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Results of the 1997 End of Season Survey of Groundfish Fishers from the Southern Gulf of St. Lawrence

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A telephone survey was conducted of participants that were active in the southern Gulf of St. Lawrence groundfish fishery in 1997. Of the 328 vessel owners from the southern Gulf that were identified from purchase slips as having sold groundfish in 1997, 172 were successfully interviewed. The survey employed a questionnaire to obtain the views and opinions of fishers concerning stock abundance, environmental conditions, the impact of seals, dogfish, markets, fishery management actions, etc., for inclusion in stock assessments. This document reports the results of the survey.

Résumé

Hurlbut, T. et R. Stevens. 1999. Résultats du sondage effectué à la fin de la saison 1997 auprès des pêcheurs de poisson de fond dans le sud du golfe du Saint-Laurent. Rapport manuscrit des sciences halieut. et aquat. n° 2483F : 52 p.

Un sondage téléphonique a été réalisé auprès des pêcheurs qui ont participé activement à la pêche du poisson de fond dans le sud du golfe du Saint-Laurent en 1997. Sur 328 propriétaires de bateau du sud du golfe qui, d'après les bordereaux d'achat ont vendu du poisson de fond en 1997, 172 ont participé à des entrevues fructueuses. Le sondage était basé sur un questionnaire visant à obtenir les opinions et les points de vue des pêcheurs concernant l'abondance du stock, les conditions du milieu, les effets des phoques, de l'aiguillat, des marchés, des mesures de gestion des pêches, etc. en vue de les intégrer aux évaluations des stocks. Le présent document constitue une synthèse des résultats du sondage.

4 - Introduction

The current closure of many groundfish fisheries throughout Atlantic Canada was precipitated by substantial declines in the catch of groundfish over the past 8 to 10 years, particularly in the inshore fishery. This has obviously been a major concern for the people involved in this sector of the fishery and for the Department of Fisheries and Oceans (D.F.O.). Attempts to understand the reasons for this decline have been hampered, to a certain extent, by a lack of information from the perspective of the actual participants in the fishery. The information that is lacking includes perceptions of stock abundance and environmental conditions, the impact of seals, dogfish, markets, fishery management actions, etc. To obtain this information, public meetings ("Science Workshops") with the groundfish industry and D.F.O. biologists have become commonplace since the moratoria. Unfortunately, attendance by industry at these meetings has been highly variable. Consequently, telephone surveys have been conducted since 1995 of participants in the southern Gulf groundfish fishery, in order to document the views and opinions of active fishers (Hurlbut 1997 and 1998). This document reports the results of the 1997 survey.

5 - Survey Design, Selection of Subjects and Description of Interviews

The questionnaire (Appendix 3), which contained 27 questions covering a range of topics was developed by biologists from the Gulf Fisheries Centre (Moncton, N.B.). Staff from the Social Survey Methods Division of Statistics Canada (Halifax, N.S.) reviewed an earlier version of the questionnaire to ensure that the questions were clear and coherent and were worded so as to avoid "leading questions" and ambiguous responses. The 27 questions were selected and arranged in order to:

1. Characterize the respondent, their fishing vessel and fishing activities in 1997 by gear, directed species, etc.
2. Identify any factors that may have affected their fishing activities in 1997.
3. Quantify their fishing effort in 1997 (amount and types of fishing gear used, number of days fished, etc.).
4. Record and characterize the opinions of the respondents on the abundance of dogfish, seals and the species of groundfish that they fished for in 1997.

Aside from the addition of a question (Question 7) which asked the respondents if they participated in the 1997 recreational fishery the same questions were asked in the 1996 survey (Hurlbut 1998).

The 1995 survey (Hurlbut 1997) interviewed fishers from New Brunswick, Nova Scotia and Prince Edward Island. For 1996 and 1997, the survey population was expanded to include fishers from Quebec and the Magdalen Islands. Interview subjects for the 1997 survey were selected from all purchase slips that were received and processed by November 1, 1997 (i.e., each purchase slip represents the sale of groundfish). Three hundred and twenty-eight fishers were identified from New Brunswick, Nova Scotia, Prince Edward Island and Quebec. To minimize the impact of time delays on the respondent's memories of the 1997 fishery, it was also our goal to commence the survey as soon as possible after fishing ended (October 31, 1997) and to complete it within one month. To accomplish this and to maximize the geographical coverage of the survey, the interviewer was instructed to attempt to interview a maximum of ten fishers from each fisheries statistical district (Figure 1).

The interviews were conducted by telephone in both of the official languages from November 10 to December 14, 1997. The calls were generally made during the afternoon or evening, on weekdays and weekends. All of the interviews were conducted by the same individual. The respondents were assured that their responses were strictly confidential and would not be disclosed in any way that could identify them.

6 - Results and Discussion

Of the 328 vessel owners who were identified from purchase slips as having sold groundfish in 1997, 172 were successfully interviewed (Note: in the 1995 and 1996 surveys, 138 and 223 fishers respectively were successfully interviewed). No attempt was made to contact 41 of the 328 owners because the interviewer had already contacted 10 fishers from their respective statistical districts. Fifteen owners from 3 districts were not interviewed due to time constraints. Of the remaining owners: 63 could not be reached by telephone (four attempts were made with each fisher), 10 refused to participate and 27 indicated that they did not fish for groundfish in 1997. This latter group is perplexing given that purchase slips were received by D.F.O. Statistics Branch indicating that groundfish were sold and presumably caught by their fishing vessels. It is possible that these occurrences represent the sale of groundfish that were caught in lobster traps or other 'non-traditional groundfish gear, or, that they represent cases where groundfish were caught and landed by fishers other than the registered owners of the vessels in question.

The remainder of this discussion will focus on the 172 completed questionnaires. The average duration of these interviews was 12 minutes (range from 6-30 minutes). In terms of their experience in the groundfish fishery (Question 4), the average number of years fishing commercially for groundfish was 18 years (range from 1-48 years). The average size (i.e., length overall) of the fishing vessels that they used when fishing for groundfish in 1997 (Question 5) was 12.5 m (41.0 ft) (range from 7.6-26.0 m or 25-85 ft).

The 172 respondents were from 31 statistical districts, situated in a zone extending from Matane, Que. to near Cape Smoky on the northeastern coast of Cape Breton Island, including the Magdalen Islands (Figure 1). Although some of these statistical districts are located outside of the southern Gulf (NAFO Division 4T), purchase slips indicated that these respondents caught and landed groundfish in the southern Gulf in 1997.

The respondents were asked which species of groundfish they fished for 'most of the time' before the fisheries for cod and hake were closed (i.e., 1993 and 1994 respectively in NAFO Div. 4T)(Question 8). As in the 1995 and 1996 surveys, many respondents indicated that they fished for more than one species of groundfish, 'most of the time'. In this case, the fishers were asked to list the species that they fished for in order of priority, starting with the species that they most preferred to catch. The responses to this question (Figure 2) indicate the following preferences: cod, turbot, winter flounder, American plaice, white hake, witch, halibut, and redfish.

The respondents were also asked to identify the species of groundfish that they fished for 'most of the time' in 1997 (Question 9). The following table and Figure 3 summarize the preferences of the 172 respondents:

Groundfish Species	Number of Respondents Who Indicated That They Directed for this Species of Groundfish in 1997* (This species was not necessarily their first choice or first priority)	Number of Respondents Who Identified this Species as Their First Choice or First Priority of the Species of Groundfish That They Fished for in 1997* (Where respondents directed for more than one species)	Number of Respondents Who Indicated That They Directed for this Species and Were Involved in the Sentinel Fishery
Winter Flounder	70	52	3
Turbot	53	45	7
American Plaice	55	42	1
Cod	28	13	9
Halibut	11	4	1
Witch	13	5	0
Spiny Dogfish	15	7	4
White Hake	7	4	7
Yellowtail	5	0	0

* For example: 28 respondents indicated that they directed some of their fishing effort on cod in 1997 and 13 identified cod as their primary choice of the species that they directed for.

As in the 1995 and 1996 surveys, a significant number of respondents identified cod and white hake as the species that they fished for 'most of the time' in 1997, when directed fishing for these species was forbidden under the moratoria (i.e., by-catch only). The participation of many of these respondents in the Sentinel Fishery partially explains this occurrence (15 of the 28 respondents that identified cod as the species that they fished for 'most of the time' in 1997 were participants in the Sentinel Fishery and all 7 of the respondents that identified hake as the species that they fished for 'most of the time' in 1997 were participants in the Sentinel Fishery). As well, 7 of the 28 respondents that identified cod as the species that they fished for, 'most of the time' in 1997, indicated that they fished for cod in the recreational fishery, and of them, 3 indicated that they caught the majority of their groundfish (i.e., cod) in the Recreational Fishery.

Figures 4-12 show the geographical distribution of the respondents based on the species of groundfish that they fished for, 'most of the time' in 1997. In each case, the species indicated was either the first, second or third priority of respondents that fished for more than one species of groundfish in 1997.

When asked to compare the average size of the species of groundfish that they fished for 'most of the time' in 1997 to previous years (Question 10 and Figure 13), most respondents indicated that cod, plaice, winter flounder, white hake, dogfish and turbot were the same size or larger than in previous years, but they felt that witch flounder was the same size or smaller than previous years. Yellowtail flounder was not a species identified as the first priority of any of the respondents, hence there were no responses to this question for this species.

Figure 14 shows the fishing gears that were used 'most of the time' by all of the respondents and those used by respondents based on the species of groundfish that they fished for, 'most of the time', in 1997 (Question 11a). In general, fixed gears tended to be used to direct for cod, hake, halibut, turbot and dogfish, and mobile gears were usually used by respondents that directed for plaice, witch and yellowtail. The respondents that directed for winter flounder used both fixed and mobile gears. When the fishers were asked to quantify the amount of fishing gear that they used during a typical day of fishing (Question 11b), the results which are very similar to those obtained in the 1996 survey, were as follows:

All Respondents & All Species

Fishing Gear	Average Amount Used	Minimum Amount Used	Maximum Amount Used
Gillnet (# of nets)	38	1	80
Longline (# of hooks)	2,484	240	10,000
Otter Trawl (# of sets)	6	2	10
Seine (# of sets)	7	2	10

When asked to compare the amount of fishing gear used in 1997 with the amount used in previous years (Question 12), the majority of the 172 respondents indicated that they used the same amount of fishing gear or less in 1997 (Figure 15). Likewise, the majority of the respondents to the 1995 and 1996 surveys reported that they used the same amount of fishing gear or less in each year. Similarly, when the responses to this question were examined based on the species of groundfish fished for 'most of the time' in 1997, most respondents reported using the same amount of fishing gear or less (Figure 15). The only respondents that did not indicate that they used the same amount of or less fishing gear in 1997 were fishers that directed for yellowtail flounder.

More of the respondents (47%) indicated that they spent the whole season fishing for groundfish in 1997 than in the 1995 and 1996 surveys (36% and 35% respectively) (Question 13). As the following table shows, the percentage varied depending on the species of groundfish fished for 'most of the time' and ranged from 27% for fishers that fished for halibut to 71% for fishers that fished for white hake.

Species	Percentage of Respondents That Spent the Whole Season Fishing for Groundfish in 1997
Cod	43
Hake	71
A. Plaice	45
Winter Flounder	43
Halibut	27
Turbot	58
Witch	31
Yellowtail	40
Dogfish	60

Questions 14 to 17 asked the respondents who indicated that they did not spend the whole season fishing for groundfish in 1997 the following:

#14. If they switched to another fishery (i.e., tuna, herring, scallops, etc.) during the 1997 groundfish season?
#15. What fishery did they switch to?
#16. What was their main reason for switching from fishing for groundfish?
#17. If they usually switch from groundfish to another fishery during the groundfish season?

Of the respondents that indicated they did not spend the whole season fishing for groundfish in 1997, 75% (68 fishers) reported that they switched to another fishery during the groundfish season. This finding compares favorably with the 1996 survey in which 77% of the respondents that did not spend the whole season fishing for groundfish reported that they switched to another fishery. As the following table indicates, the percentage that switched to another fishery in 1997 varied depending on the species of groundfish that they fished 'most of the time'.

Species	Percentage of Respondents Who Reported That They Switched to Another Fishery (Other Than Groundfish) in 1997
Cod	94
Hake	100
A. Plaice	80
Winter Flounder	78
Halibut	75
Turbot	55
Witch	89
Yellowtail	67
Dogfish	100

As found in the 1996 survey, herring, snow crab, lobster and mackerel were the fisheries to which most respondents switched in 1997 (Figure 16). Figure 17 illustrates the main reasons given by respondents for switching from groundfish to another fishery during the 1997 groundfish season. In this case, the most prevalent reason given by respondents for switching to another fishery was profitability (in the "other" category). Other common reasons that were cited included fishery closures, lack of quota and low numbers of groundfish. Of the 68 respondents that switched to another fishery, 63% (43 fishers) said that they usually switch to another fishery during the groundfish season (in the 1996 survey 53% indicated that they usually switch to another fishery).

Forty-nine percent (84 fishers) of the 172 respondents were able to recall the exact number of days that they spent fishing for groundfish in 1997 (Question 18), which averaged 28 days (range from 2-140 days). This represents an increase in both the percentage of respondents able to recall the exact number of days they spent fishing for groundfish and the average number of days they spent fishing for

groundfish relative to the 1995 and 1996 survey results (in 1995, 33% of the respondents could recall the exact number which averaged 22 days, and in 1996, 22% could recall the exact number which averaged 15 days). The respondents that could not recall the exact number of days were asked for their "best estimate" (Question 19). As observed in the 1995 and 1996 surveys, the majority of respondents estimated that they spent from 10-39 days fishing for groundfish in 1997 (their estimates ranged from less than 10 to more than 100 days)(Figure 18).

With the exception of fishers that directed for yellowtail flounder, the estimates did not seem to vary with the species of groundfish targeted, and were predominately between 10-29 days (two of the four respondents that directed for yellowtail indicated that they spent from 50-59 days fishing for groundfish).

In comparison to 1996, 37% of the 172 respondents said that they spent the same number of days fishing for groundfish in 1997, but 33% reported spending more days and 30% reported spending fewer (Question 20 - Figure 19). Most of the respondents that directed for white hake indicated that they fished fewer days in 1997 than in 1996, and conversely, most of the respondents that targeted yellowtail said that they spent more days fishing for groundfish in 1997. Of the fishers that targeted cod, halibut, witch or turbot in 1997, there were more that said they fished fewer days than more days, but a significant number indicated that they spent about the same number of days fishing for groundfish in 1997. For those fishers that directed for winter flounder and dogfish, there were more that said they fished more days than fewer, but again, a significant number said that they spent about the same number of days fishing for groundfish in 1997. The most common reason given for spending fewer or more days fishing for groundfish in 1997 was fishery management regulations (i.e., closures of fisheries, quota reductions, etc.) (Question 21 - Figure 20).

When asked to compare the number of days when the weather was too bad to fish for groundfish in 1997 with previous years, the majority of the respondents (81 fishers) indicated that there were about the same number of bad weather days as usual (Question 22 - Figure 21). Fifty-three fishers reported fewer days of bad weather in 1997 than usual and thirty-eight reported more bad weather days in 1997.

Only 16% of the respondents (27 fishers) indicated that dogfish interfered with their efforts to fish for groundfish in 1997 (Question 23) which is consistent with the findings of the 1995 and 1996 surveys (23% and 18% respectively). Most of the respondents (61% or 105 fishers) considered the abundance of dogfish to be lower than average in 1997 (i.e., low or very low) (Question 25a - Figure 22). On the other hand, 19 respondents felt that the abundance of dogfish was high or very high in 1997 and 42 felt that it was average. In the 1995 and 1996 surveys, the greatest proportion of the respondents also regarded the abundance of dogfish to be lower than average.

As in the 1995 and 1996 surveys, most of the respondents (148 fishers = 86%) reported that they saw seals when they fished for groundfish in 1997 (Question 24), and the majority provided locations (Appendix 1) (68% and 78% reported that they saw seals in 1995 and 1996 respectively). When asked to describe the abundance of seals in 1997, most of the respondents (111 fishers = 65%) considered it to be above average (i.e., high or very high), but 22% (37 fishers) felt that seal abundance was average and 13% (21 fishers) thought that it was below average (Question 25b - Figure 23). In the 1995 survey, the opinions of respondents concerning the abundance of seals were split with equal numbers considering the abundance below average and above average, but in the 1996 survey most of the respondents (131 fishers = 61%) felt that seal abundance was above average.

Questions 25c, d and e asked for opinions on the abundance of each of the species of groundfish that the respondents fished for in 1997. The respondents were asked to give their opinions in order of priority, starting with the species that they most preferred to catch. Figure 24 presents the results for species identified as the first, second or third priority of respondents.

Almost twice as many of the respondents felt that cod abundance was above average as considered it below average, and one quarter of them regarded the abundance as average in 1997. These opinions are essentially identical to those expressed by respondents to the 1996 survey, but differ considerably from those made in the 1995 survey, in which more of the respondents considered the abundance below average than above average.

The responses of the 7 fishers that targeted white hake were divided, with slightly more considering the abundance above average than below average. These comments contrast with those made in the 1995 and 1996 surveys in which more respondents regarded the abundance below average than above average.

More than half of the respondents that directed for American plaice (i.e., 28 out of 55) felt that the abundance was average in 1997, but more than twice as many regarded the abundance as above average as considered it below average. These results are very similar to those obtained in the 1995 and 1996 surveys.

The majority of respondents (37 out of 70 fishers) who indicated that they fished for winter flounder 'most of the time' in 1997, considered its abundance to be average. The opinions of the remaining respondents were split with nearly equal numbers considering the abundance below average and above average (i.e., 14 versus 15 fishers). These opinions are similar to those made in the 1995 and 1996 surveys with the exception that more of the respondents felt that abundance was below average than above average.

As in the 1996 survey, most of the respondents that targeted halibut (10 of 11) considered its abundance to be average or high (the remaining respondent described the abundance as low).

Sixty percent of the respondents that identified turbot as their first, second or third priority (32 out of 53) regarded its abundance as high or very high, and 30% (i.e., 16) felt that abundance was average in 1997. More of the respondents to the 1996 survey (78%) considered the abundance of turbot as high or very high.

More than half of the 13 respondents that targeted witch flounder 'most of the time' in 1997 felt that the abundance was average, and twice as many of the remaining respondents regarded the abundance as above average as considered it below average. These results compare favorably to those obtained in the 1996 survey.

With the exception of one fisher who considered the abundance to be very low, all of the rest of the respondents that targeted yellowtail considered its abundance to be average or very high.

The majority of the respondents that directed for dogfish in 1997 (10 out of 15 fishers) considered its abundance to be low or very low, with the remainder (5 respondents) judging its abundance as average or high. These comments differ from those made by respondents to the 1996 survey which were split, with nearly equal numbers considering the abundance below average and above average (Note: one third considered the abundance as average).

In recent consultation meetings with the southern Gulf fishing industry, the views of fishers from the southwestern Gulf have tended to differ from those from the southeastern Gulf, in terms of the abundance of cod, hake and plaice. In the southwestern Gulf, the abundance of cod, hake and plaice has typically been judged to be low, while fishers in the southeastern area have usually perceived that it was high. To determine whether there was a similar divergence in the opinions of respondents to the 1997 questionnaire, the responses of fishers from the southwestern and southeastern Gulf were compared (Figure 25). For cod, the previously described divergence of opinions was not apparent. In fact, the opposite was evident, with most respondents from the southwest (10 out of 15) describing the abundance of cod as above average, whereas twice as many from the southeast judged the abundance as below average as judged it to be above average. For hake, there were no respondents from the southwestern Gulf, but 5 of the 7 respondents from the southeast considered the abundance to be average or above average. Two-thirds of the respondents from the southwest that directed for American plaice felt that the

abundance in 1997 was average, and all but one of the remaining respondents regarded the abundance as below average. In contrast, 49% of the respondents from the southeast described the abundance as above average, and most of the rest considered it to be average. For winter flounder, there was no obvious divergence of opinion (63% of the respondents from the southwest felt that the abundance was average and the opinions of respondents from the southeast were split with almost equal numbers judging the abundance below average and above average).

In questions 26a-c, the respondents were asked to compare the abundance of their most preferred species (i.e., First Priority) in 1997, with its abundance in three previous time periods (1996, 1992 to 1996, and in all their years fishing commercially for this species).

