographic divisions for the 7 fishing areas of the southern Gulf of St. Lawrence.

AREA	Statistical Districts
Quebec	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
Acadian Pen.	63, 64, 65, 66, 67, 68, 70
Escuminac	71, 73, 75, 76
Southeast N.B.	77, 78, 80
Nova Scotia	45, 46, 1, 2, 3, 10, 11, 12, 13, 14
East P.E.I.	85, 86, 87, 88
West P.E.I.	82, 83, 92, 93, 95, 96

Table 2. Herring gillnet statistics for the southern Gulf of St. Lawrence in 1986.

AREA	Landings (Tonnes)		Number of Licences	Number of Boats (CFVN's)
	Spring	Fall		
Quebec	328	2112	1224	-
Acadian Pen.	1093	23909	623	301
Escuminac	2872	98	331	158
Southeast N.B.	1964	16	264	112
Nova Scotia	128	5560	436	116
East P.E.I.	187	6637	383	86
West P.E.I.	558	1452	484	114
TOTAL	7130	39789	3745	887

Table 3. Response to the questionnaire by major herring fishing areas.

Area	Number Sampled	Number of Reports	Number of Phone, Address Problems	Number not Contacted	Number Unco-operative	Number not Fishing
Quebec	51	21	6	16	1	7
Acadian Pen.	129	111	15	1	1	1
Escuminac	67	57	8	1	1	0
Southeast N.B.	49	33	9	4	2	1
Nova Scotia	51	38	9	1	2	1
East P.E.I.	37	28	4	4	0	1
West P.E.I.	71	54	5	9	1	2
Total	455	342	56	36	8	13

Table 4. Number of respondents fishing in each area in 1986.

Area	Fishing in the Spring	Fishing in the Fall
Quebec	14	14
Acadian Pen.	72	90
Escuminac	58	4
Southeast N.B.	33	1
Nova Scotia	18	38
East P.E.I.	5	27
West P.E.I.	53	14
Total	253	188

Table 5. Effort parameters for the 1986 spring gillnet fishery (±S.D.)

AREA	No. of Days Fished		No. of Nets Fished		No. of Hauls per Day
	peak	non-peak	peak	non-peak	
Quebec	1.7±4.0	22.2±13.6	5.0±2.8	4.1±2.8	1.0±0.0
Acadian Pen.	6.2±5.8	16.8±12.1	5.7±5.0	7.6±6.9	1.2±3.0
Escuminac	4.2±4.3	8.9±6.7	23.8±9.4	28.2±11.3	1.1±0.3
Southeast N.B.	3.5±4.3	16.3±8.7	30.3±5.9	31.7±3.39	1.0±0.0
Nova Scotia	2.7±5.8	18.8±13.6	2.5±1.4	2.9±0.8	1.0±0.0
East P.E.I.	0.0±0.0	24.0±7.9	0.0±0.0	9.6±11.5	1.0±0.0
West P.E.I.	3.6±5.0	24.6±14.4	22.9±14.7	24.8±17.3	1.0±0.0

Table 6. Effort parameters for the 1986 fall gillnet fishery (±S.D.)

AREA	No. of Days Fished		No. of Nets Fished		No. of Hauls per Day
	peak	non-peak	peak	non-peak	
Quebec	1.7±4.0	29.6±19.6	8.5±2.1	5.5±5.1	1.0±0.0
Acadian Pen.	8.3±7.1	7.8±7.9	4.9±3.7	5.4±3.4	1.7±1.1
Escuminac	3.0±3.6	5.5±7.1	12.0±4.3	10.5±3.9	1.0±0.0
Southeast N.B.	0.0±0.0	30.0±0.0	0.0±0.0	35.0±0.0	1.0±0.0
Nova Scotia	4.0±4.4	8.7±6.3	5.5±2.2	7.4±2.5	1.3±0.8
East P.E.I.	8.4±6.7	13.6±7.8	7.4±1.7	9.6±5.0	1.0±0.2
West P.E.I.	3.8±5.9	23.4±16.6	5.6±4.2	7.8±4.4	1.0±0.0

Table 7: **Percentage of each mesh size used in the 4T herring gillnet fishery**

1985 SPRING

Area	<=2"	2 1/8	2 3/16	2 1/4	2 5/16	2 3/8	2 1/2	2 5/8	2 3/4	2 7/8	>=3"
Que	7.8	5.8		48.9		6.0	9.5	11.0	6.3	1.0	3.5
A Pen	3.3			14.7		40.6	26.5	13.7	1.2		
Esc		0.6		72.1		17.5	9.8				
SeNB				89.3		6.9	3.7				
NS	2.6			5.1		21.7	48.0	22.6			
E PEI				15.2		46.2	21.7	7.1	4.9	3.9	
W PEI	0.3			55.2	4.2	23.4	10.1	1.1	4.0	1.0	

1986 SPRING

Area	<=2"	2 1/8	2 3/16	2 1/4	2 5/16	2 3/8	2 1/2	2 5/8	2 3/4	2 7/8	>=3"
Que		4.0		25.0		2.6	21.0	36.8	9.2		1.3
A Pen				10.0	1.8	33.8	37.0	12.0	2.7	2.7	
Esc	3.0	0.8	3.3	77.8	4.9	5.7	3.6	2.3	2.0		
SeNB		1.0		85.8		7.0			3.0		
NS				10.0		28.0	32.0	30.0			
E PEI				66.7		4.2	4.2	16.7		8.3	
W PEI	5.9	6.2	2.7	50.2	4.2	17.5		3.9	1.2	8.2	0.2