Question 26a asked the respondents to compare the abundance of their most preferred species (i.e., First Priority) in 1997 with its abundance in 1996 (Figure 26). Half of the respondents that identified cod as their first priority in 1997 described its abundance as higher or much higher than in 1996, but two fishers (20%) considered it to be lower. In the 1996 survey, most of the respondents considered the abundance to be higher than in 1995. Of the four respondents that directed for white hake in 1997, three thought the abundance of hake was higher in 1997 and one felt that it was the same in both years. Of the fishers that targeted American plaice, more than half felt that the abundance was the same in 1997, and 38% felt that the abundance was higher or much higher than in 1996. In contrast, more than half of the respondents to the 1996 survey felt that the abundance was higher in 1996 than in 1995. For winter flounder, 77% of the respondents considered that the abundance was the same or higher in 1997 than in 1996 (21% felt that the abundance was lower or much lower in 1997). In the 1996 survey, most of the respondents said that the abundance was the same in 1996 as in 1995, but of the remainder, more of the respondents felt that the abundance was lower in 1996. The 3 respondents that directed for halibut felt that the abundance was the same or higher in 1997. Likewise, most of the respondents to the 1996 survey felt that the abundance was the same or higher in 1996, than in 1995. For witch, 3 of the 5 respondents felt that the abundance was the same in 1997; of the remainder, one respondent considered the abundance to be higher and one thought that it was lower than in 1996. In the 1996 survey, all of the respondents regarded the abundance as the same or higher in 1996, than in 1995. The majority of the respondents that directed for turbot in 1997 (74%) considered the abundance to be higher or much higher than in 1996. The results of the 1996 survey were similar, with most fishers describing the abundance of turbot as higher or much higher in 1996, than in 1995. None of the respondents identified yellowtail flounder as their first priority in 1997, hence there were no responses to this question for this species. All of the respondents that targeted dogfish in 1997 felt that the abundance was lower or much lower than in 1996. In the 1996 survey, 60% of the respondents considered the abundance as the same or higher in 1996, than in 1995.

Question 26b compared the abundance of the most preferred species (i.e., First Priority) in 1997, with its abundance from 1992 to 1996 (Figure 27). For cod, the majority of the respondents (9 out of 13) considered its abundance to be higher or much higher in 1997. Similarly, most of the respondents to the 1996 survey regarded the abundance of cod as higher or much higher in 1996 than during 1991 to 1995. The 3 respondents that directed for white hake felt the abundance was higher in 1997 than during 1992-1996. In the 1996 survey, the respondents that targeted white hake considered the abundance to be the same or higher in 1996, than during 1991-1995. More than half of the respondents that targeted plaice felt that the abundance was higher or much higher in 1997, and almost 30% described it as the same in 1997. Likewise, most of the respondents to the 1996 survey described the abundance of plaice as the same or higher in 1996, than in the previous five year period. The opinions of respondents whose first priority was winter flounder were split, with 18 judging the abundance as lower or much lower and 13 describing it as higher in 1997 than during 1992-1996 (14 respondents considered the abundance to be the same). In contrast, almost twice as many of the respondents to the 1996 survey regarded the abundance of plaice as lower or much lower as judged it higher or much higher than during the previous five years. The 2 respondents that directed for halibut regarded the abundance as higher in 1997. In the 1996 survey, most of the respondents felt that the abundance was the same or higher in 1996 than during 1991 to 1995. The majority of respondents that directed for turbot (74%) regarded the abundance as higher or much higher in 1997, than during 1992 to 1996. Similarly, most of the respondents to the 1996 survey considered that

turbot abundance was higher or much higher in 1996 than during the previous five year period. For the respondents that targeted witch, the opinions were divided with two judging the abundance as lower or much lower and two describing it as higher in 1997. In contrast, most of the fishers that directed for witch in 1996 considered its abundance to be the same or higher than during 1991 to 1995. None of the respondents identified yellowtail flounder as their first priority in 1997, hence there were no responses to this question for this species. The 7 fishers that directed for dogfish in 1997 felt that the abundance was lower or much lower than during the previous five years. In the 1996 survey, most of the respondents regarded the abundance as the same or lower in 1996 than during 1991 to 1995.

The final question in this series (Question 26c) asked the respondents to relate the abundance of their most preferred species (i.e., First Priority) in 1997 to its abundance in all the years that they fished for it (Figure 28). Of the respondents that identified cod as their first priority in 1997, most (62%) considered the abundance as higher or much higher in 1997. In the 1996 survey, the opinions were split, with 11 respondents judging the abundance as lower or much lower, and 9 judging it as higher or much higher. Three of the four fishers that directed for white hake regarded the abundance as higher or much higher in 1997 than in their long-term experience (one felt that it was the same). The opinions of the two respondents that targeted white hake in the 1996 survey were divided, with one describing the abundance as lower and the other describing it as higher. For plaice, almost twice as many of the respondents considered the abundance to be higher or much higher as considered it to be lower or much lower (37% felt that the abundance was the same in 1997 as it had been in all the years that they fished for plaice). The results were essentially identical for the respondents to the 1996 survey that directed for plaice (i.e., twice as many considered the abundance in 1996 to be higher or much higher as considered it to be lower or much lower than their long-term experience). More of the respondents that targeted winter flounder felt that the abundance was lower or much lower (42%) than felt it was higher or much higher (24%) (One third rated the abundance in 1997 as the same as their long-term experience). In the 1996 survey, the majority of the respondents that fished for winter flounder (63%) felt that the abundance was the same or lower in 1996 than their long-term experience. The fishers that directed for halibut considered the abundance in 1997 to be the same or higher than in all the years that they fished for this species, but most of the respondents to the 1996 survey that fished for halibut (58%) considered the abundance in 1996 to be the same as their long-term experience. The majority of the respondents that identified turbot as their first priority in 1997 (70%) regarded the abundance in 1997 as higher or much higher than in all the years that they fished for turbot. Again, the results were virtually identical for the respondents to the 1996 survey that directed for turbot. The opinions of the respondents that targeted witch were divided, with two judging the abundance as lower or much lower and two describing it as higher in 1997. In contrast, most of the respondents to the 1996 survey that targeted witch felt that the abundance was the same or lower in 1996 as in all the years they fished for witch. Again, none of the respondents identified yellowtail flounder as their first priority in 1997, hence there were no responses to this question for this species. As in the two preceding questions (26 a and b), five of the 7 respondents that directed for dogfish in 1997 felt that the abundance was much lower and the remaining two felt that the abundance was lower than in their long-term experience. In the 1996 survey, most of the respondents that directed for dogfish felt that the abundance was the same or higher in 1996 as it had been in their long-term experience.

Almost all of the respondents (170 of 172) indicated that they wanted to receive a copy of the results of the questionnaire (Question 27).

The final question on the questionnaire, asked the respondents if they had any additional comments that they wanted to make on the 1997 groundfish fishery. For convenience, these comments and opinions (Appendix 2) were grouped into the following categories:

- Seals
- Dogfish
- Mesh Sizes
- Gear Conflicts
- Licenses and Quotas
- Fisheries Management

- Other/Miscellaneous

7 - Acknowledgments

We wish to thank Edith LaChance of the Statistics Division (Laurentian Region) and Réjean Huot of the Licensing Branch (Laurentian Region) for the purchase slip data and licensing information for Quebec-based vessels. Doris Daigle coded and entered all of the questionnaire data. We would also like to thank Linda Currie and Roderick Morin for their constructive reviews of an earlier version of this manuscript.

8 - References

Hurlbut, T. 1997. Results of the 1995 End of Season Survey of Groundfish Fishers from the Southern Gulf of St. Lawrence. Man. Rep. Fish. Aquat. Sci. 2434E: 35p.

Hurlbut, T. 1998. Results of the 1996 End of Season Survey of Groundfish Fishers from the Southern Gulf of St. Lawrence. Man. Rep. Fish. Aquat. Sci. 2442E: 58p.

9 - Figures

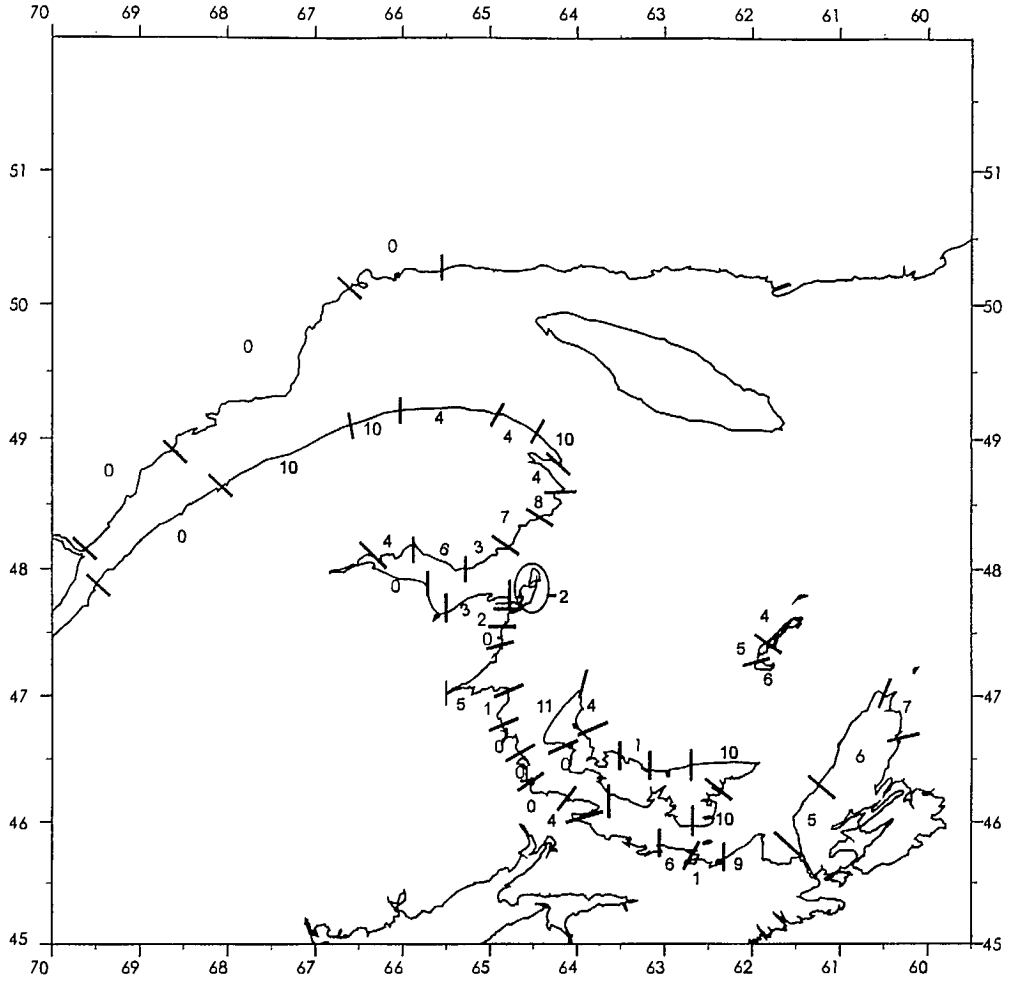


Figure 1. The distribution of all respondents to the 1997 groundfish questionnaire by statistical district (The lines delimit the borders of statistical districts).

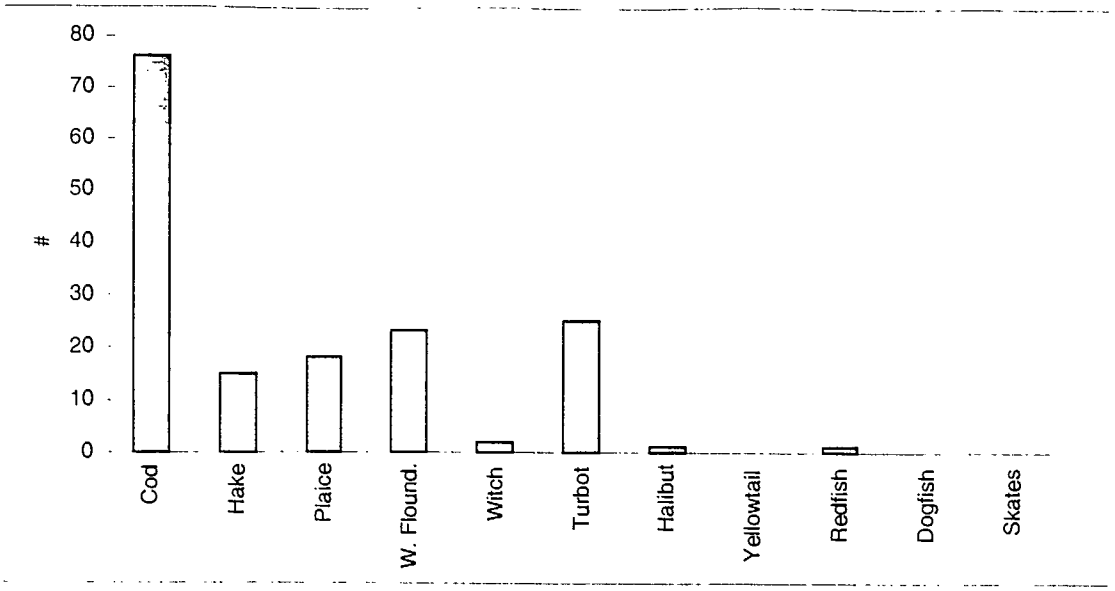


Figure 2. The species of groundfish that respondents fished for 'most of the time' before the fisheries for cod and hake were closed (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

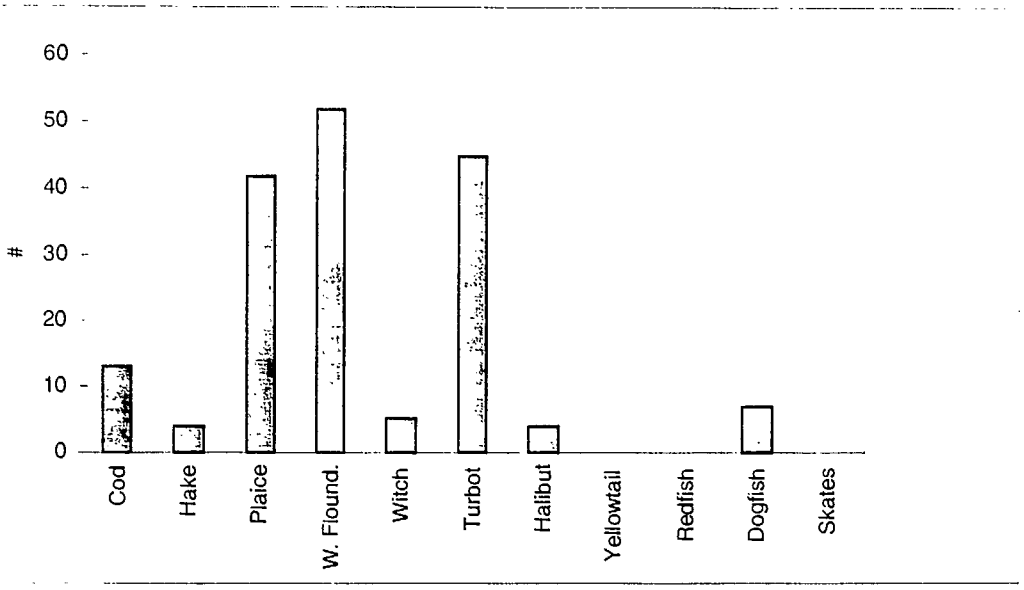
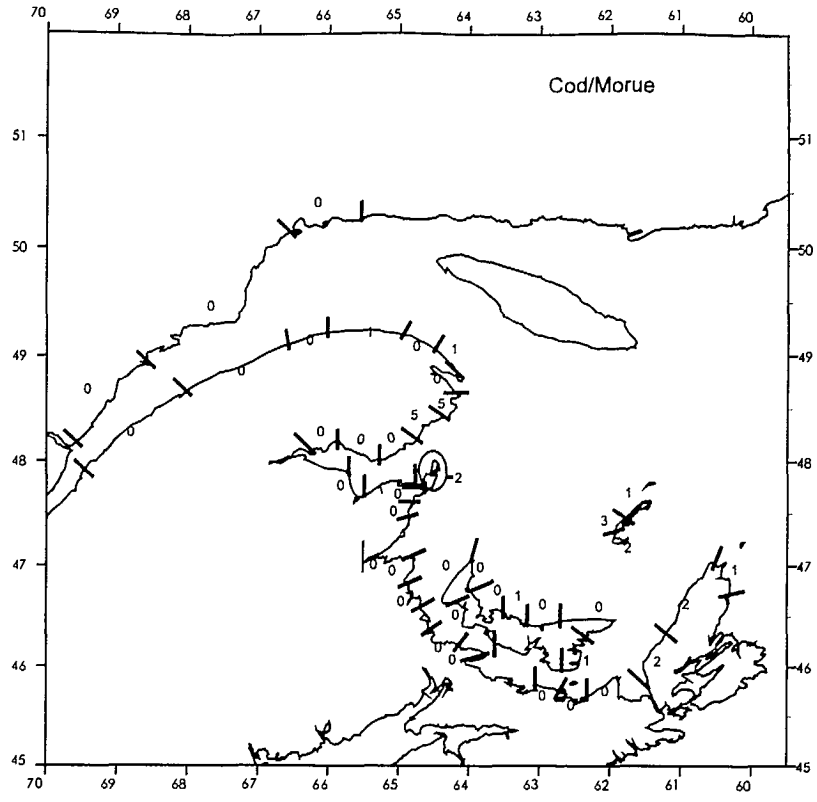
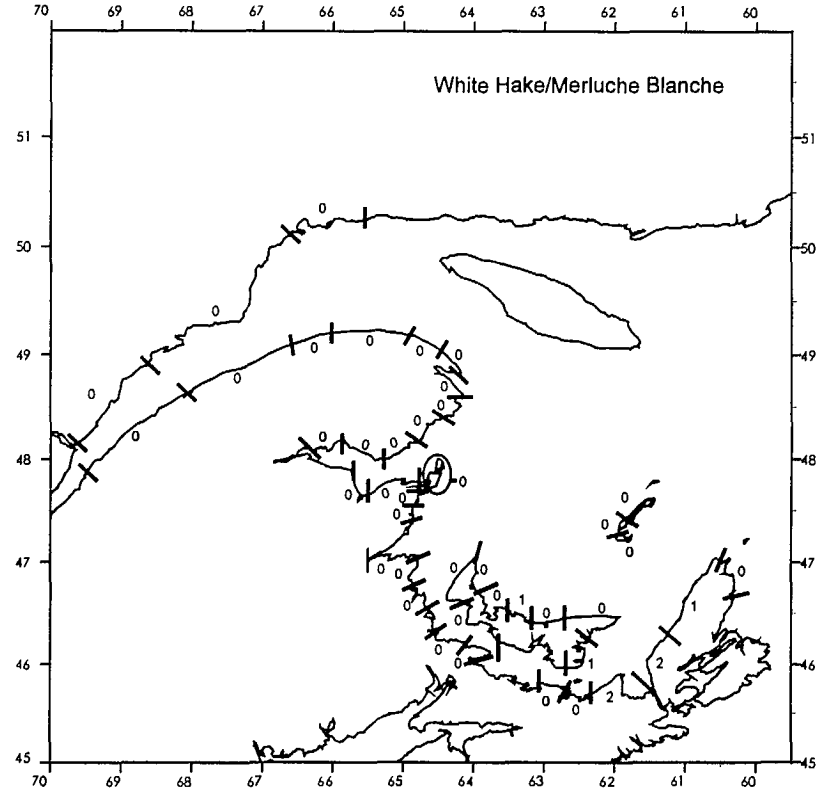
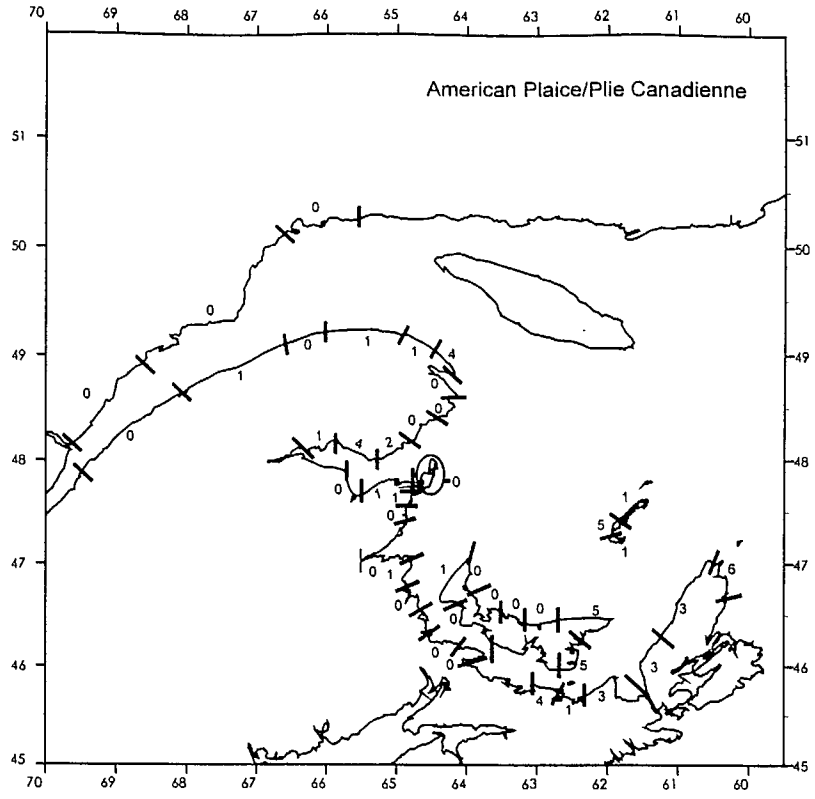