1985 FALL

Area	<=2"	2 1/8	2 3/16	2 1/4	2 5/16	2 3/8	2 1/2	2 5/8	2 3/4	2 7/8	>=3"
Que	10.4	6.0		0.5		5.1	18.8	18.5	27.3	5.1	8.1
A Pen							1.0	79.7	16.6	2.5	0.3
Esc									100.0		
SeNB											
NS						2.5	3.7	93.8			
E PEI								98.6	1.4		
W PEI				3.3	0.9	3.7	2.7	40.1	30.1	19.2	

1986 FALL

Area	<=2"	2 1/8	2 3/16	2 1/4	2 5/16	2 3/8	2 1/2	2 5/8	2 3/4	2 7/8	>=3"
Que				3.6		3.6	27.3	65.5			
A Pen	0.4					1.0		73.4	13.7	8.2	3.3
Esc								85.7	7.1	7.1	
SeNB											
NS						3.6	8.9	83.5	3.2	0.8	
E PEI	13.2						1.9	85.1			
W PEI						4.0	43.0	40.0		13.0	

Table 8. Percentage use of the 1985 and 1986 herring gillnet catch.

Spring

Area	1985 Kept	1985 Dumped	1985 Sold to processors	1986 Kept	1986 Dumped	1986 Sold to processors
Quebec	41.6	6.6	51.7	30.6	0.9	68.4
Acadian Pen.	77.6	0.0	21.2	45.7	6.7	47.3
Escuminac	25.3	6.9	53.1	4.8	20.9	74.7
Southeast N.B.	20.7	6.1	68.2	5.4	4.5	86.1
Nova Scotia	94.0	0.5	2.5	83.9	0.0	16.1
East P.E.I.	100.0	0.0	0.2	100.0	0.0	0.0
West P.E.I.	60.8	10.5	26.6	57.3	3.8	38.9

Fall

Area	1985 Kept	1985 Dumped	1985 Sold to processors	1986 Kept	1986 Dumped	1986 Sold to processors
Quebec	19.0	13.3	67.7	19.5	4.8	76.0
Acadian Pen.	0.0	0.1	99.9	3.1	0.6	87.7
Escuminac	0.4	0.0	99.6	100.0	0.0	0.0
Southeast N.B.	0.0	0.0	100.0			
Nova Scotia	0.5	1.2	98.2	0.0	0.0	100.0
East P.E.I.	0.3	0.2	99.5	0.1	0.0	99.0
West P.E.I.	6.9	5.3	87.9	67.6	6.1	26.3