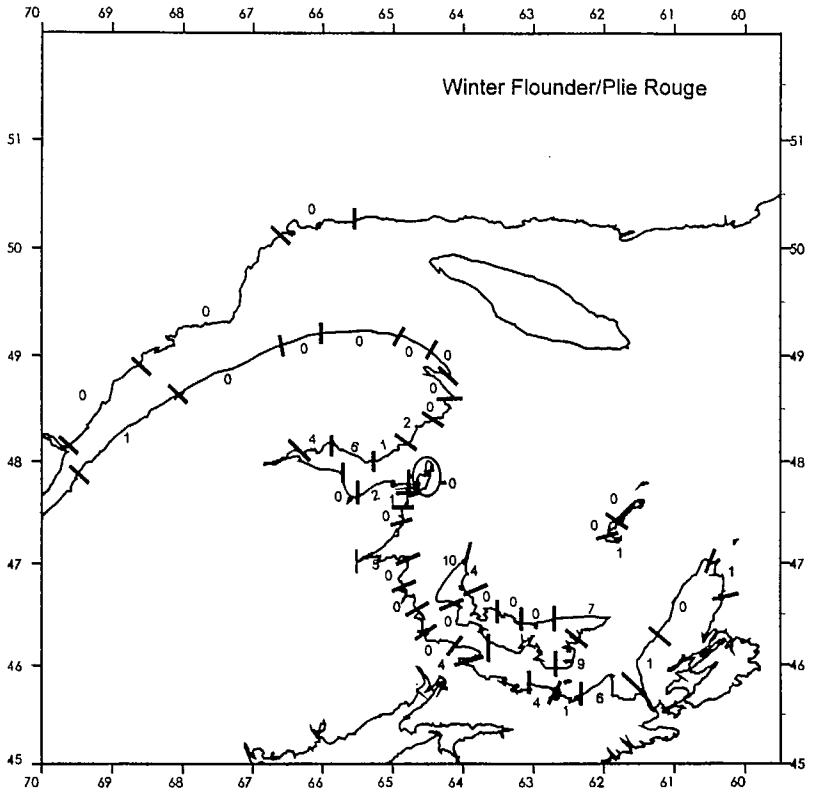
Figure 3. The species of groundfish that respondents fished for 'most of the time' in 1997. (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').



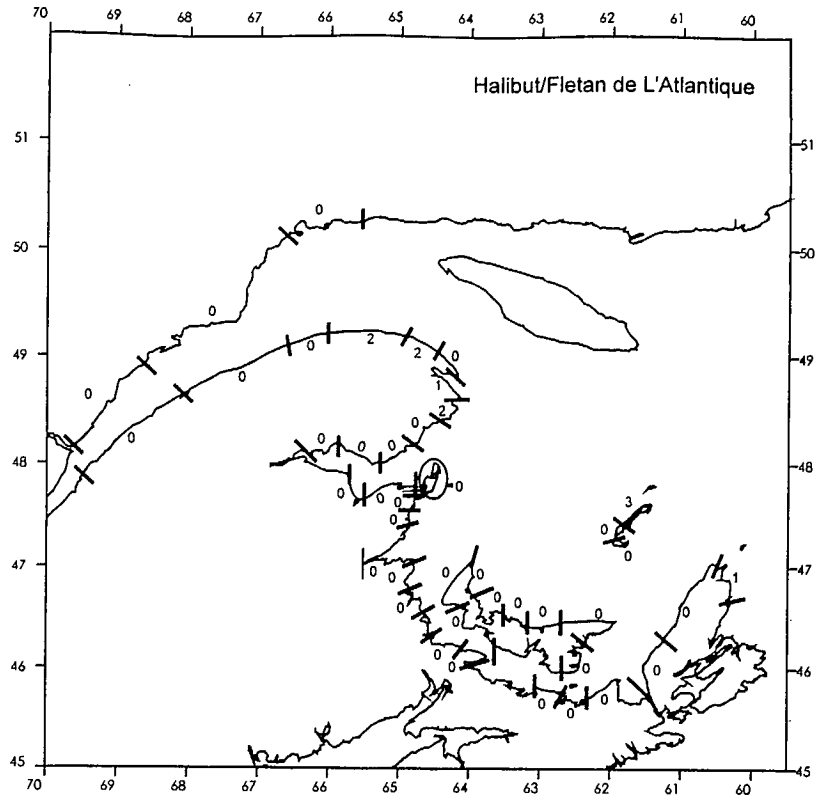


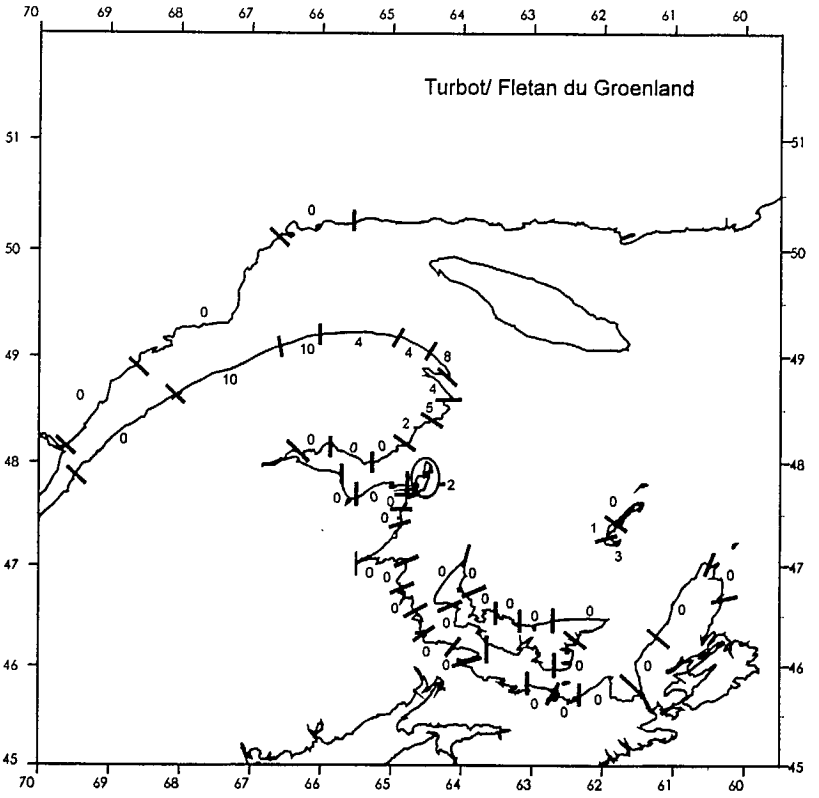
Figures 4 and 5. The distribution of respondents that fished for cod and white hake 'most of the time' in 1997 by statistical district (In Figures 4-12, the species represented are either the first, second or third priority of respondents that fished for more than one species of groundfish in 1997).



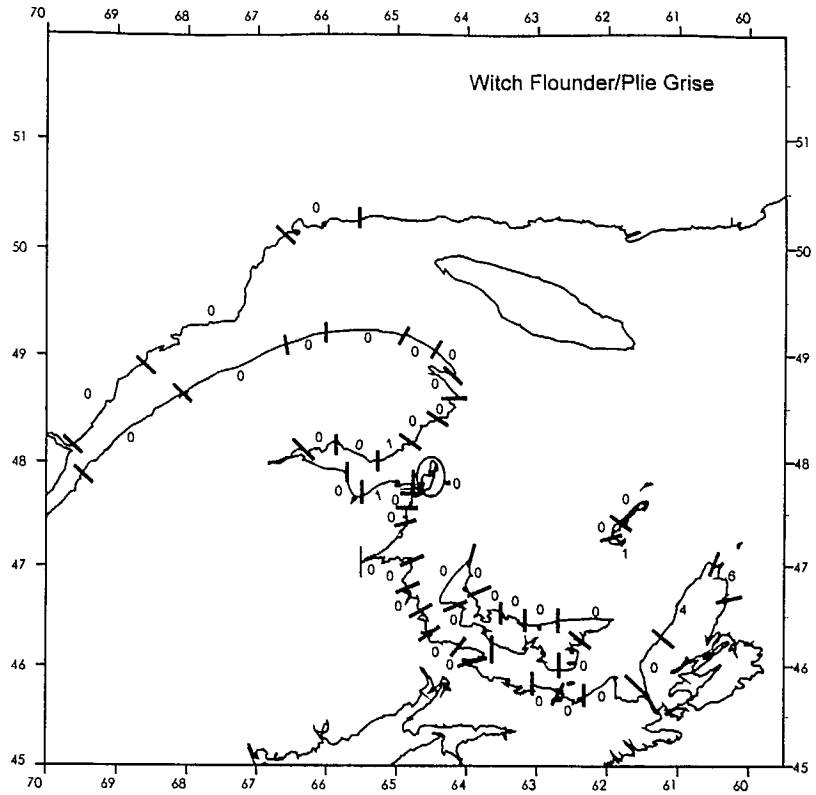


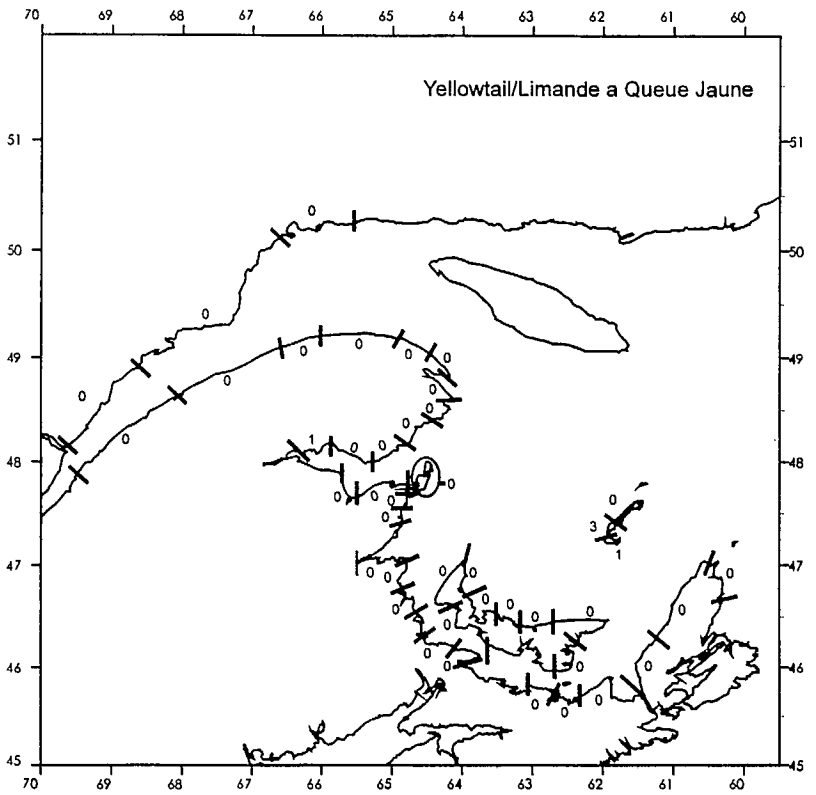
Figures 6 and 7. The distribution of respondents that fished for American plaice and winter flounder 'most of the time' in 1997 by statistical district.





Figures 8 and 9. The distribution of respondents that fished for halibut and turbot 'most of the time' in 1997 by statistical district.





Figures 10 and 11. The distribution of respondents that fished for witch flounder and yellowtail flounder 'most of the time' in 1997 by statistical district.

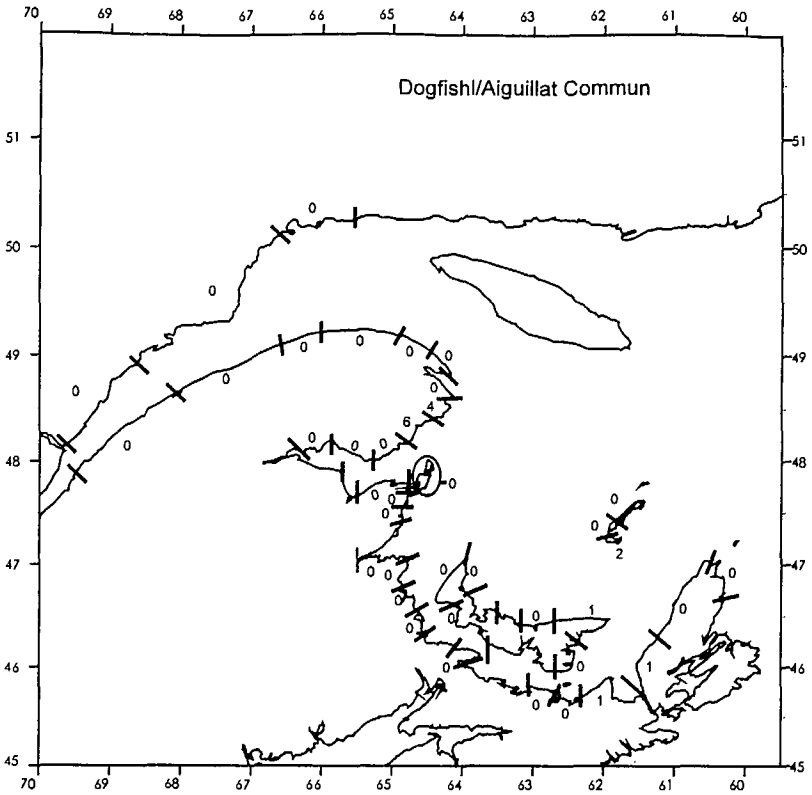


Figure 12. The distribution of respondents that fished for spiny dogfish 'most of the time' in 1997 by statistical district.

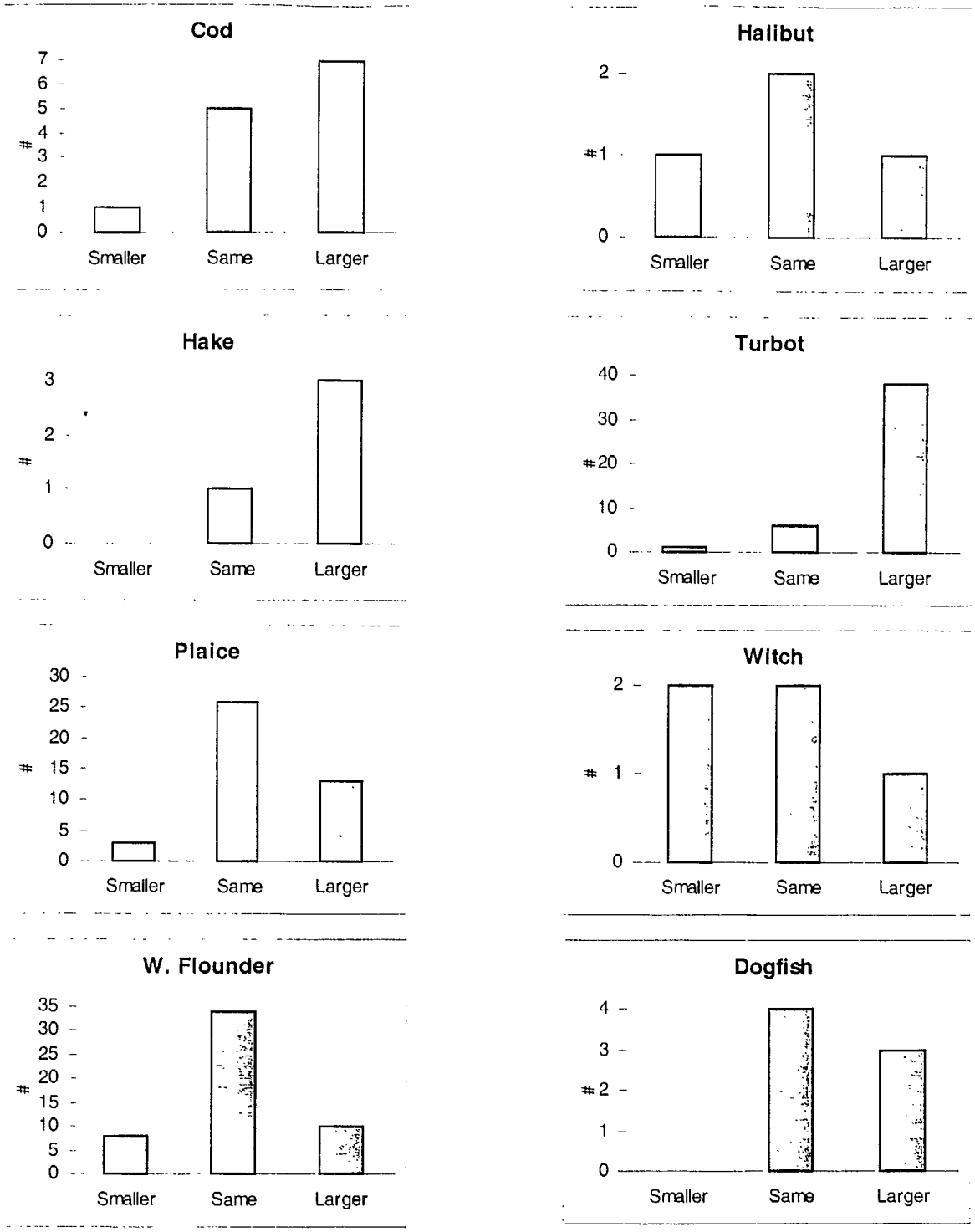


Figure 13. Comparison to previous years of the average size of the species of groundfish fished for 'most of the time' in 1997 (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