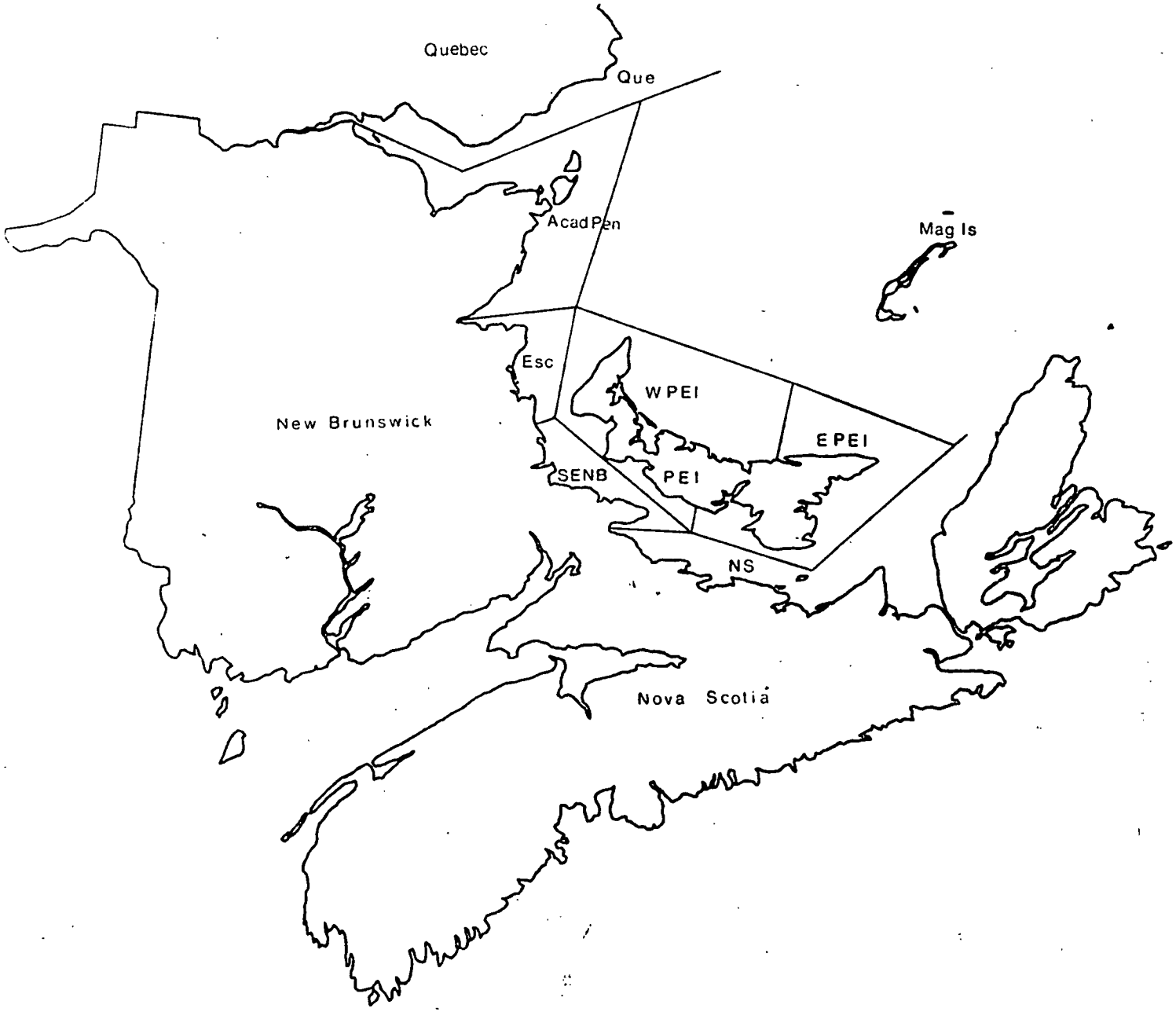

Figure 1. Geographic division of the southern Gulf of St. Lawrence used in the 1986 herring gillnet survey.