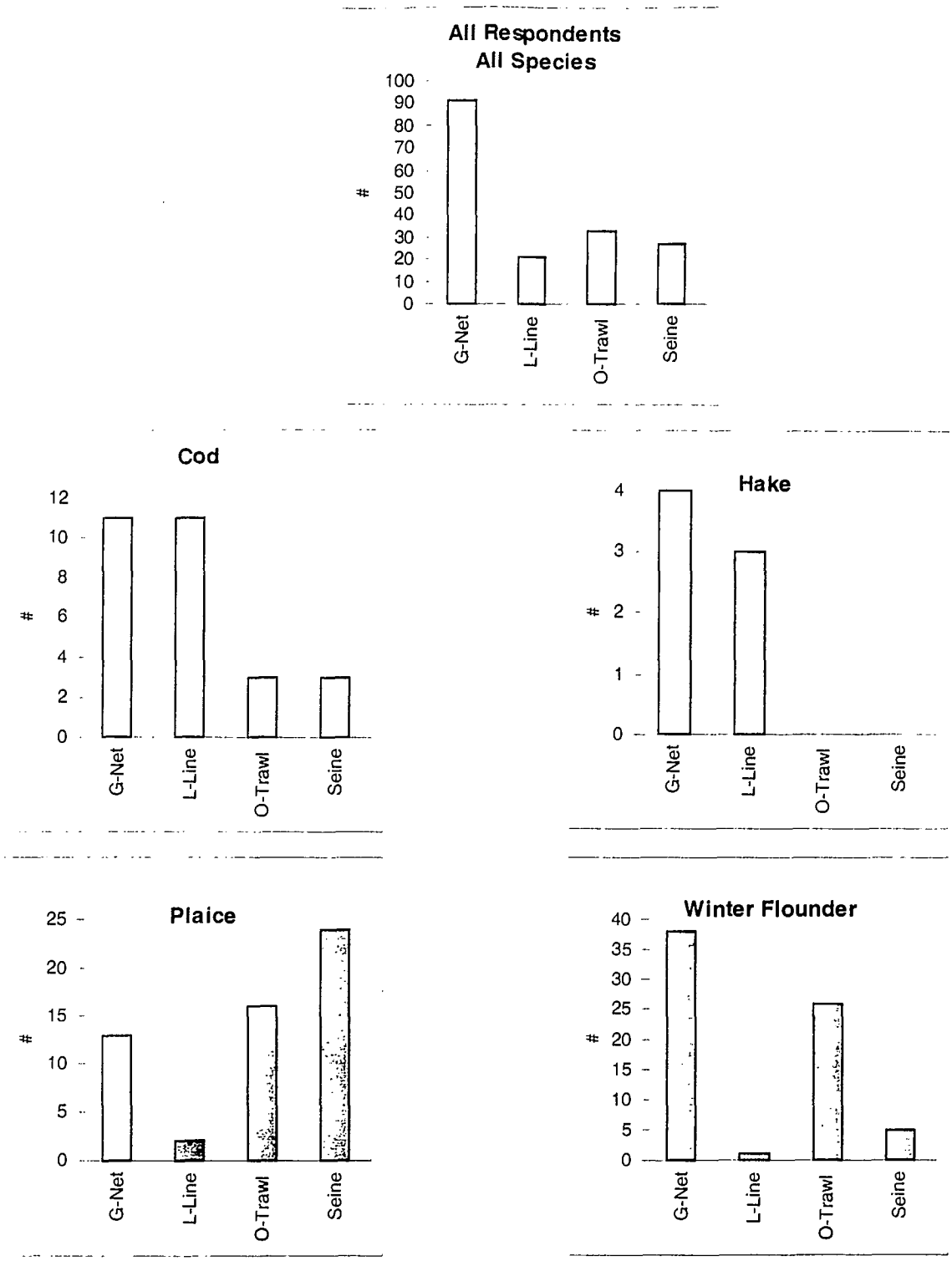
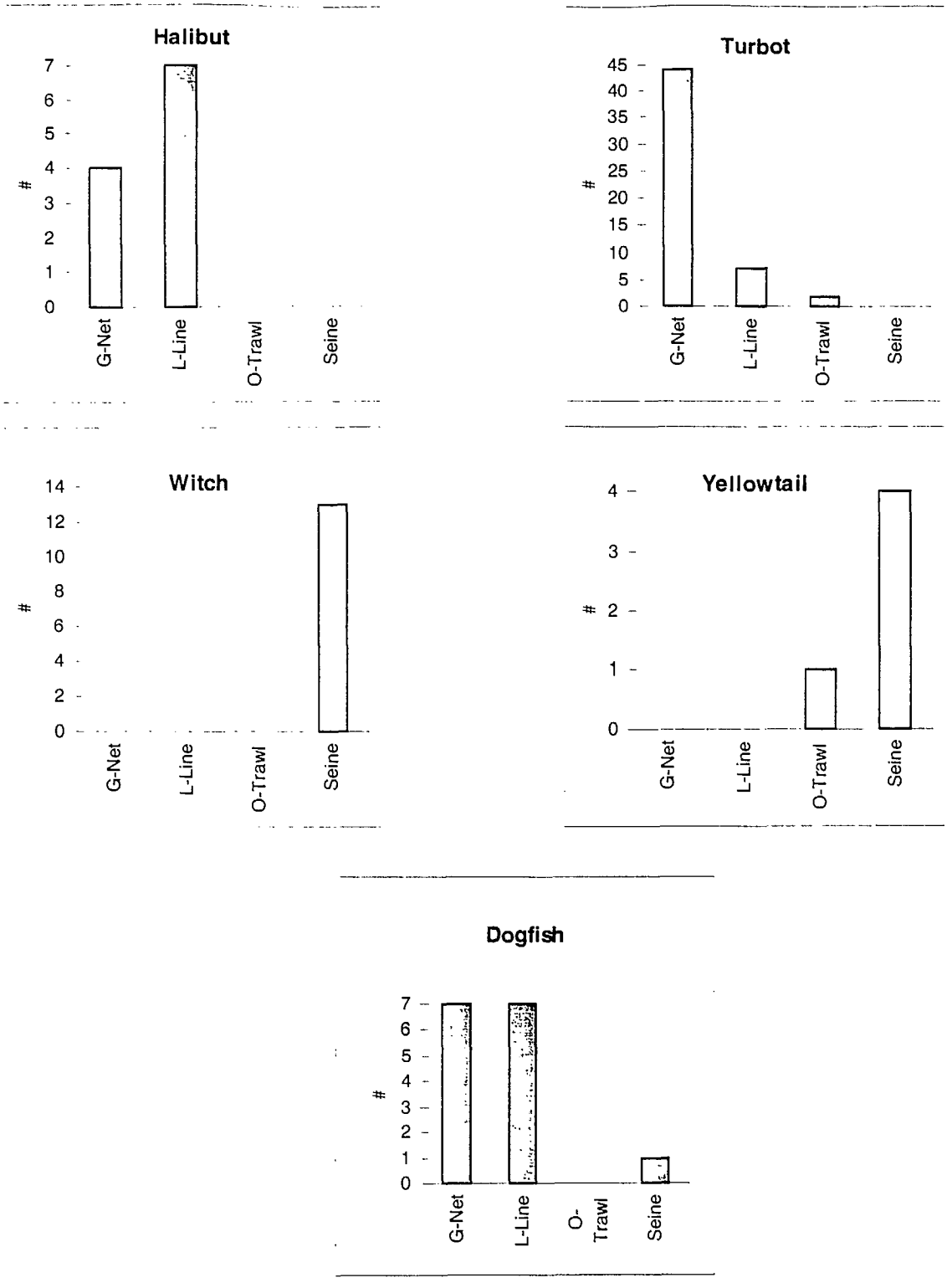


Figure 14. The fishing gear that was used 'most of the time' by respondents. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').



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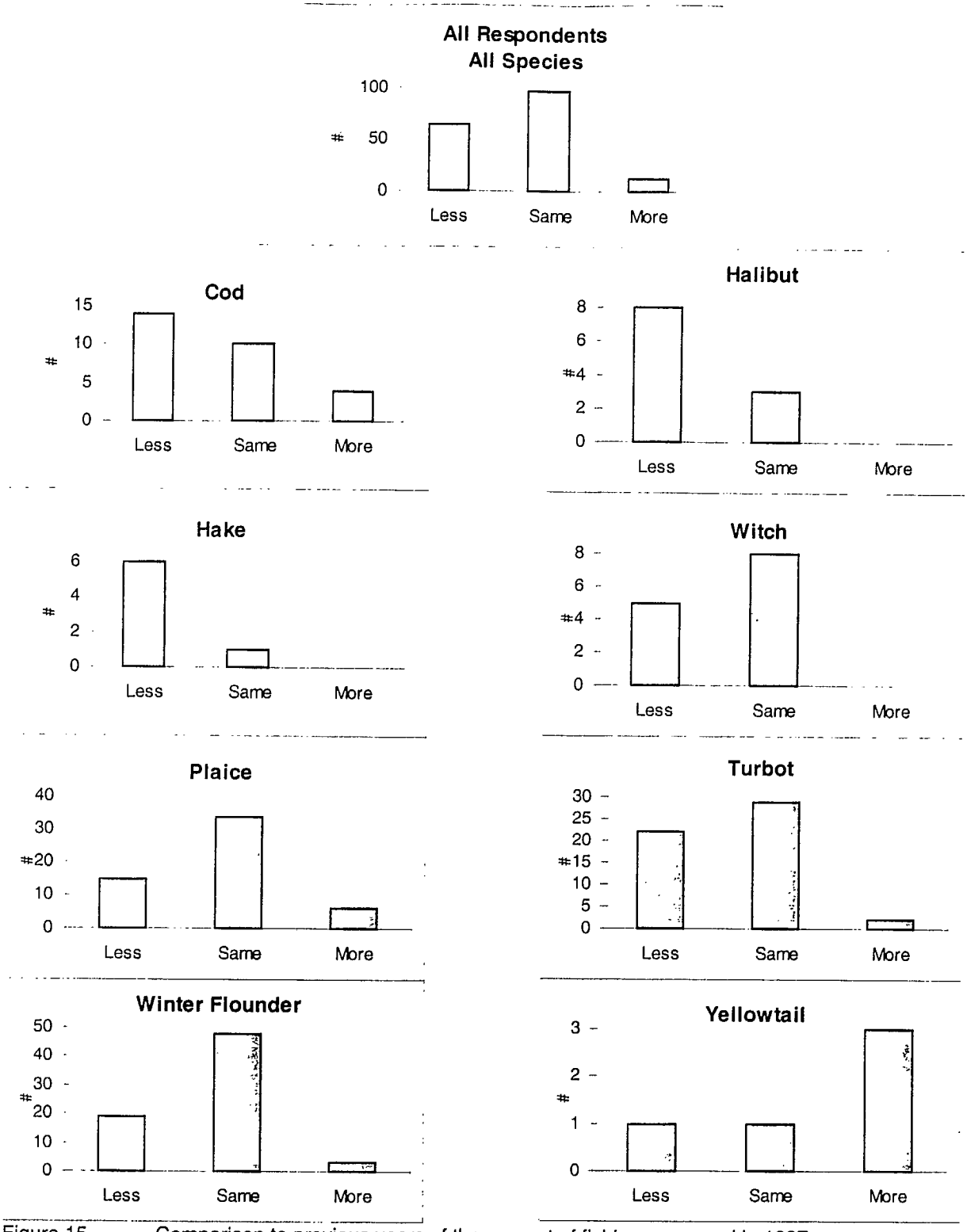
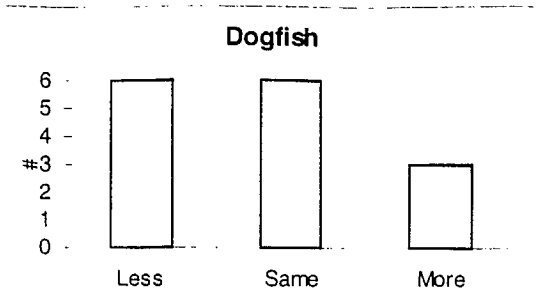


Figure 15. Comparison to previous years of the amount of fishing gear used in 1997. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').



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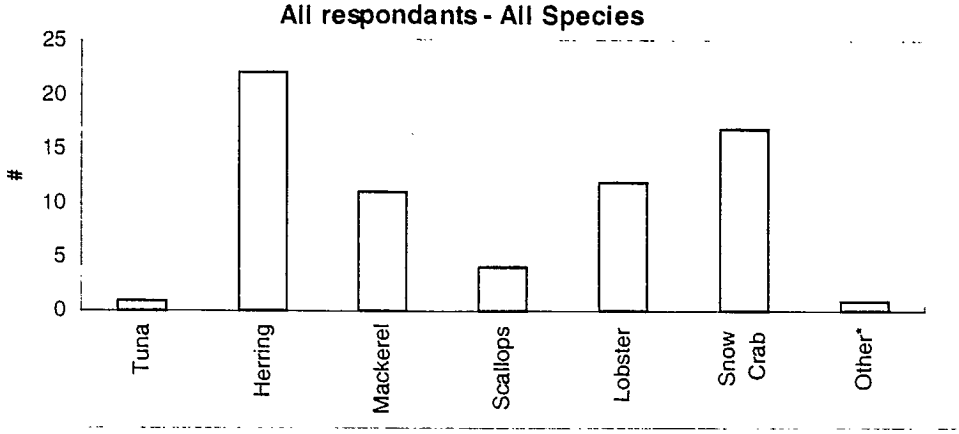


Figure 16. Fisheries that respondents switched to during the 1997 groundfish season. (Note: "Other" category includes fisheries like rock crab, surf clams, shrimp, etc.).

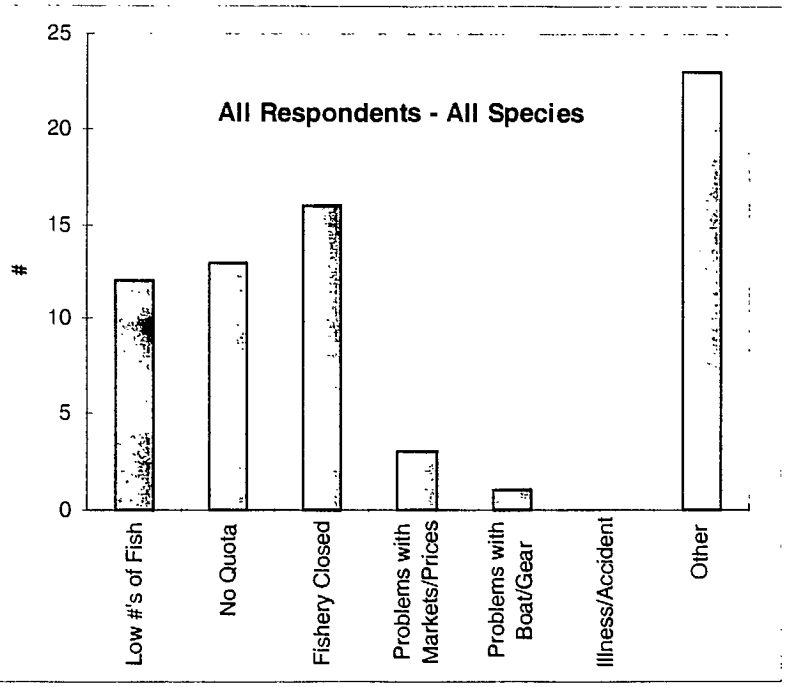


Figure 17. Main reasons given by respondents for switching from groundfish fishing to another fishery during the 1997 groundfish season.

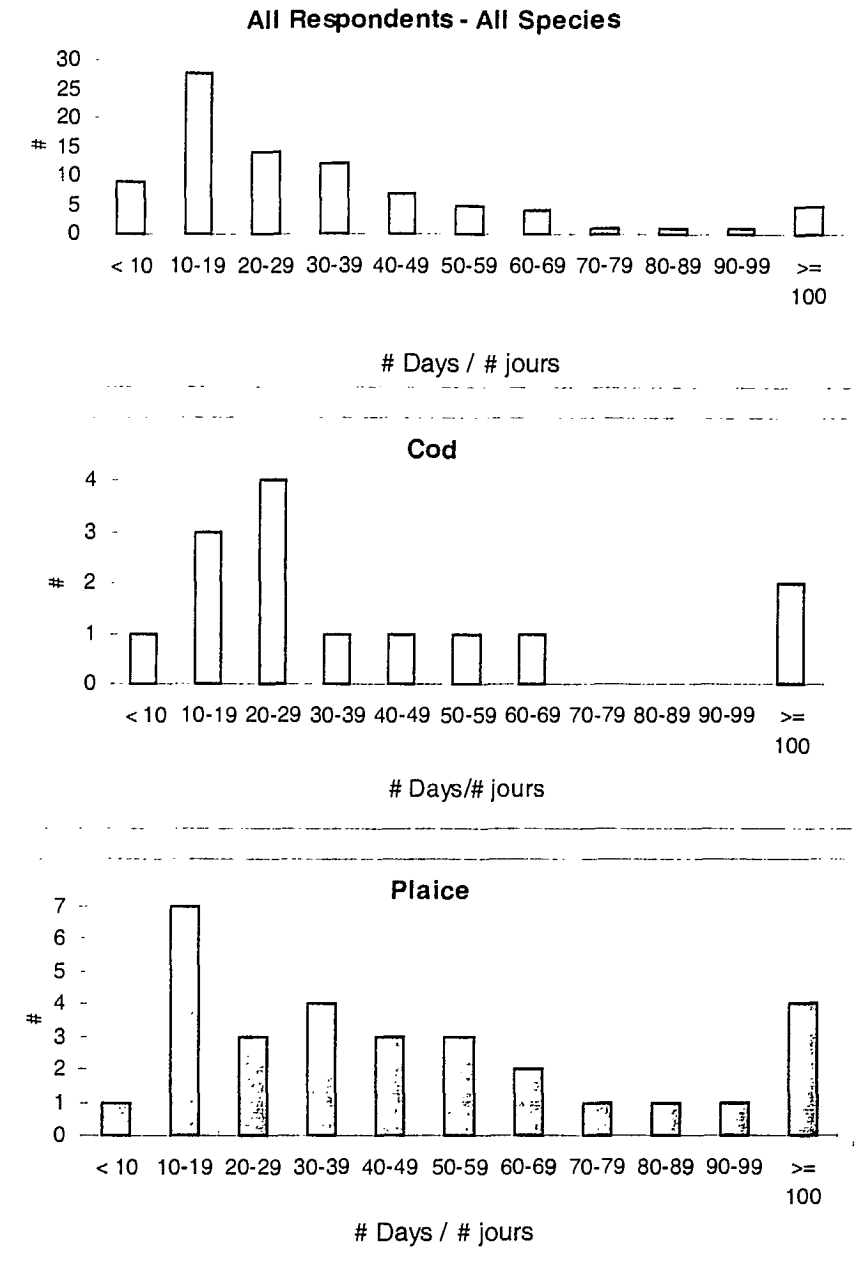


Figure 18. Respondent's best estimates of the number of days they spent fishing for groundfish in 1997 (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

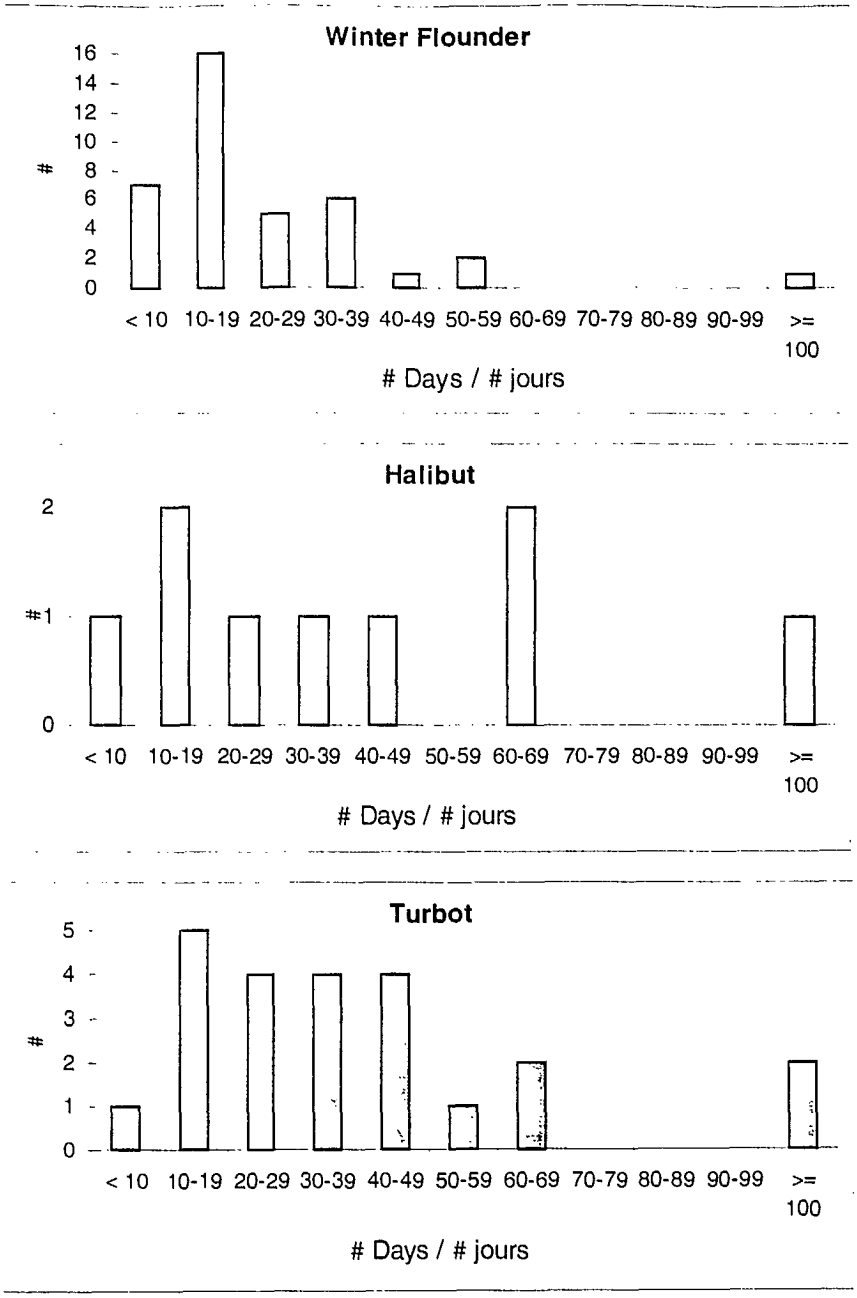
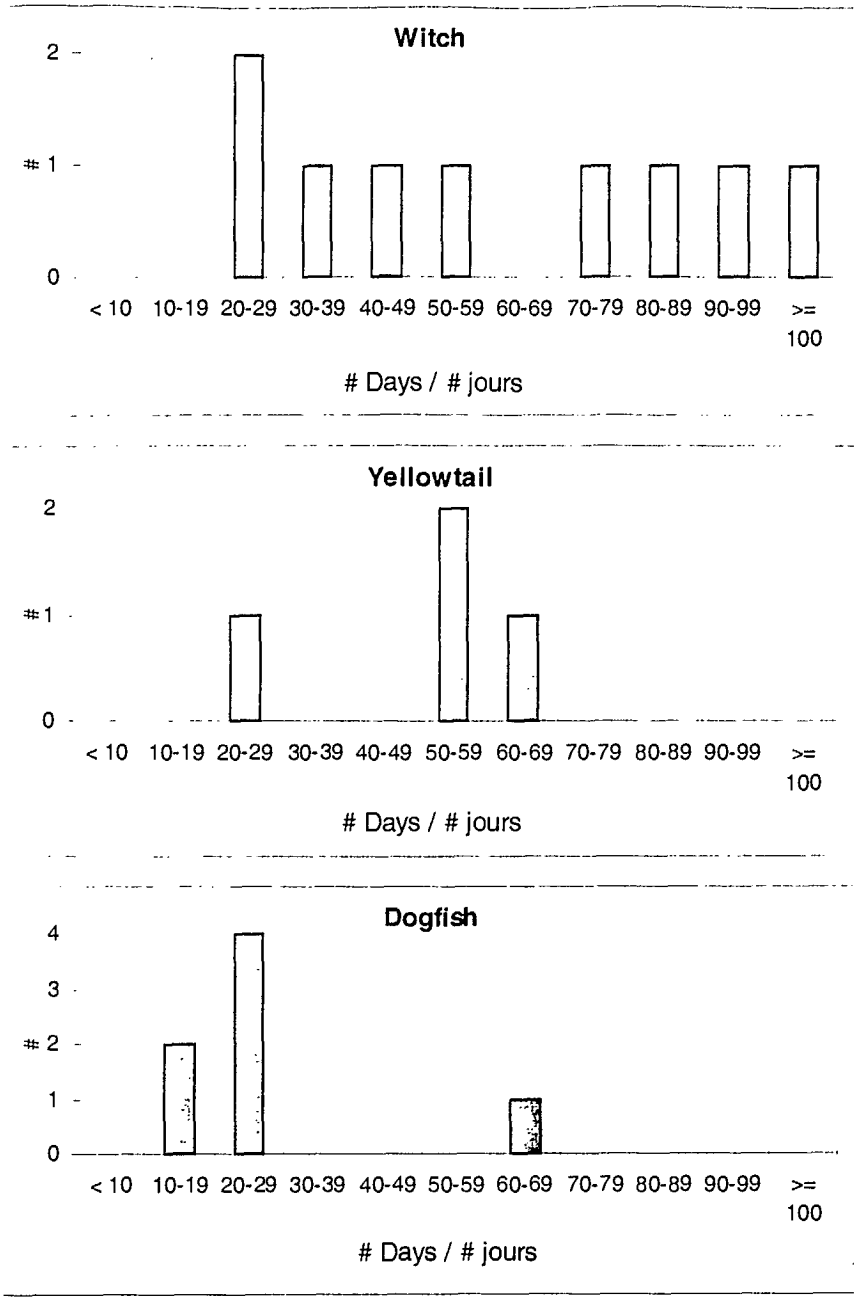


Figure 18. Continued.



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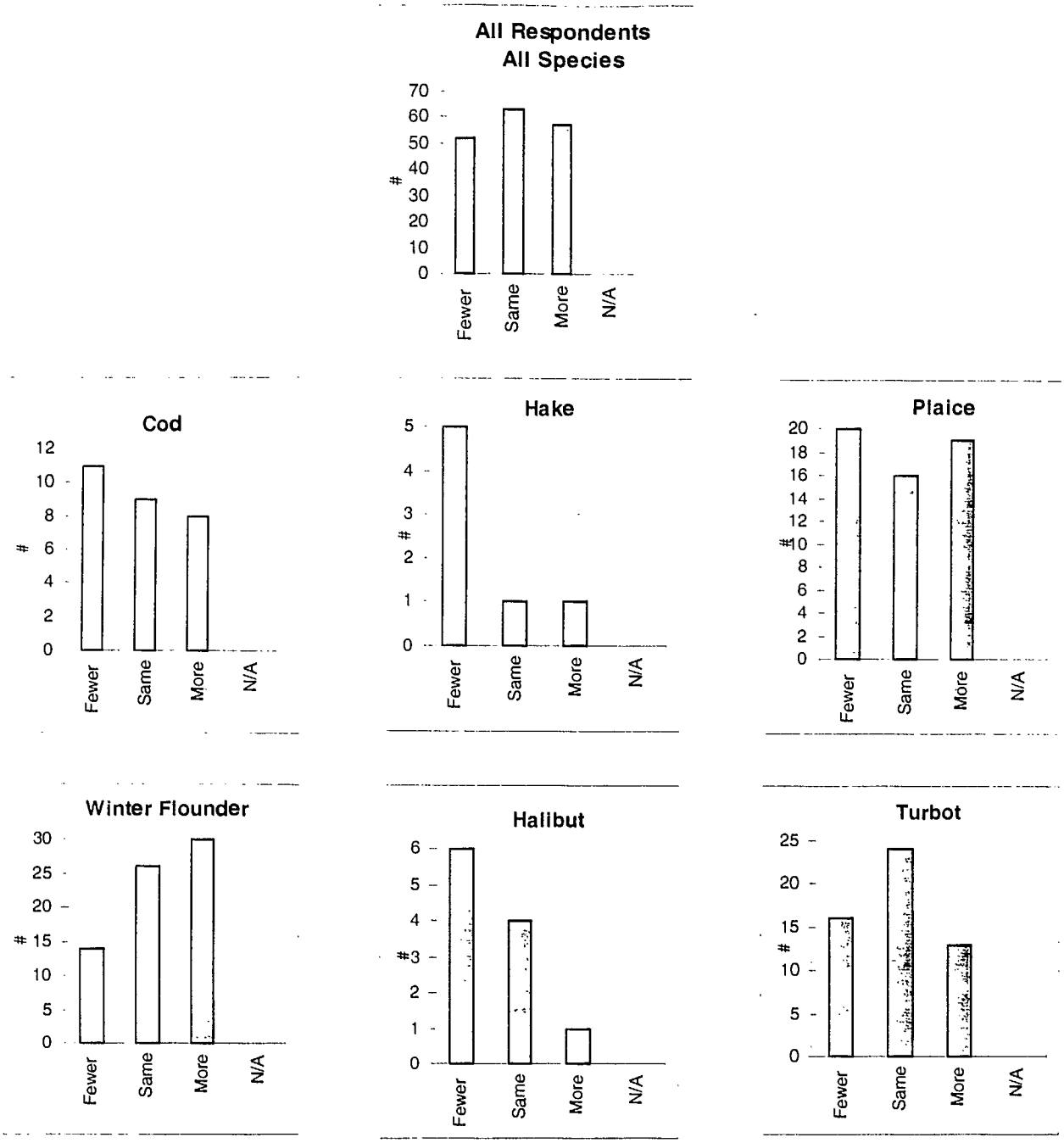
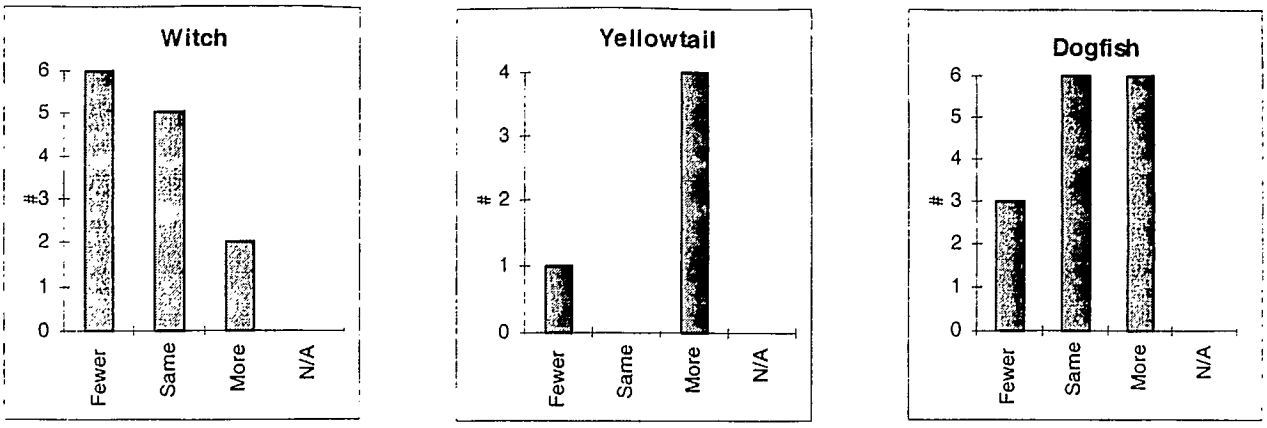


Figure 19. Comparison to 1996 of the number of days spent fishing for groundfish in 1997. (Note: 1. These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time'. Note: 2. N/A = "Not Applicable" category represents respondents that did not fish for groundfish in 1996).



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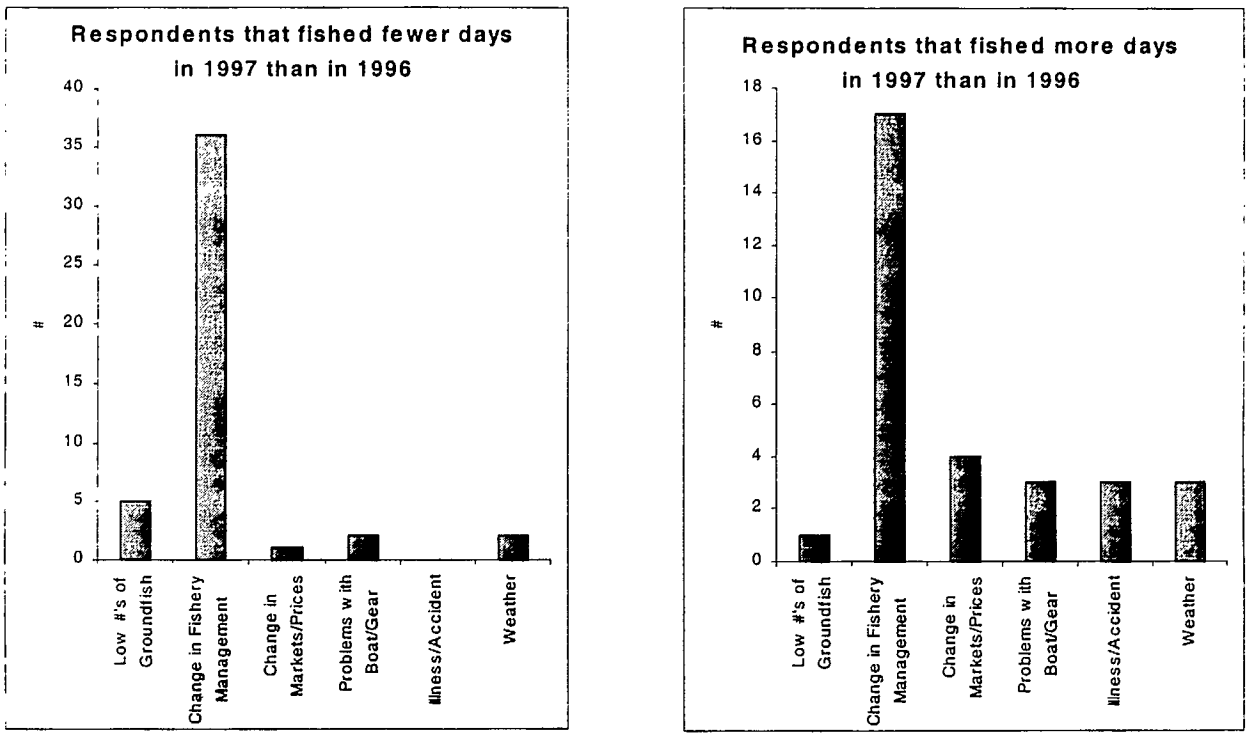


Figure 20. Main reasons given by respondents for spending less or more time fishing for groundfish in 1997 than in 1996.

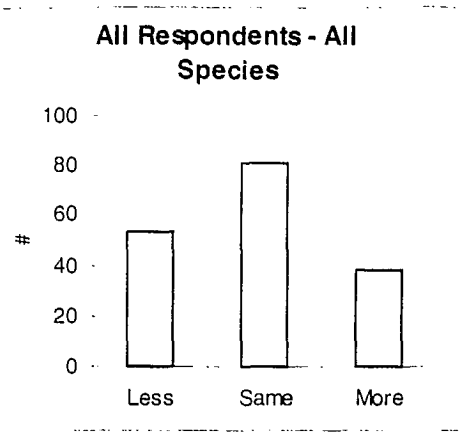


Figure 21. Comparison to previous years of the number of days when the weather was too bad to fish for groundfish in 1997.

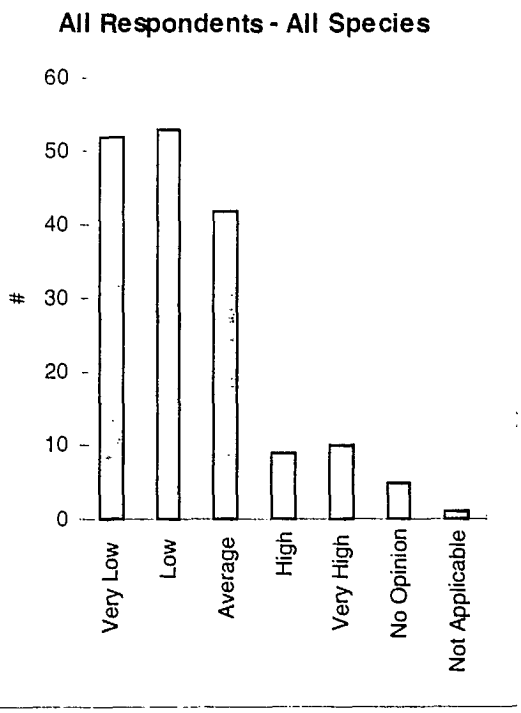


Figure 22. Opinions of respondents concerning the abundance of dogfish in 1997.

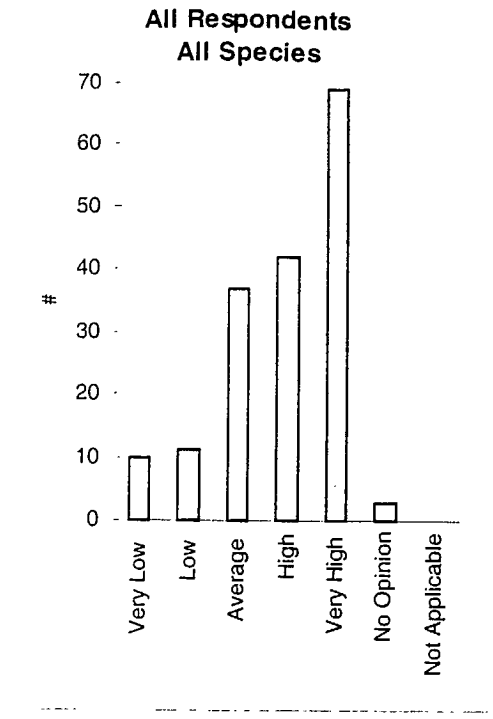
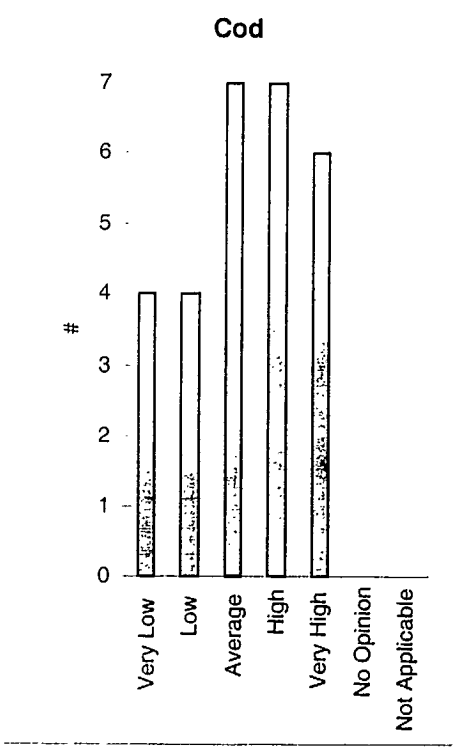


Figure 23. Opinions of respondents concerning the abundance of seals in 1997.



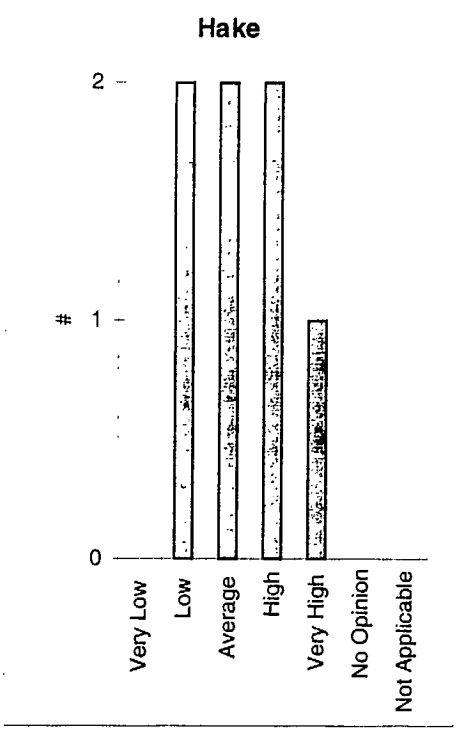
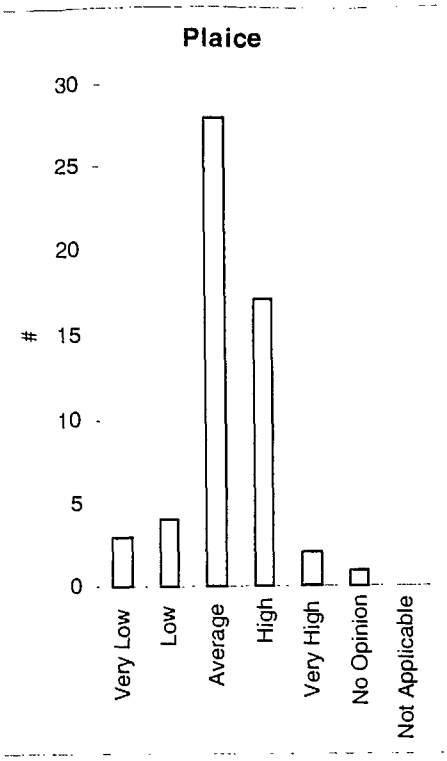
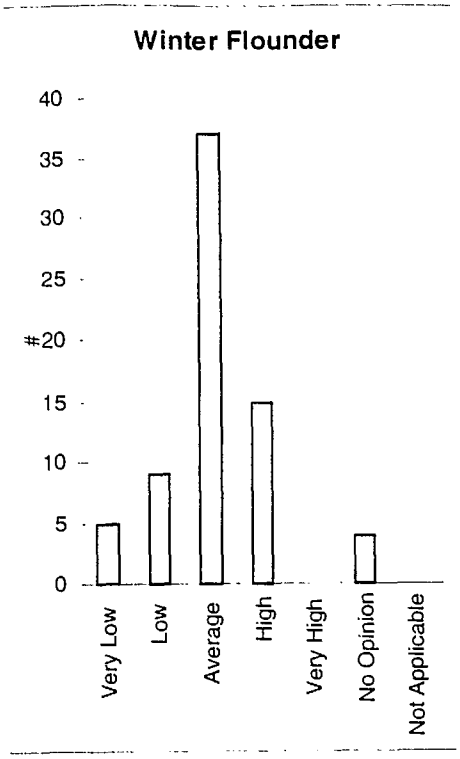
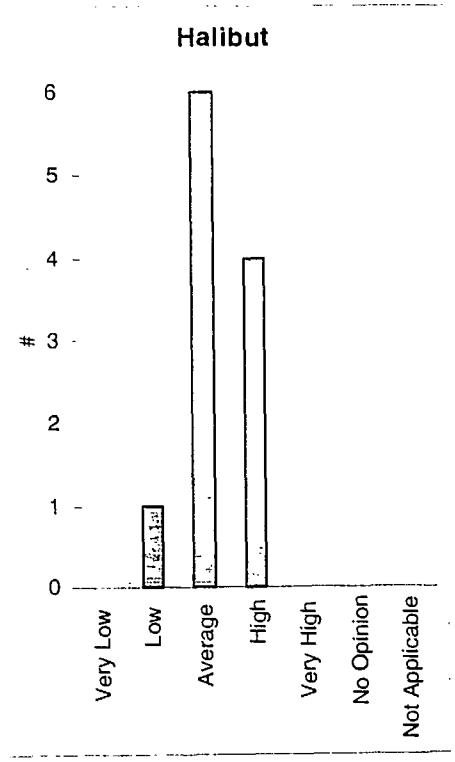


Figure 24. Opinions of respondents concerning the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1997 (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').