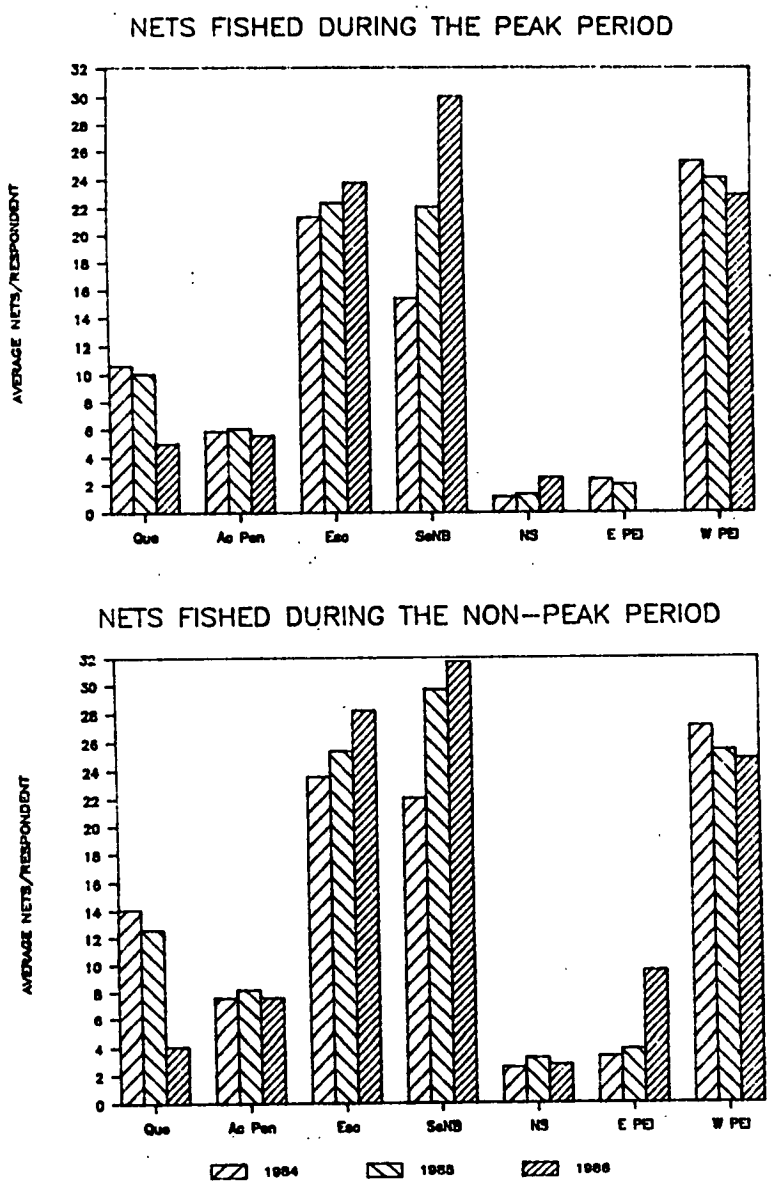

Figure 2. Average Number of Nets Fished in the 4T Spring Gillnet Fishery

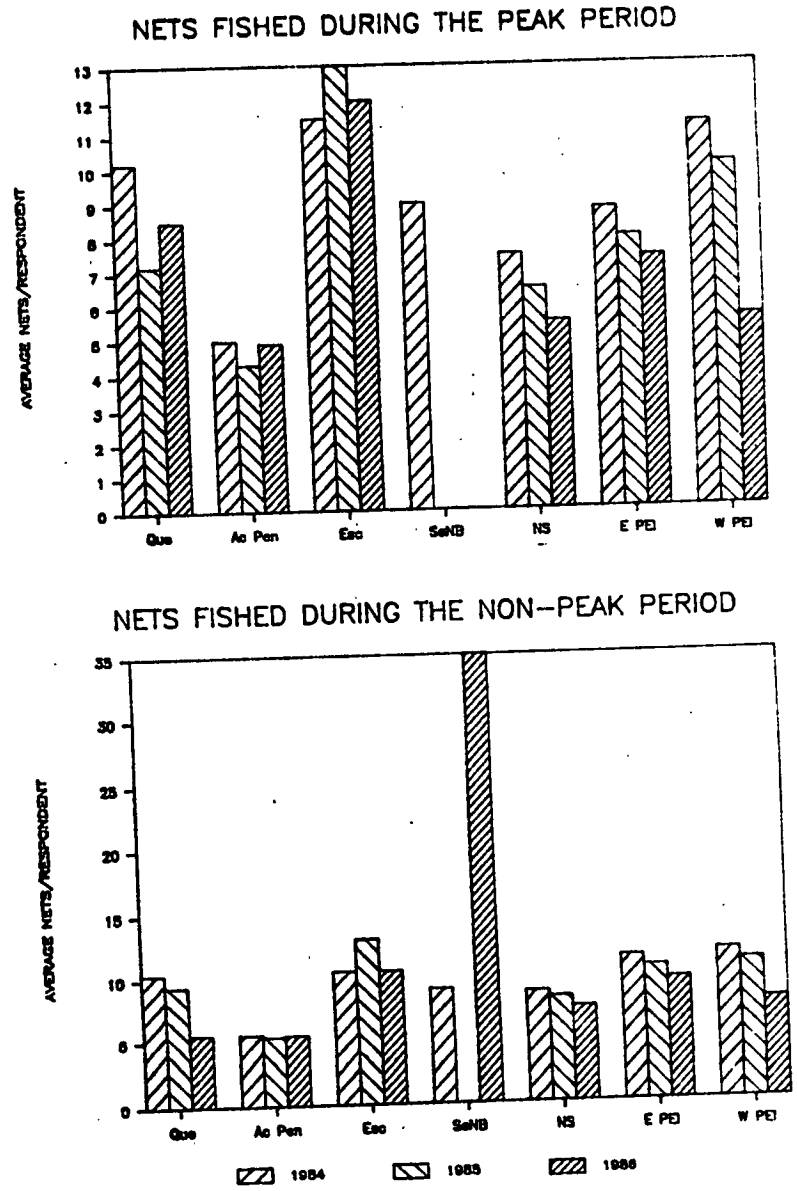

Figure 3. Average Number of Nets Fished in the 4T Fall Gillnet Fishery

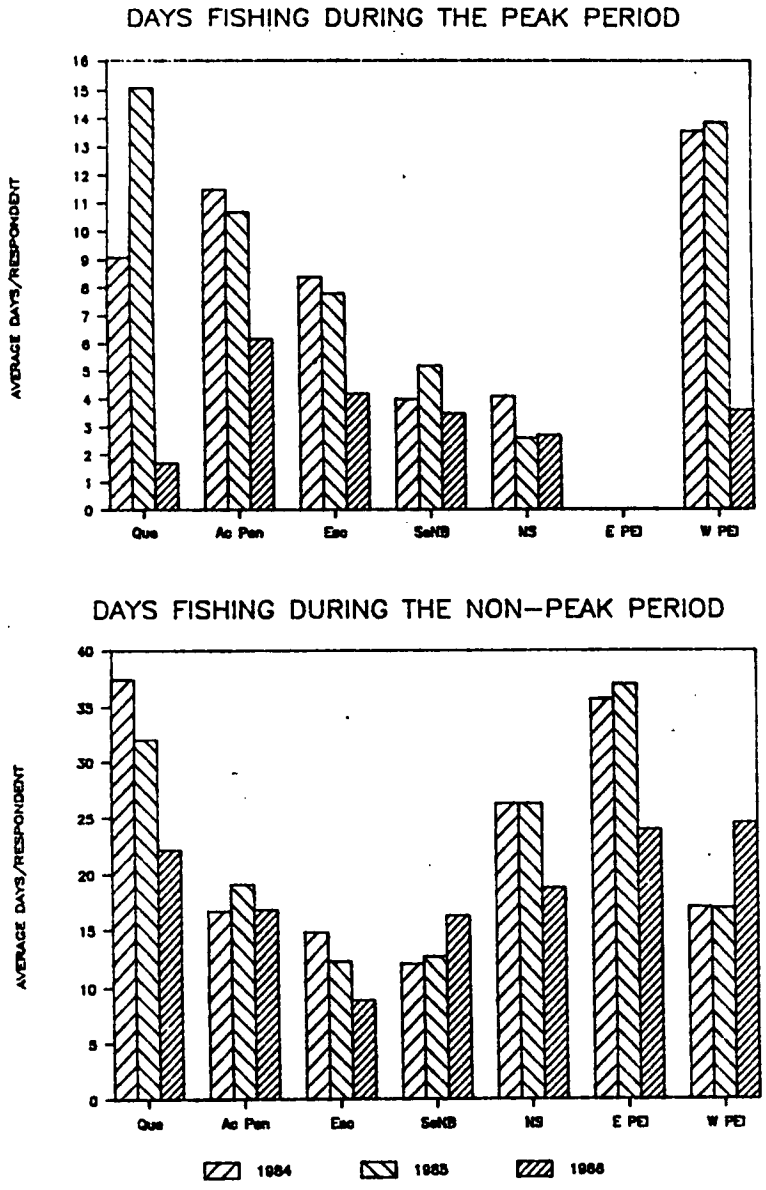

Figure 4. Average Number of Days Fished in the 4T Spring Gillnet Fishery

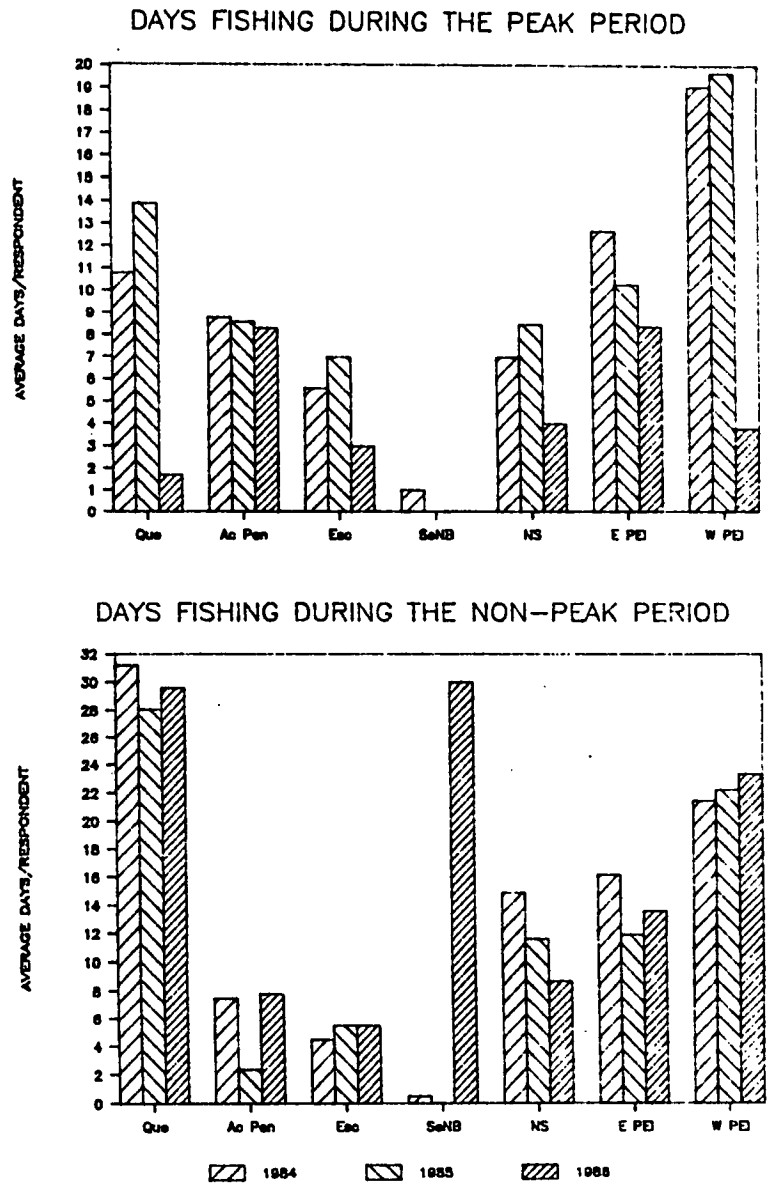

Figure 5. Average Number of Days Fished in the 4T Fall Gillnet Fishery

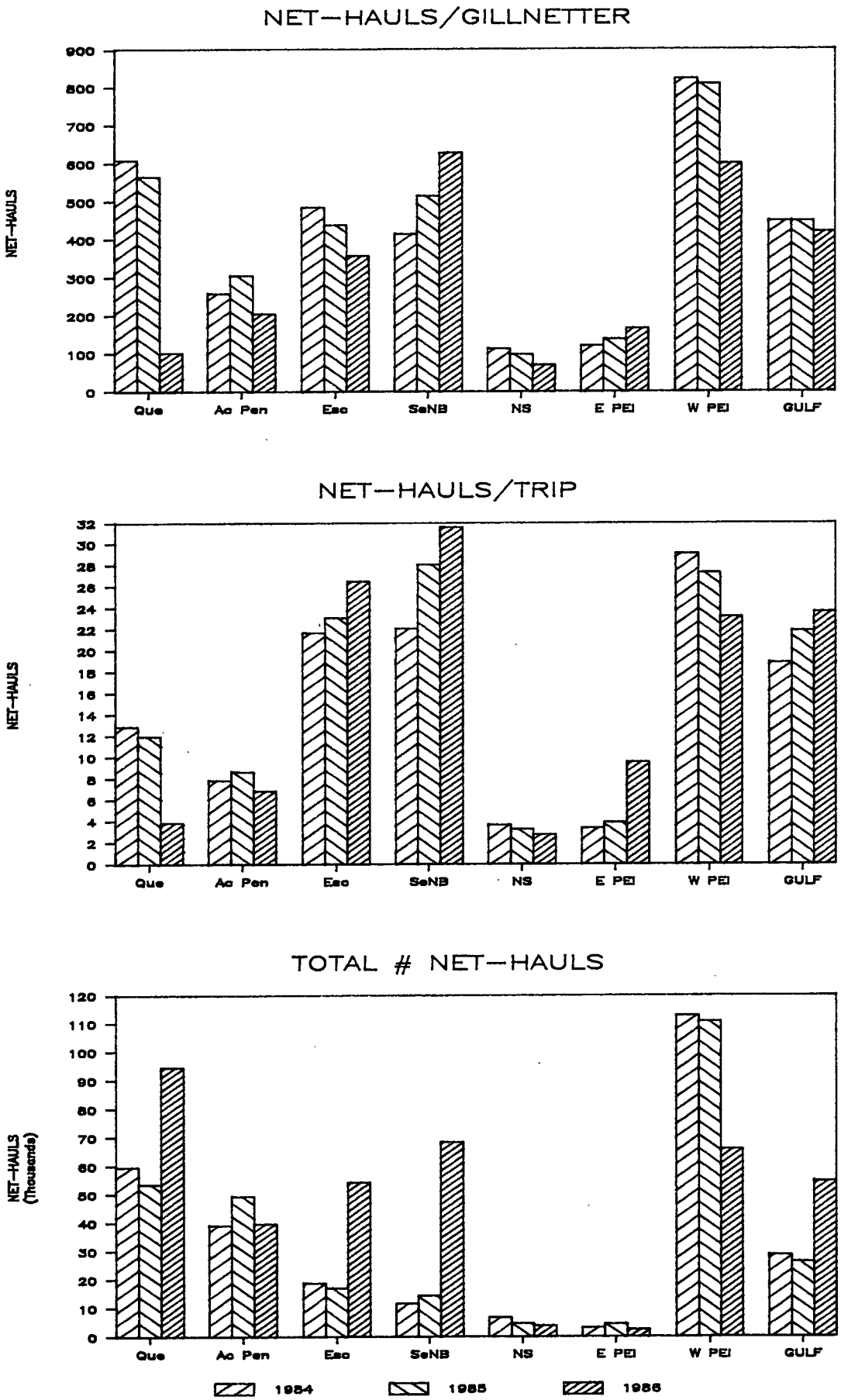

Figure 6. Derived effort indices for the 4T spring gillnet fishery

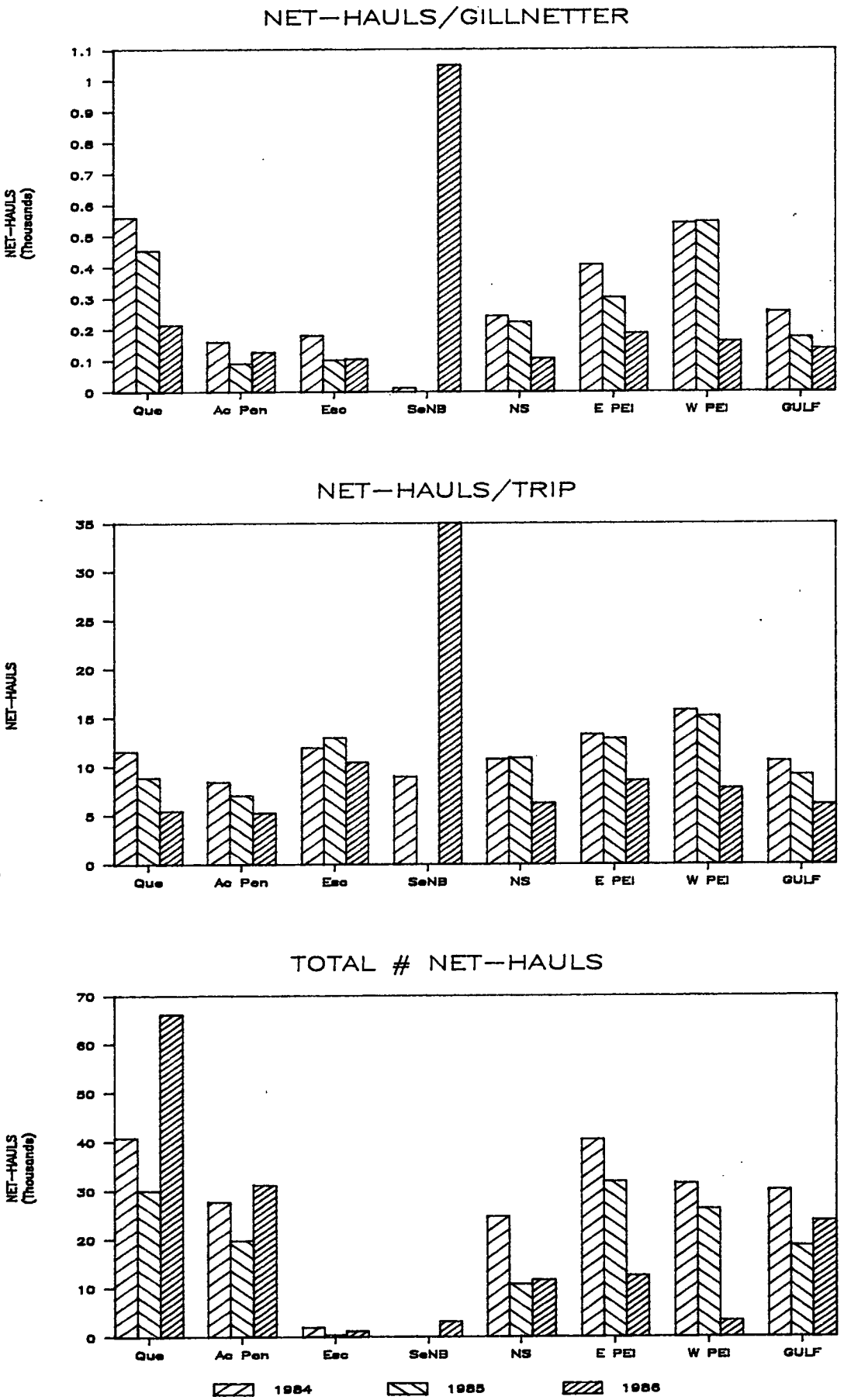

Figure 7. Derived effort indices for the 4T fall gillnet fishery

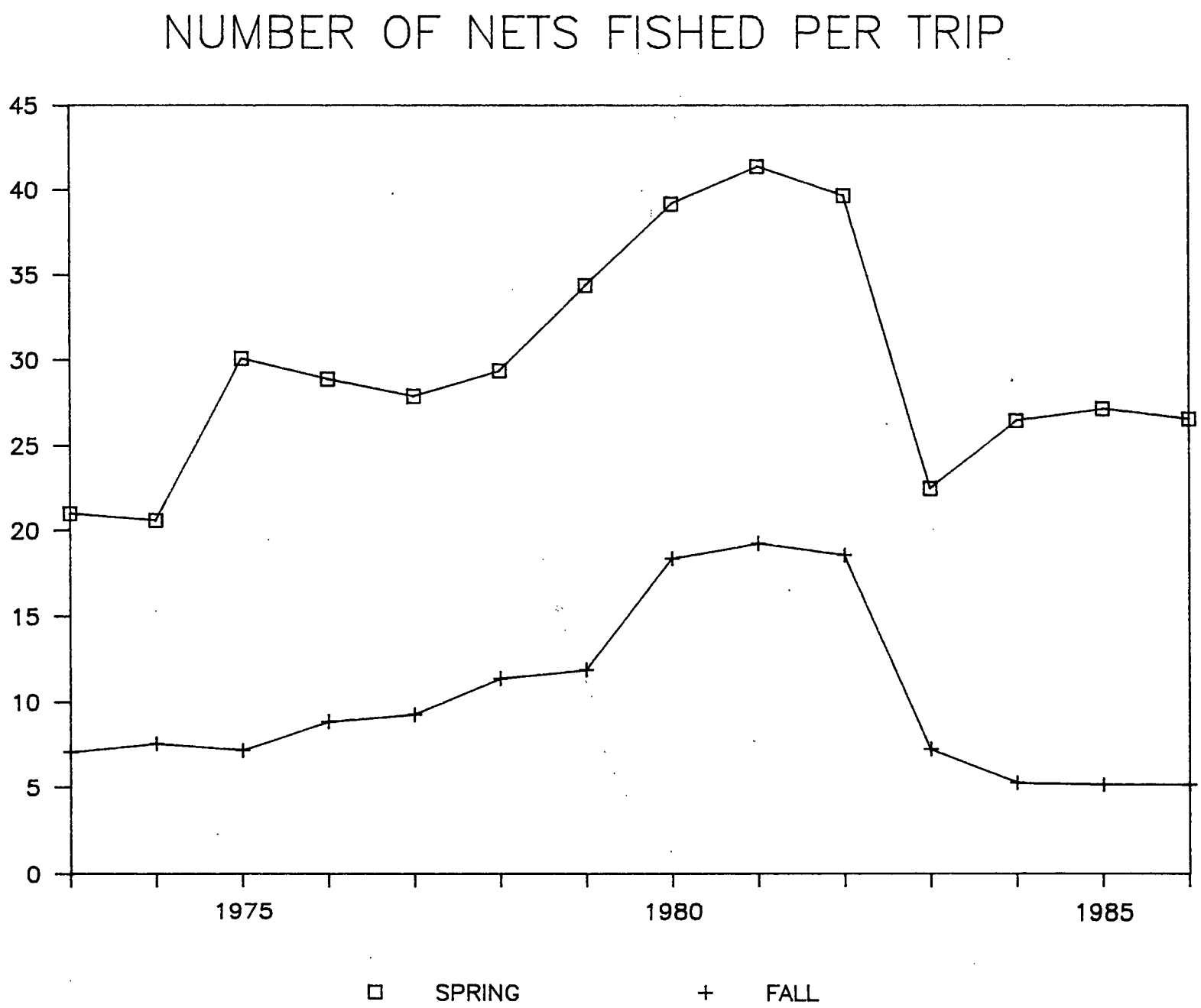

Figure 8. 4T herring historical effort index