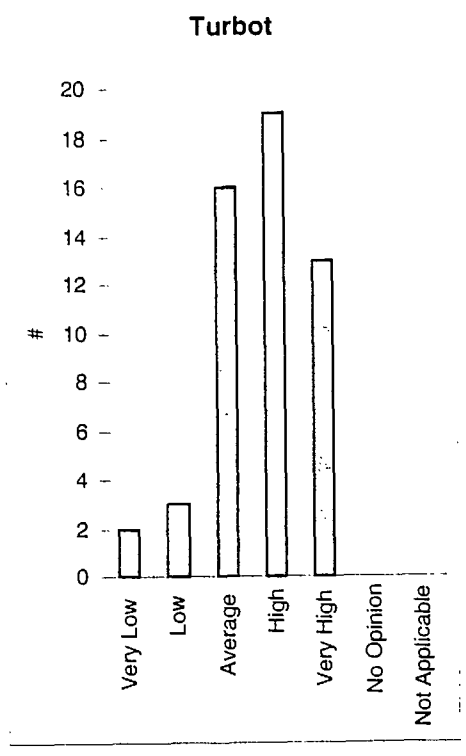
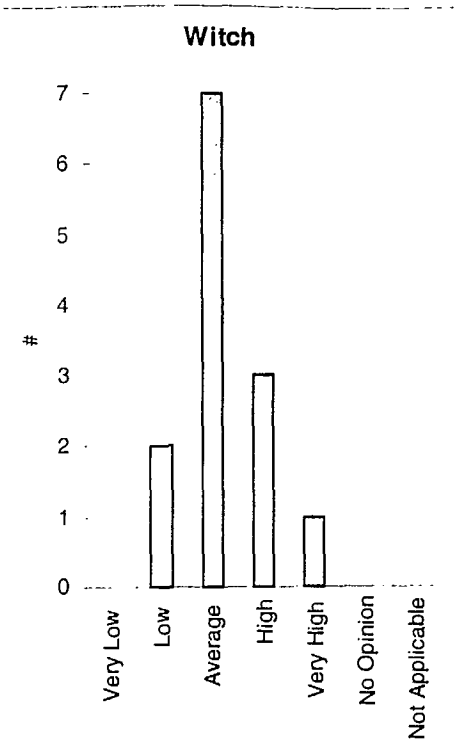
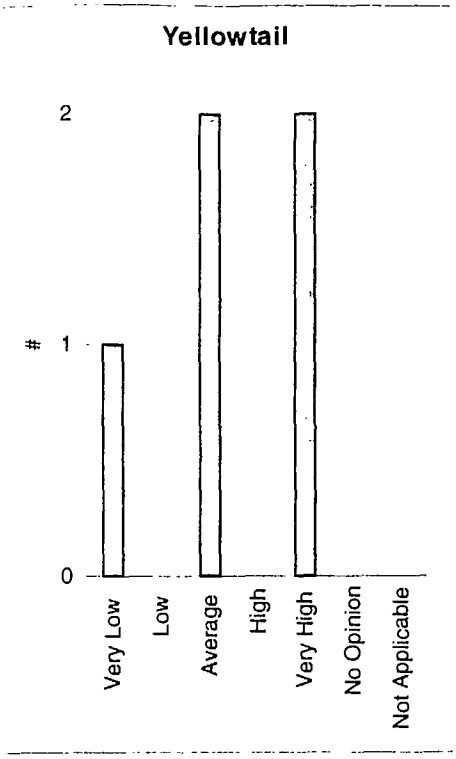
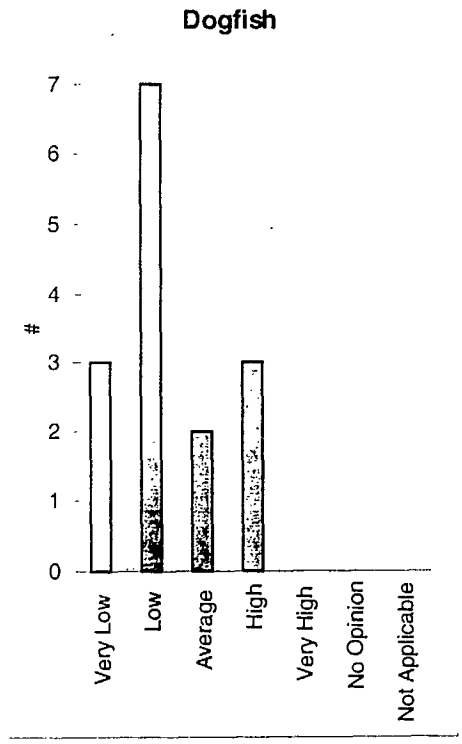


Figure 24. Continued.







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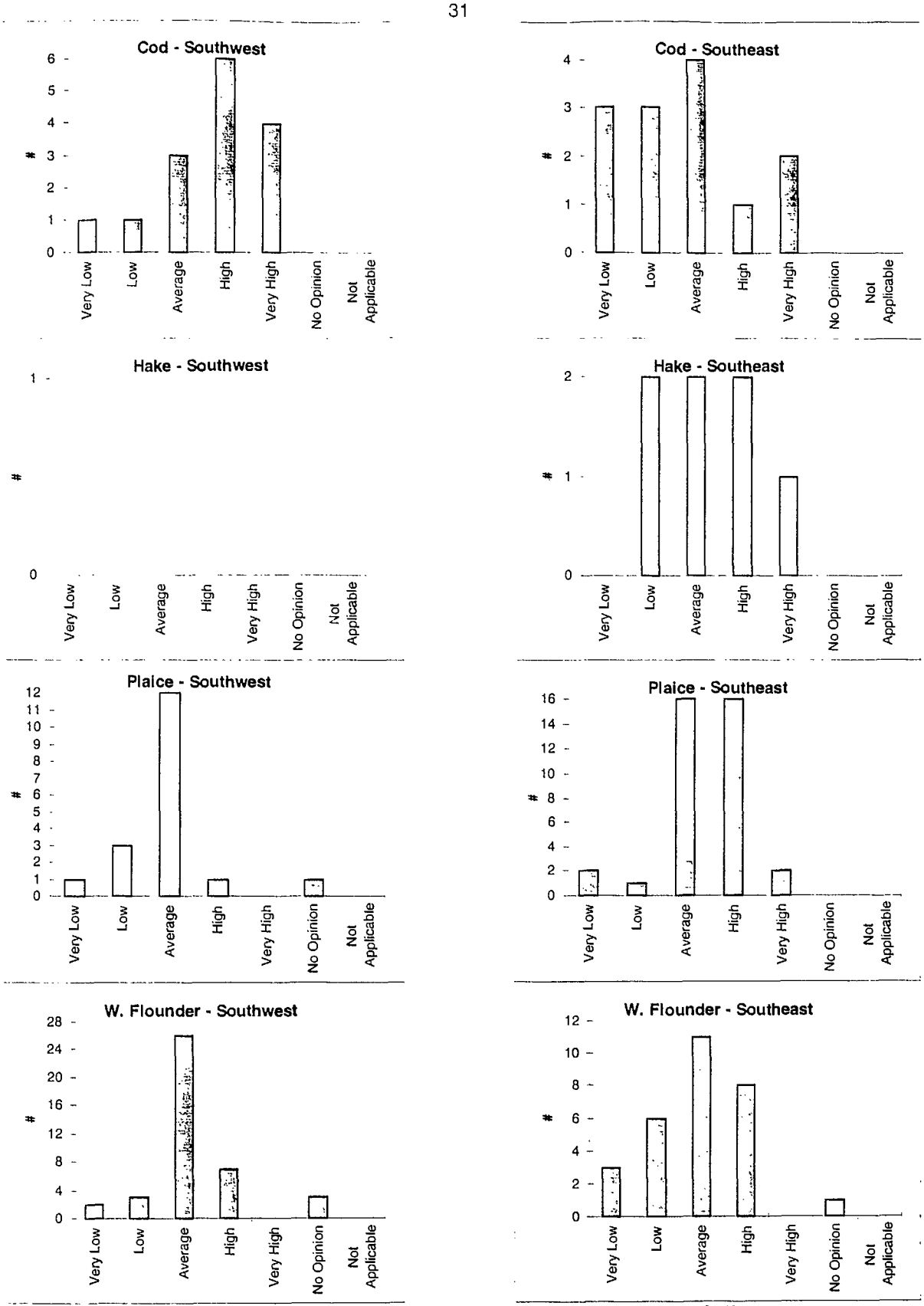


Figure 25. Opinions of respondents from the southeastern and southwestern Gulf concerning the abundance of cod, hake, plaice and winter flounder in 1997. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

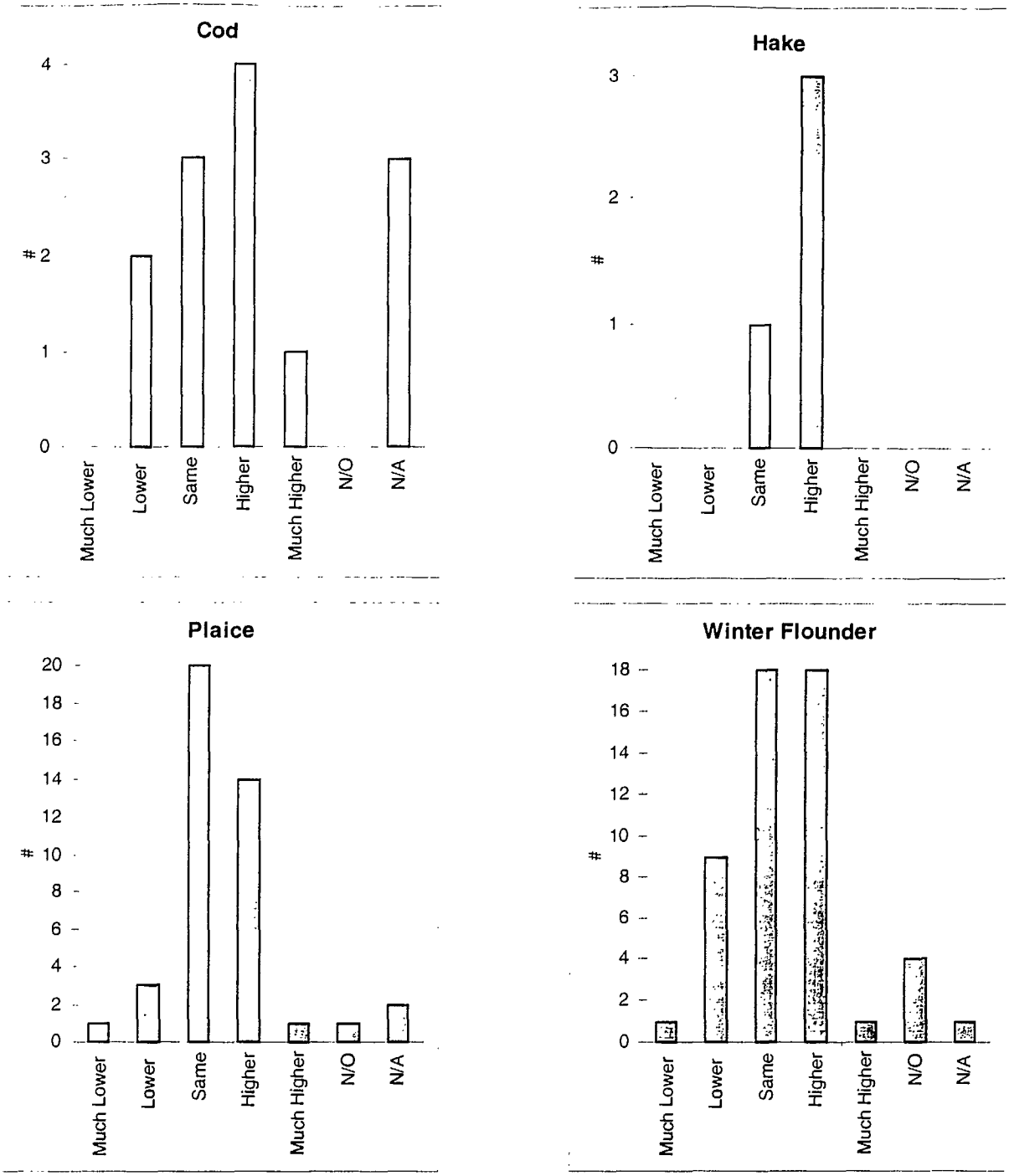
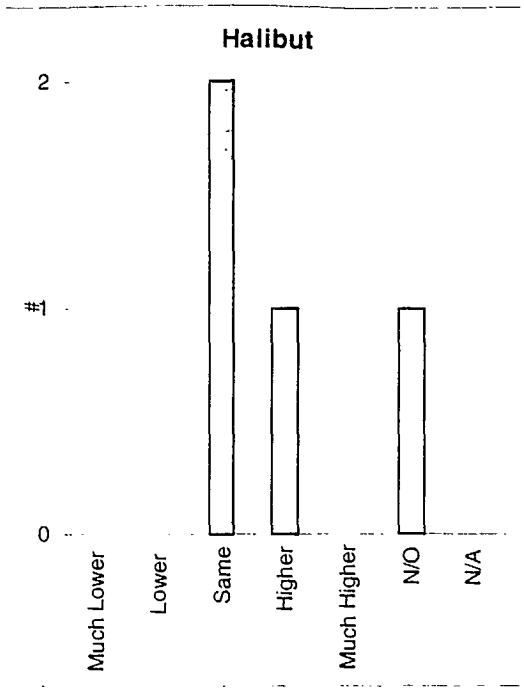
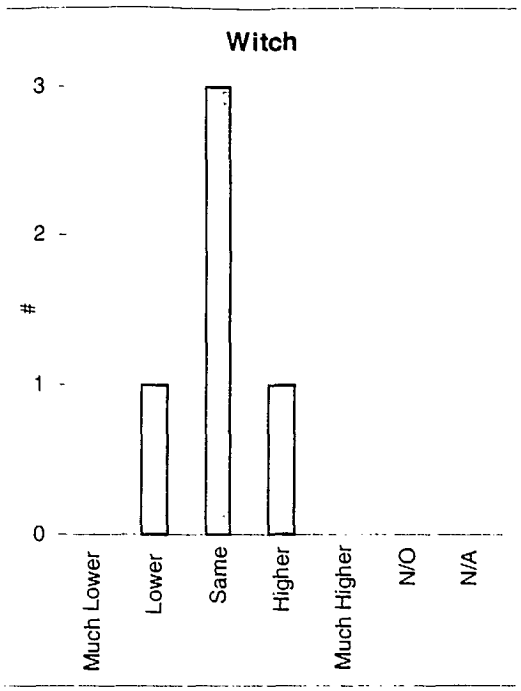
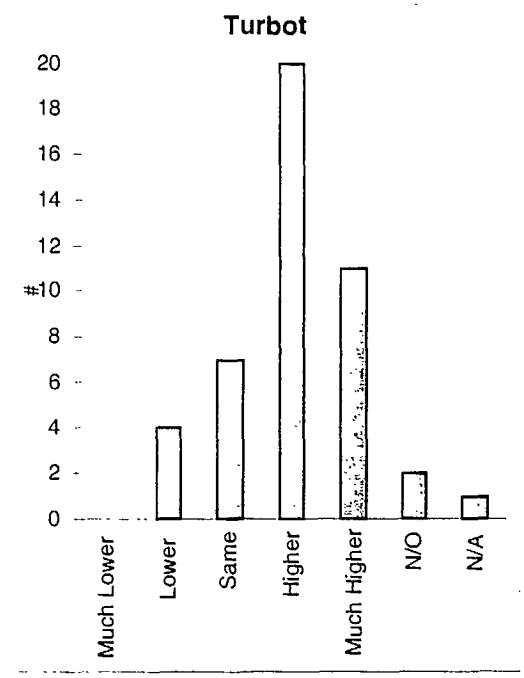


Figure 26. Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch and dogfish in 1997 with their abundance in 1996. (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').







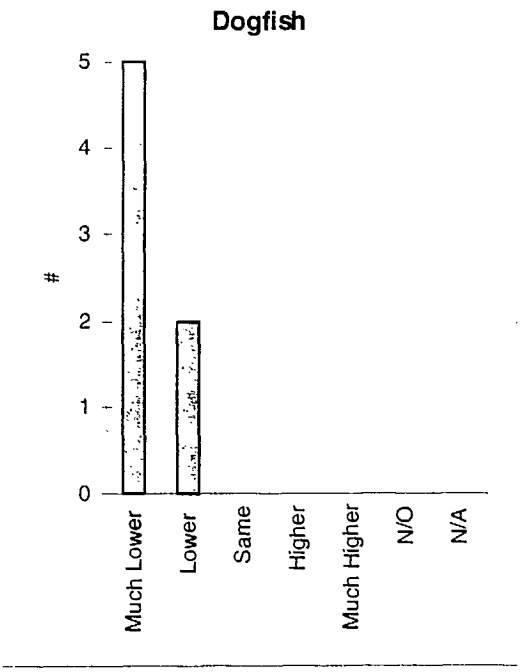


Figure 26. Continued.