HERRING GILLNET QUESTIONNAIRE 1986

Interviewer _____ Home Stat Dist_____
Respondent #_____ Resp I.D. _____
Date _____ Record # 1

1.Did you fish herring with gillnets in 1986? YES____
NO ____

2.How many gillnets do you own? _____

3.When did you fish herring in 1986? SPRING ____
FALL ____

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(IF FISHING IN THE SPRING:)	(location 1)	(location 2)
4.Where did you fish herring in the spring?	_____	_____
(Stat Dist)	_____	_____
5.How many days did you fish in (each location)?	_____	_____
6.Would you say there was a 'peak' in the season (ie.a time when the catches were really good)?	YES___ NO ___	YES___ NO ___

==========

IF A 'PEAK' WAS IDENTIFIED:

7.About how many days did you fish during the peak?	_____	_____
8.How many nets did you fish per day during the peak?	_____	_____
9.How many nets did you fish per day in the non-peak?	_____	_____

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IF A 'PEAK' WAS NOT IDENTIFIED:

10.How many nets did you fish per day?	_____	_____

==========

11.How many times each day did you empty your nets?	_____	_____

12.What are the numbers and sizes of nets that you used in the spring?

mesh (in)	# nets	length (fathom)	depth (mesh)	mesh (in)	# nets	length (fathom)	depth (mesh)
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
3	_____	_____	_____	3	_____	_____	_____
other _____	_____	_____	_____	____	_____	_____	_____
_____	_____	_____	_____	____	_____	_____	_____

13.How much herring did you catch (1000 lbs)?	_____	_____
14.Approximately how much of your herring catch (in percent) -did you keep for personal use or bait?	_____	_____
-did you sell to processors?	_____	_____
-were you forced to dump?	_____	_____

HERRING GILLNET QUESTIONNAIRE 1986

Interviewer _____
Respondent # _____
Date _____

Home Stat Dist____
Resp I.D. ____
Record # 2

1.Did you fish herring with gillnets in 1986? YES____
NO ____

2.How many gillnets do you own? _____

3.When did you fish herring in 1986? SPRING ____
FALL ____

==========

(IF FISHING IN THE FALL:) (location 1) (location 2)

15.Where did you fish herring in the fall? _____ _____

(Stat Dist) _____ _____

16.How many days did you fish in (each location)? _____ _____

17.Would you say there was a 'peak' in the season (ie.a time when the catches were really good)? YES___ NO ___ YES___ NO ___