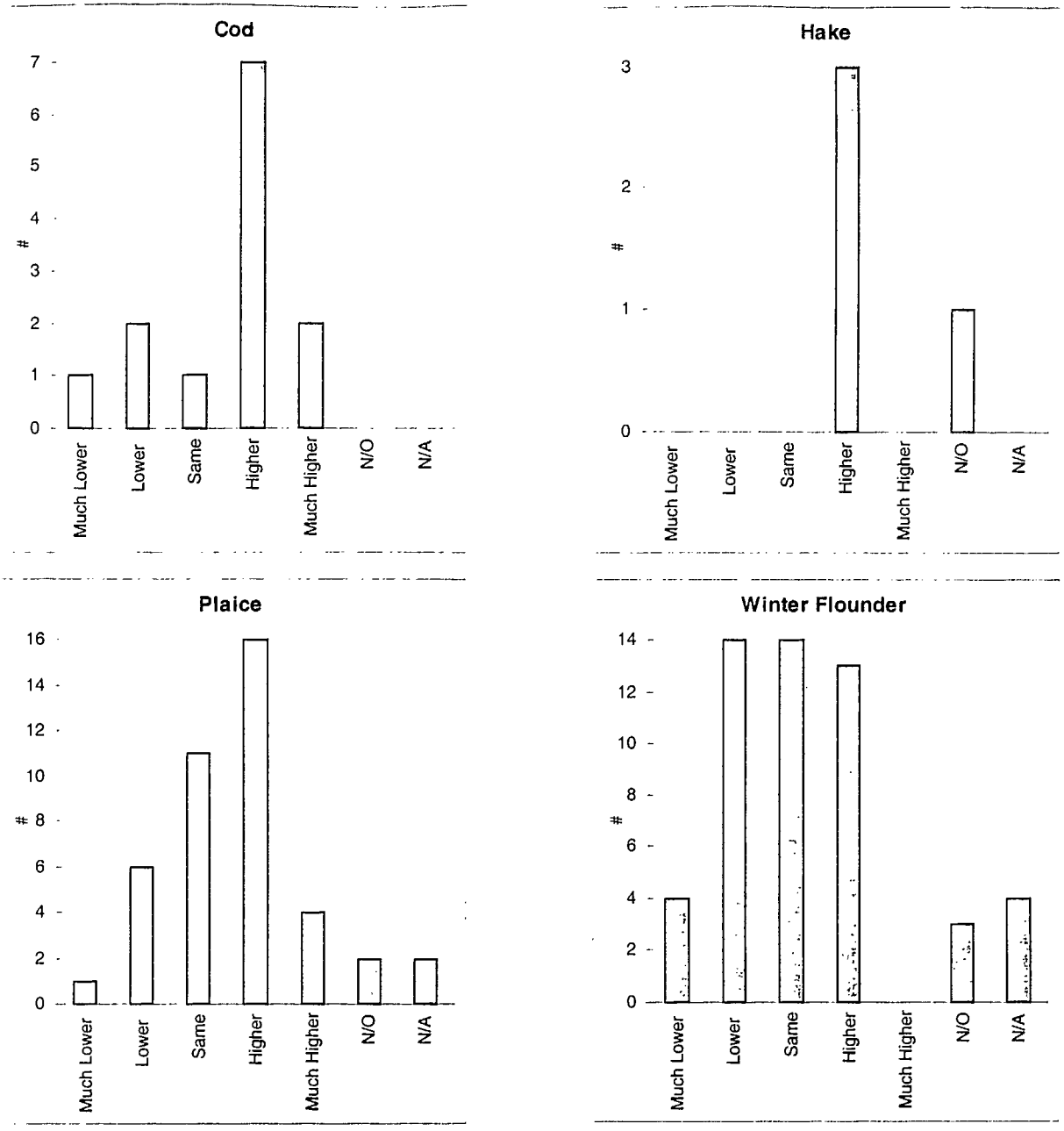


Figure 27. Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch and dogfish in 1997 with their abundance from 1992 to 1996 (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

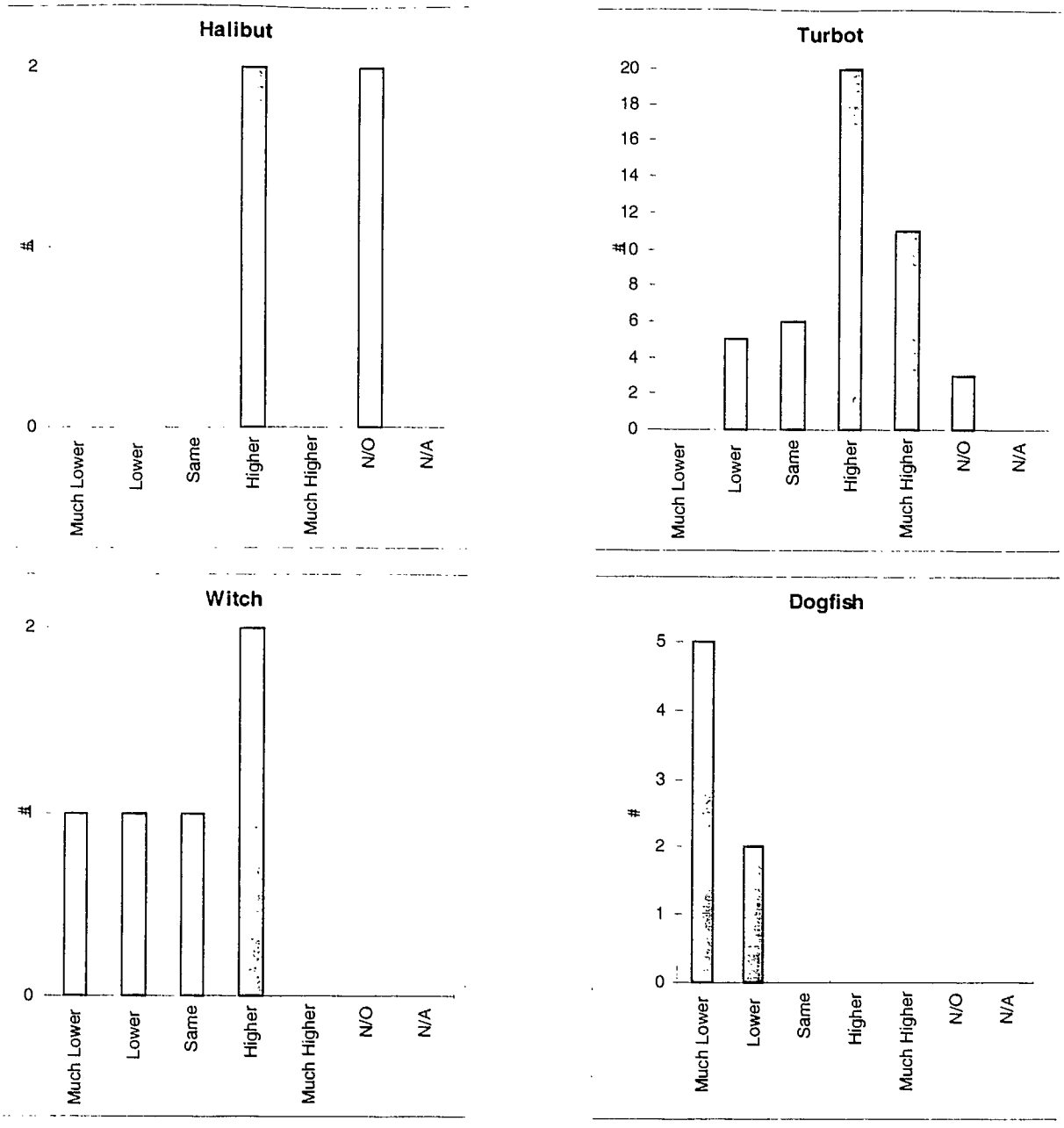


Figure 27. Continued.

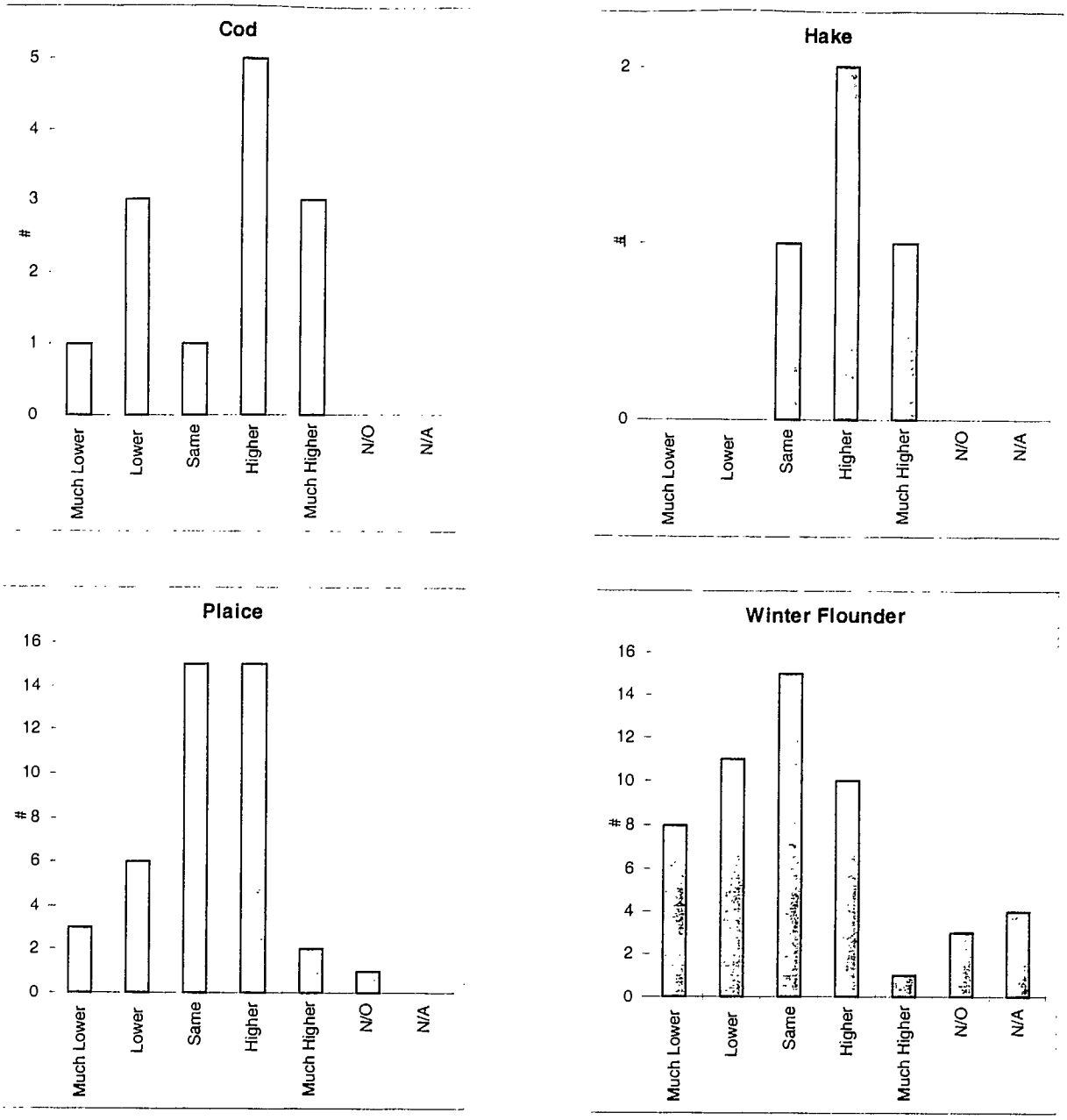
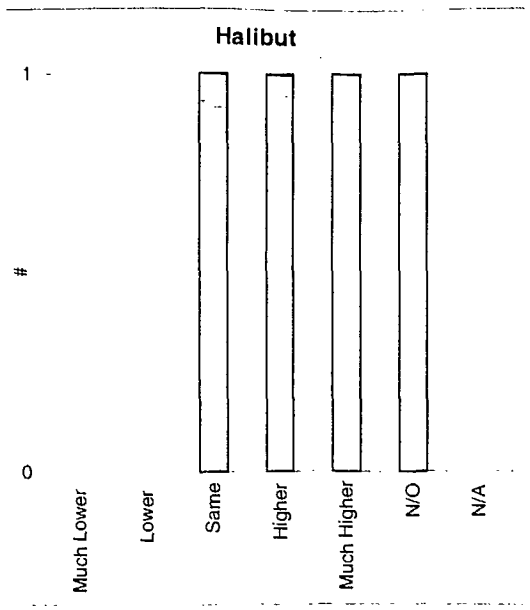
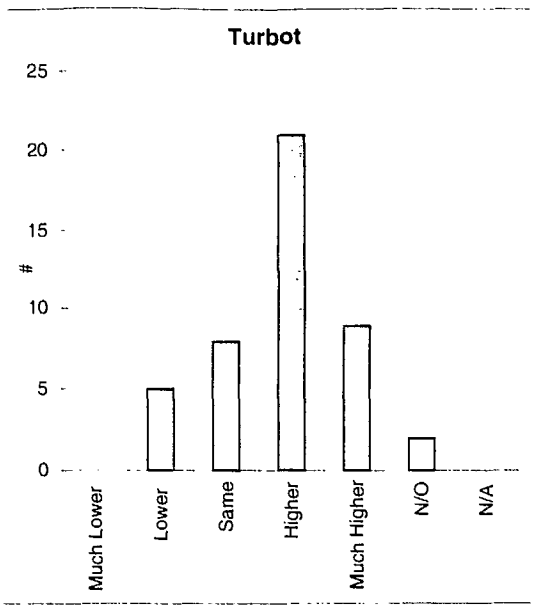
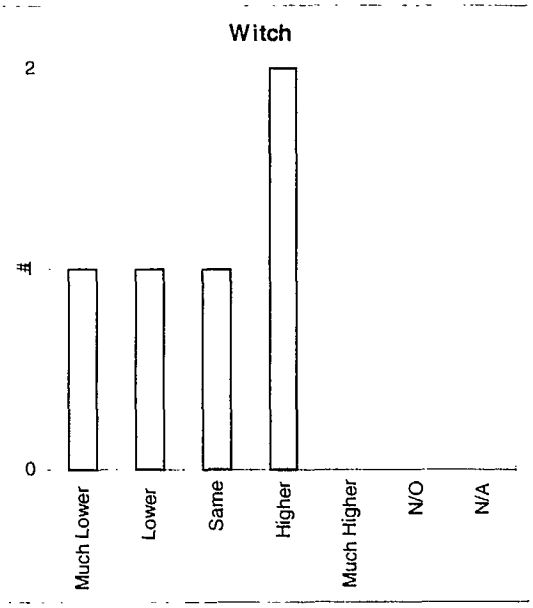


Figure 28. Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch and dogfish in 1997 with their abundance during all of the years that they fished for this species (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').







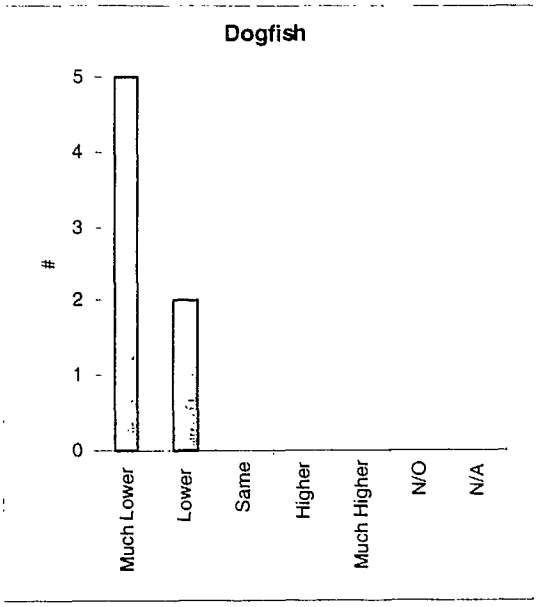


Figure 28. Continued.

10 - Appendices

Appendix 1
Locations Where Respondents Reported They Observed Seals
While Fishing for Groundfish in 1997

4T9 area Cape St. Lawrence, N.S. (close to shore).
Southern Gulf 4T.
Cape St. Lawrence and Cape North, N.S.
Coast from Cheticamp to Bay St. Lawrence, N.S.
12 miles from shore, from Sea Wolf to Mckenzie Mt., N.S.
Margaree, N.S.
Margaree Is. to Cape St. Lawrence, N.S. (close to shore).
Cheticamp harbour, N.S.
Off Port Hood, N.S.
Around Henry Island, Port Hood and Mabou, N.S.
Port Hood Is., 4T8-4T1 line, N.S.
4T8, Port Hood, Port Hood Is., Mabou, N.S.
Off Port Hood and Henry Is., N.S. (along the coast).
All along the Eastern coast, Off Cape George, N.S.
Everywhere, even 11 miles offshore.
Off Cape George and Cape Breton, N.S.
Below East Pictou Island, N.S.
Off Cape George, N.S.
St. Georges Bay, N.S.
Pomquet Bank, N.S.
St. James Bay, N.S.
Cape George, N.S.
Off Maritime Rock and off the bell buoy at Cape George, N.S.
Towards Canso Strait, N.S.
Laurentian channel, N.S.
Around Miscou, N.B.
Miscou, Baie des Chaleurs, N.B.
Gaspe coast, Que., 4T3.
Miscou, N.B
North of Miscou, N.B.
Miscou, Shippigan Harbour, N.B.
Escuminac Point, N.B.
Escuminac shore, N.B.
Escuminac Point, N.B.
Escuminac to St. Louis, N.B.
From Cape Egmont light (P.E.I.) to Confederation Bridge
Cap Pelé (N.B.), Cape Egmont (P.E.I.).
Skinner's Pond harbour, around North Cape, P.E.I.
Around Miminegash area, P.E.I.
4T5 and 4T7.
From North Cape to Victoria, P.E.I.
5 miles east and west of Miminegash Harbour, P.E.I.
Between Souris, P.E.I. and N.S.
Off Fisherman's Bank.
Fisherman's Bank.
14 miles S/E of Cape Bear, P.E.I.
North of Fisherman's Bank.
Fisherman's bank along the coast, P.E.I.
East of P.E.I.
Around Fisherman's Bank, P.E.I.
North of Fisherman's Bank, P.E.I.
Fisherman's Bank, P.E.I.
Basin Head, P.E.I.
East of Souris, P.E.I., In Souris harbour.
North side of P.E.I., along the shore.
Location LC: 140424/296000
Off East Point, P.E.I., southerly.
S./E. of P.E.I.
Off East Point, P.E.I.
All along western coast of P.E.I. (N & S sides).
North Cape area (district 25), P.E.I.
West P.E.I., between Skinner's Pond and Miminegash.
St. George's Bay, N.S.
Off Tignish, P.E.I.
Cape George, N.S.
Fishing Cove, Egmont Bay, P.E.I.
Cap St. Laurent, Magdalen Is.
East of Magdalen Is.
Miscou Bank
Banc de l'Orphelin.
East of Magdalen Is.
North coast of Magdalen Is.
Magdalen Islands.
Riviere nord, north and south of Gaspesie shore, Que.
Mont. Louis, Que.
Matane, Rimouski, Que.
South of Newfoundland and all around Anticosti.
North coast of Anticosti Is., Que.
North of Gaspesie, Que.
Grande-Eau, Que.
North shore of Anticosti, Que.
Trinity Bay, Que.

Appendix 1 - Continued

Rimouski, Que.
Gaspe north shore, Baie Comeau, Que.
Pointe-des-Monts, Que.
Sept-Iles, Baie Comeau, Matane, Que., Bathurst (N.B.)
Matane, Grande Vallee, Sept-Iles, Que.
St.-Anne-des-Monts, Matane, Rimouski, Que.
Tourelle shore, Que.
Miscou Bank
Miscou Bank, Newport, Que.
North coast of Magdalen Is.
North coast of Magdalen islands, Brion Is., Que.
Magdalen Islands.
L'Anse de St.-Omer, Carleton, Que.
Cap-Chat, Que.
From Grosse-Roche to Cap-Chat, Que.
Gaspe north shore, Que.
Gaspesie north shore, Que.
Matane, Que.
Zone 4T (can't be more specific).
St-Felicite, Que.
Grande Etang, Que.
Gaspe coast, Que.
North coast of the Magdalen Is.
Baie des Chaleurs (Que.), Banc Orphelin.
Matane (Que.), Miscou Bank.
Baie Comeau, Que.
Mont-Louis, Pabos, Que.
Caplan, Que.
Miscou Bank
Miscou Bank
12 miles from the Gaspe coast, Que.
Magdalen Is.
North of Anticosti, North of Gaspe, Que.
Anse-a-la-Loup, Que.
7-8 miles from St-Annes-des-Monts, Que.
4Tn, Miscou Bank.
Rimouski, Que.
Gaspe north shore, Que.
Entry Island, Magdalen Is., Que.
Bonaventure, Que.
Southeast of the Magdalen Is., Que.
St. Lawrence estuary.
Gaspesie north shore, Que.
Iles Brillants, Que.
4T3, north of Gaspe coast, Que.
10 to 15 miles south of Grand Entry, Magdalen Is., Que.
Gaspe north shore, Que.
Port Daniel, Que.
Baie des Chaleurs, Que.
Miguasha, Que.
Gaspe north shore, Que.
10 miles south of Little Harry, Magdalen Is., Que.
Caplan, Que.
Bonaventure Pt., Que.
Miscou, N.B.
Miscou Bank
Bonaventure, Que.
Miscou Bank
East and west of Matane, Que.
St-Anne-des-Monts, Que.

Appendix 2
Final Comments and Opinions Made by Respondents on the 1997 Groundfish Fishery After Completing the Questionnaire

Note: The comments and opinions are grouped into seven categories:

- Seals
- Dogfish
- Mesh Sizes
- Gear Conflicts
- Licenses and Quotas
- Fisheries Management
- Other/Miscellaneous

Appendix 2 - Continued
Comments and Opinions Regarding Seals

Do something about the seal problem!
Have to control the seal population.
Have to cull the seal population. They're even eating lobsters now.
Like to see an open season on seals.
Need to control the seal population.
Seals are being seen in areas where they were never seen before.
Should be a seal hunt.
Should do something about the seal population.
There should be a spring seal count.
Something should be done about the seal population.
Something should be done about the seal population.
Something should be done about the seals, it's a big problem.
There has to be a seal hunt.
Try to get rid of the seals and cormorants.

Comments and Opinions Regarding Dogfish

Dogfish are an underrated menace.
Dogfish aren't around when we fish for groundfish.
No market for dogfish.
There are too many dogfish.
Too many dogfish, couldn't sell them.
Trying to get a plan in place for dogfish.

Comments and Opinions Regarding Mesh Sizes

Large mesh sizes are catching too many females.
Mesh sizes are too big.
Our catches are low because of larger mesh sizes.
Should be able to fish with smaller mesh sizes.
Should go back to 1996 mesh sizes - otherwise we catch too many spawning fish.
Stop fishers who fish with 5" mesh - They should be penalized with a one year suspension instead of one week.
The difference in mesh sizes makes it difficult to see what was there - so the questions are difficult to answer.
We're not catching the small fish with the gear we have now.
Would like to be able to use smaller mesh size and fish for dogfish after the blackback season. The bigger mesh nets are working well.

Comments and Opinions Regarding Gear Conflicts

Can't see the reason for having draggers in the sentinel fishery. They do more harm than good.
Do away with hard bottom gear - it destroys the stocks.
Do not bring back dragging! It's the ruination of the fishery.
Do not let draggers fish for cod.
Do not let draggers fish. They destroy the stocks.
Do not open the fishery for draggers.
Don't let draggers fish or the fishery will be ruined.
Longline fishing is a much more conservative method.
Don't let draggers fish.
Draggers have destroyed the fishery.
Draggers should not be allowed to fish.
Draggers shouldn't be allowed to fish.
Fishing in the spring with gillnets (tanglenets) eliminates winter flounder before they spawn.
Get the fish draggers out of the Strait. Go back to hook and line.
Longlines are a better way of fishing than draggers and gillnets. Should never let draggers fish again.
Put a stop to rock hoppers!
Should switch all fisheries to longline gear.
The mobile fleet is ruining the fishery and they get paid to do it. Stop the draggers!
The numbers of fish are going up steadily each year. This is due to eliminating draggers and limiting the number of nets per boat.
The seiners are catching small fish. Hard bottom gear is destroying spawning areas.
There should be a longline fishery for cod and hake. This would allow us to fish and not destroy the stocks.
Winter flounder stocks have decreased ever since the rock hoppers have been allowed to fish in herring spawning grounds. They're also responsible for the decline in herring stocks.

Appendix 2 - Continued
Comments and Opinions Regarding Licenses and Quotas

A longline cod fishery should be open.
Are they going to open the cod fishery in 1998?
They opened the cod fishery for draggers in 1997.
Bycatch for plaice and hake should be 50% of T.A.C. Quotas for plaice are too low.
Cod are more plentiful. More quotas.
Cod fishery should be open for quota.
Cod fishery should be open on western P.E.I. - cod was interfering with other fisheries.
Concentrations of cod are in different areas than before.
Don't open the cod fishery!
Don't open the cod fishery. There's less cod than before the closure.
Fair amount of cod out there.
Fishery didn't last long enough.
Fishery should have been open.
Fishery should open. Cod levels are high - had to stop fishing because we were catching too much cod.
Fishery was too short. Too few days open in the spring and only reopened in September.
Give a small bycatch of cod or hake.
Good year - No increase in number of licenses.
Too many fishers, they will damage the stocks.
Groundfish (hake) could be open next year. Quotas could be tied to the boat and passed on through the family.
Had to stop fishing because cod catches were too high. They should let us fish for cod.
Halibut fishery was very good, but the fishery closed down when the fish quality was highest.
Hope a longline fishery will open for cod in 1998.
Should raise turbot quotas.
Hope they open the cod fishery.
Like to see the fishery open on a limited scale.
Lots of big cod were seen. Lots of yellowtail flounder.
Lots of cod in the Gulf, but not on the north coast.
Raise the quotas.
Lots of cod out there in 4T and 4R.
Lots of juvenile cod out there.
More cod, hake and halibut than previous years.
More groundfish than normal.
Not many cod caught in some areas. They were not in areas we usually fish.
Open the cod fishery, maybe on a lottery system.
Open the fishery, lots of fish out there. Like to see more of a flounder quota.
Over abundance of hake in 1997.
Plaice quotas are too low. Cod numbers are high in the spring (too high).
Plaice quotas could be higher and not hurt the stock. Blackback stocks are holding their own.
Hake are plentiful. Hopefully things will get better.
Quotas could be higher.
Quotas could be higher.
Quotas could be higher. Extend the fishing season from 7 to 15 weeks.
Quotas should be a lot higher.
Quotas should be higher.
Quotas should be higher.
Quotas should be higher.
Quotas should be higher.
Should be a longline fishery for cod and hake. This will allow us to fish and not destroy the stocks.
Should be a longline fishery for cod.
Should open a cod longline fishery. It would give a good picture of the cod situation.
Should open a limited cod fishery.
Should open a limited cod fishery. Other quotas should be higher.
Should open the fishery.
Since we've increased our mesh sizes and limited the number of nets per boat, the resources have risen dramatically. Quotas should be increased.
Slow down the amount of licenses and quotas or the species will suffer.
Substantially more cod out there than before.
They were small cod but plentiful.
The fisheries should be open. There are more cod out there now than ever.
The fishery should return to normal. There are more fish out there than ever.
The plaice and winter flounder fishery was good - quotas could go up. Hake fishery could be opened on a limited scale.
The resources are there, the quotas should be higher.
There are more cod than is being reported.
There is enough cod out there for a handline fishery.
There should be a cod fishery. We have to avoid areas because of high numbers of cod.
There should be a grey sole fishery in early May.
Should do a test fishery for grey sole in 4T9b around May 1st.
There should be a longline fishery for cod open to groundfish fishers.
There should be a separate quota for the Magdalen Islands.
There should be one opening for plaice, not two, and it should be later in the year.
There was very little cod here.

Appendix 2 - Continued
Comments and Opinions Regarding Licenses and Quotas

There's lots of fish.
They closed 4T when they didn't need to. Nova Scotia is the bigger problem when it comes to ruining fish stocks. They take too much out of the water.
Too many licenses.
Too much cod. The fishery should open. We should fish other groundfish than cod.
Turbot quotas should be higher.
Turbot quotas should be higher. Cod numbers are too low to fish.
Turbot quotas should increase to 500,000 +
Turbot quotas weren't high enough.
Use a bit more on the flounder quota.
Wish they'd open the fishery more. There's a lot of fish out there.
Wish they'd open the fishery on a limited basis.
Wish they'd open the fishery. People are trying to make a living.
Would like to see a longline fishery open.
Would like to see quotas higher so we could fish longer and be able to make a living.

Comments and Opinions Regarding Fisheries Management

Bad management - We should be able to fish when we want.
Control the recreational fishery - they catch more than 10 Cod but keep the best 10. Very wasteful!
Some use nets instead of handlines.
D.F.O. has to listen to fishers. D.F.O. takes money for Observers and patrol boats and they do nothing!
Don't like the way the seasons were set. Openings were delayed and D.F.O. instructed me to contact the union instead of giving an answer themselves.
Fishing zones close too often. D.F.O. should take care of the turbot fishery.
Fixed gear groundfish fishers are not getting a fair shake. One person shouldn't ruin the fishery for everyone by exceeding their quota.
Flounder fishery should coincide with herring spawning patterns - they feed on herring roe.
Gillnet numbers should stay the same.
Have to get a definite plan. Mismanagement on P.E.I. is unbelievable!
If a fishery is closed, no other fishery should be able to fish the closed stock. Recreational fishery is hurting the stocks. Need stricter monitoring on fishing boats. Boat size doesn't mean anything when it comes to the amount of fish they take.
Let the fishers fish and leave them alone.
Like to see a longline fishery.
Like to see the cod fishery open. A few years ago, we fished for dogfish and had to stop because we were catching 90% cod.
Like to see the hake fishery open, there're lots of hake out there and it interferes with the winter flounder fishery.
Like to see the water depth regulation lifted.
Groundfish fishery should be open on a boat quota scale. Need an individual boat monitoring basis.
Limit the number of licenses. The key to fishing is organization and control.
Look at conditions more carefully before shutting the season down.
No monitoring of boats. There should be more surveillance of fishing activities.
Not enough observers on boats. A lot of fishers are fishing in closed areas.
Open the season earlier in order to catch the fish as they move through the area.
Quotas should be individual and higher. One fisher that goes over the quota should not shut the fishery down for everyone.
Recreational fishery is a problem.
Should be stricter guidelines and regulations for draggers.
Should have a limited exploratory fishery to determine what is out there (all species).
Should have been able to fish more.
Should let us fish longer so we can make a living.
Should take the fishers' word on what's being discarded instead of having to take everything ashore and wasting it.
Since we've increased our mesh sizes and limited the number of nets per boat, the resources have risen dramatically.
The dogfish program was awarded to lobster fishers instead of groundfish fishers. It's getting so groundfish fishers can't make a living. There seem to be more lobster, crab and shrimp fishers fishing for groundfish than before the closures. The minister has turned his back on the groundfish fishery.
The recreational fishery took too many cod out of the water.
The shallow water exploratory fishery should become permanent. Should let us fish earlier.

Appendix 2 - Continued
Comments and Opinions Regarding Fisheries Management

There was no monitoring of catches in this area.
Too many licenses.
We should be able to fish longer than 6 -7 weeks.
We should have individual quotas.
Weekly quota works well for the competitive fleet.
Each fisher can catch their fair share. It gives the fish a chance.
Whenever cod come towards this area, they shut the fishery down. Too many people after one species. Open up more species. If one person goes over the limit the whole fishery is shut down. They should just shut down that person.
Would like to fish closer to shore.
Would like to see the Magdalan Islands have their own fishing season. Should increase hook size from 14 to 16, to catch less cod and dogfish.

Other/Miscellaneous Comments and Opinions

After 4 years of talk and meetings, nothing much has been done.
All the questions and answers are at D.F.O. Moncton - Check the database.
Couldn't answer most of the questions because of fishery closures.
Each year I notice fish arrive later in the season.
Migration route changes with water temperature.
Fishing was steady all the way through.
Getting to be that it's too expensive to fish.
How do you get on the sentinel fishery in June/July?
Like to see a Sentinel Fishery in the Northumberland Strait.
Need more questions about cod and hake!
Not enough questions about cod.
Questions were difficult to answer because I wasn't allowed to fish.
Quite concerned about the poor rapport between scientists and fishers.
Seems to be a discrepancy in the findings of the D.F.O. research survey.
Sentinel fishery has done it's job, but there still seems to be low numbers reported.
Sentinel fishery is a waste of time and money.
Take ten fishers per province and let them fish and analyze the results.
Sentinel fishery is going on in all the wrong places.
Sentinel fishery is not efficient (wrong time of year).
Sentinel fishery samples at the wrong time of the year.
Should have a tagging program for hake. Hake were closer to shore.
Some questions are too vague.
Some questions should be redesigned. Glad they're doing this survey.
Some questions were hard to answer because we haven't fished for some years.
Surveys aren't giving a clear picture of recruitment.
The increase in competition is bad for the stocks.
D.F.O.'s surveys (Sentinel) are not accurate.
The Sentinel fishery is useless. They're fishing in the wrong spots and not choosing groundfish fishers to participate.
The survey should reflect closures in order to be accurate.
There seems to be no direction in the fishery.
Use more boats in the sentinel fishery and make the decision on the status of the stocks with results of 3 consecutive years.
What is happening with the fishery? All these biologists are doing studies but we can't get a straight answer.

Appendix 3

The Questionnaire used in the 1997 End of Season Survey of Groundfish Fishers from the Southern Gulf of St. Lawrence

The following questions deal with your fishing activities during 1997.

1. In 1997, did you fish for groundfish?

(By groundfish, we mean: cod, hake, or any of the flatfish or dogfish.)

Yes O [1] **(GO TO QUESTION 4)**

No O [2]

2. What was your main reason for NOT fishing for groundfish in 1997?

(Check one only)

(a) Low numbers of groundfish O [1]

(b) No quota O [2]

(c) Fishery closed O [3]

(c) Problems with markets or prices O [4]

(d) Problems with boat or gear O [5]

(e) Illness or accident O [6]

(f) Other: O ⌊⌊⌋

_____

3(a) In 1997, did you fish for anything else?

(For example: tuna, herring, scallops, etc.)

Yes O [1]

No O [2]

3(b) If YES, what other type(s) of fish did you fish for in 1997?

_____

NOTE TO INTERVIEWER:

END INTERVIEW FOR RESPONDENTS WHO DID NOT FISH FOR GROUNDFISH IN 1997

THANK RESPONDENT FOR THEIR COOPERATION.

Appendix 3 - Continued

The next few questions ask for information that will allow us to group your responses with the experiences and backgrounds of other fishers that use the same type of fishing gear and fish for similar species of groundfish.

4. Including 1997, how many years have you been fishing commercially for groundfish?

   ⌊⌊⌋⌋ *years fishing commercially*

5. What is the overall length of the fishing vessel you used for fishing groundfish in 1997?

   ⌊⌊⌋⌋ O[1] Feet O[2] Meters

6. In 1997, did you fish for groundfish in the Sentinel Survey or Sentinel Fishery?

   Yes O[1]
   No O[2]

7(a). In 1997, did you fish for groundfish in the Recreational Fishery?

   Yes O[1]
   No O[2]

7(b). If YES, "Would you say that the majority of the groundfish that you caught in 1997 was caught in the Recreational Fishery?".

   Yes O[1]
   No O[2]

8. Before the fisheries for cod and hake were closed, what species of groundfish did you fish for most of the time? If you normally fished for more than one species of groundfish, please give them in order of priority, starting with the species that you most preferred to catch.

(a) Cod	O[1]	(e) Witch	O[5]
(b) White hake	O[2]	(f) Turbot	O[6]
(c) American plaice	O[3]	(g) Dogfish	O[7]
(d) Winter flounder	O[4]	(h) Other:	O ⌊⌊⌋⌋

NOTE TO INTERVIEWER

(For Q. 8 & 9: When the Respondent Has Fished for More Than One Species, Indicate the "Priority of Species fished for" with a number corresponding to the priority in the circle)

9. In 1997, when the fisheries for cod and hake were closed, what species of groundfish did you fish for most of the time? If you normally fished for more than one species of groundfish, please give them in order of priority, starting with the species that you most preferred to catch.

(a) Cod	O[1]	(e) Witch	O[5]
(b) White hake	O[2]	(f) Turbot	O[6]
(c) American plaice	O[3]	(g) Dogfish	O[7]
(d) Winter flounder	O[4]	(h) Other:	O ⌊⌊⌋⌋

Appendix 3 - Continued

10. Of the *... name of Main Species #1 stated in Q.9 (_____)...* that you caught in 1997, how would you describe the average size of the fish?

Would you say they were ...

(a) about the same size as previous years O 1

(b) smaller than previous years O 2

(c) larger than previous years O 3

11 (a) In 1997, what was the main type of fishing gear that you used most of the time to fish for groundfish?

(Check one only)

(a) Gillnet O 1 ..... →

(b) Longline O 2 ..... →

(c) Otter trawl O 3 ..... →

(d) Seine O 4 ..... →

(e) Other: O ⌊⌊⌋

_____

(b) For the fishing gear that you used most often in 1997, what was the usual amount of fishing gear that you used during a typical day of fishing?

		N/A
_____	# of gillnets	O 99
_____	# of hooks	O 99
_____	# of sets or tows	O 99
_____	# of sets or tows	O 99
_____	(other, specify)	O 99

12. Compared to previous years, would you say that you used:

(a) about the same amount of fishing gear in 1997 O 1

(b) less fishing gear in 1997 O 2

(c) more fishing gear in 1997 O 3

13. During 1997, did you fish for groundfish for the entire season?

Yes O 1 (GO TO Question 18)

No O 2

14. In 1997, did you switch to another fishery such as tuna, herring, scallops, etc. during the groundfish season?

Yes O 1

No O 2 (GO TO Question 18)

15. To what fishery did you switch in 1997?

(Check one only)

(a) Tuna O 1

(b) Herring O 2

(c) Scallops O 3

(d) Other: O ⌊⌊⌋

_____

Appendix 3 - Continued

16. **What was your main reason for switching from fishing for groundfish in 1997?**
(Check one only)

(a) Low numbers of groundfish O 1
(b) No quota O 2
(c) Fishery was closed O 3
(d) Problems with markets or prices O 4
(e) Problems with boat or gear O 5
(f) Illness or accident O 6
(g) Other: O ⌊⌊⌋

_____

17. **Do you usually switch from groundfish to another fishery during the groundfish season?**

Yes O 1
No O 2

18. **Can you tell me the exact number of days you spent fishing for groundfish in 1997?**

⌊⌊⌊⌋ *days fishing this year* ..... **(GO TO Question 20)**

Don't know O 8 ..... **(GO TO Question 19)**

19. **Could you give me your best estimate of how many days you spent fishing for groundfish in 1997?**

(a) Less than 10 O 1
(b) 10 - 19 days O 2
(c) 20 - 29 days O 3
(d) 30 - 39 days O 4
(e) 40 - 49 days O 5
(f) 50 - 59 days O 6
(g) 60 - 69 days O 7
(h) 70 - 79 O 8
(i) 80 - 89 days O 9
(j) 90 - 99 days O 10
(k) 100 or more O 11

20. **Compared to 1996, would you say that you fished:**

(a) about the same number of days in 1997 O 1 **(GO TO Question 22)**
(b) fewer days in 1997 O 2
(c) more days in 1997 O 3

Appendix 3 - Continued

21. **What was your main reason for spending (LESS or MORE) time fishing for groundfish in 1997?**
(Check one only)

(a) Low numbers of groundfish O 1
(b) Change in fisheries management (quotas, closures) O 2
(c) Change in markets or prices O 3
(d) Problems with boat or gear O 4
(e) Illness or accident O 5
(f) Weather conditions O 6
(g) Other: O ⌊⌊⌋

_____

22. **Thinking of those days in 1997 when the weather was too bad to fish for groundfish, would you say there were LESS, the SAME, or MORE bad weather days in 1997 than usual?**

(a) Less O 1
(b) Same O 2
(c) More O 3

23. **In 1997, did dogfish interfere with your efforts to fish for groundfish?**

Yes O 1
No O 2

Additional comments:

_____
_____
_____

24. **In 1997, did you see any seals while fishing for groundfish?**

Yes O 1
No O 2

If YES, where did you see seals in 1997?

_____
_____
_____

Appendix 3 - Continued

The following questions ask you to compare or describe conditions in the groundfish fishery in 1997, using a scale which goes from VERY LOW to LOW to AVERAGE to HIGH to VERY HIGH:

25. In your opinion, would you say the number of:	Very Low	Low	Average	High	Very High	N/O	N/A
(a) dogfish in your fishing area in 1997 was	O 1	O 2	O 3	O 4	O 5	O 7	O 9
(b) seals in your fishing area in 1997 was	O 1	O 2	O 3	O 4	O 5	O 7	O 9
(c) *... name of Main Species #1 stated in Q.9 (_____)* ... that you fished for in 1997 was	O 1	O 2	O 3	O 4	O 5	O 7	O 9
(d) *... name of Main Species #2* stated in Q.9 (_____)* ... that you fished for in 1997 was	O 1	O 2	O 3	O 4	O 5	O 7	O 9
(e) *... name of Main Species #3* stated in Q.9 (_____)* ... that you fished for in 1997 was	O 1	O 2	O 3	O 4	O 5	O 7	O 9

NOTE TO INTERVIEWER

(For Q. 25 & 26:"Main species" of groundfish that you fished for in 1997 = *... name of main species stated in Q.9 ...*)
(N/O = No Opinion N/A = Not Applicable (i.e., Seals are never seen in this area))

The following questions ask you to compare the number or quantity of groundfish in your fishing area in 1997 with previous years, using a scale which goes from MUCH LOWER to LOWER to SAME to HIGHER to MUCH HIGHER:

26. In your opinion:	Much Lower	Lower	Same	Higher	Much Higher	N/O	N/A
(a) how would you compare the number of *... name of Main Species #1 stated in Q.9 (_____)* ... in your fishing area in 1997 with their number in 1996?	O 1	O 2	O 3	O 4	O 5	O 7	O 9
(b) how would you compare the number of *... name of Main Species #1 stated in Q.9 (_____)* ... in your fishing area in 1997 with their number from 1992 to 1996?	O 1	O 2	O 3	O 4	O 5	O 7	O 9
(c) how would you compare the number of *... name of Main Species #1 stated in Q.9 (_____)* ... in your fishing area in 1997 with their number throughout all the years you have fished for this species?	O 1	O 2	O 3	O 4	O 5	O 7	O 9

27. The results of this survey will be available in the spring of 1998. Would you like to receive a copy?

Yes O 1 **CONFIRM COMPLETE MAILING ADDRESS ON COVER PAGE**

No O 2

Appendix 3 - Continued

Do you have any additional comments or suggestions that you would like to make on the 1997 groundfish fishery?

THANK YOU FOR YOUR ASSISTANCE.

SH 223 F55 no.2483 c.1
Hurlbut, T.
Results of the 1997 end of
season survey of groundf...
236113 12046816 c.1