==========

IF A 'PEAK' WAS IDENTIFIED:

18.About how many days did you fish during the peak? _____ _____

19.How many nets did you fish per day during the peak? _____ _____

20.How many nets did you fish per day in the non-peak? _____ _____

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IF A 'PEAK' WAS NOT IDENTIFIED:

21.How many nets did you fish per day? _____ _____

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22.How many times each day did you empty your nets? _____ _____

23.What are the numbers and sizes of nets that you used in the fall?

	mesh (in)	# nets	length (fathom)	depth (mesh)	mesh (in)	# nets	length (fathom)	depth (mesh)
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	3	_____	_____	_____	3	_____	_____	_____
other	_____	_____	_____	_____	____	_____	_____	_____
	_____	_____	_____	_____	____	_____	_____	_____

24.How much herring did you catch (1000 lbs)? _____ _____

25.Approximately how much of your herring catch (in percent) -did you keep for personal use or bait? _____ _____

-did you sell to processors? _____ _____

-were you forced to dump? _____ _____

QUESTIONNAIRE - HARENG 1986

Interviewer _____ Home Stat Dist_____
Respondent # _____ Resp I.D. _____
Date _____ Record # 1

1. Avez-vous peche le hareng en 1985 a l'aide de filets maillants? OUI___ NON___

2. Combien de filets maillants possedez-vous? _____

3. Pendant quelle saison avez-vous peche le hareng en 1986? PRINTEMPS___ AUTOMNE ___

(S'IL A PECHE DURANT LE PRINTEMPS:) (location 1) (location 2)

4. Ou avez-vous peche durant le printemps? _____ _____

(Stat Dist) _____ _____

5. Combien de jours avez-vous peche (chaque location)? _____ _____

6. D'apres vous est-ce-qu'il y a eu une periode de capture forte (ie.une periode lorsque les prises etaient bonnes)? OUI___ NON___ OUI___ NON___

SI UNE PERIODE DE CAPTURE FORTE A ETE IDENTIFIE:

7. Combien de jours avez-vous peche durant la periode de capture forte? _____ _____

8. Combien de filets par jour avez-vous peches durant la periode de capture forte? _____ _____

9. Combien de filets par jour avez-vous peches durant le reste de la saison? _____ _____

SI UNE PERIODE DE CAPTURE FORTE N'A PAS ETE IDENTIFIE:

10. Combien de filets par jour avez-vous peches? _____ _____

11. Combien de fois par journee avez-vous releve vos filets? _____ _____

12. Quelle est la grandeur de mailles des filets et la nombre pour chaque grandeur que vous avez utilise:

maille (po)	# filets	longueur (brasse)	profondeur (maille)	maille (po)	# filets	longueur (brasse)	profondeur (maille)
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
2	_____	_____	_____	2	_____	_____	_____
3	_____	_____	_____	3	_____	_____	_____
autre _____	_____	_____	_____	____	_____	_____	_____
_____	_____	_____	_____	____	_____	_____	_____

13. Combien de hareng avez-vous prise (1000 lbs)? _____ _____

14. Quel pourcentage de votre prise de hareng
-avez-vous garde pour des fins personnels ou de la boette? _____ _____
-avez-vous vendu aux usines de transformation? _____ _____
-avez-vous du jeter?

QUESTIONNAIRE - HARENG 1986

Interviewer _____
Respondent # _____
Date _____

Home Stat Dist_____
Resp I.D. _____
Record # 1

1.Avez-vous peche le hareng en 1985 a l'aide de filets maillants? OUI___ NON___

2.Combien de filets maillants possedez-vous? _____

3.Pendant quelle saison avez-vous peche le hareng en 1986? PRINTEMPS___ AUTOMNE ___

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(S'IL A PECHE DURANT L'AUTOMNE:) (location 1) (location 2)

15.Ou avez-vous peche durant l'automne? _____ _____

(Stat Dist) _____ _____

16.Combien de jours avez-vous peche (chaque location)? _____ _____

17.Dapres vous est-ce-qu'il y a eu une periode de capture forte (ie.une periode lorsque les prises etaient bonnes)? OUI___ NON___ OUI___ NON___

==========

SI UNE PERIODE DE CAPTURE FORTE A ETE IDENTIFIE:

18.Combien de jours avez-vous peche durant la periode de capture forte? _____ _____

19.Combien de filets par jour avez-vous peches durant la periode de capture forte? _____ _____

20.Combien de filets par jour avez-vous peches durant le reste de la saison? _____ _____

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SI UNE PERIODE DE CAPTURE FORTE N'A PAS ETE IDENTIFIE:

21.Combien de filets par jour avez-vous peches? _____ _____

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22.Combien de fois par journee avez-vous releve vos filets? _____ _____

23.Quelle est la grandeur de mailles des filets et la nombre pour chaque grandeur que vous avez utilise:

	maille (po)	# filets	longueur (brasse)	profondeur (maille)	maille (po)	# filets	longueur (brasse)	profondeur (maille)
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	2	_____	_____	_____	2	_____	_____	_____
	3	_____	_____	_____	3	_____	_____	_____
other	_____	_____	_____	_____	____	_____	_____	_____
	_____	_____	_____	_____	____	_____	_____	_____

24.Combien de hareng avez-vous prise (1000 lbs)? _____ _____

25.Quel pourcentage de votre prise de hareng
-avez-vous garde pour des fins personnels ou de la boette? _____ _____
-avez-vous vendu aux usines de transformation? _____ _____
-avez-vous du jeter? _____ _____