Scientific Excellence • Resource Protection & Conservation • Benefits for Canadians
Excellence scientifique • Protection et conservation des ressources • Bénéfices aux Canadiens

Results of the 1996 End of Season Survey of Groundfish Fishers from the Southern Gulf of St. Lawrence

Thomas Hurlbut

Department of Fisheries and Oceans
Science Branch, Maritimes Region
Gulf Fisheries Centre
P.O. Box 5030
Moncton, N.B.
E1C 9B6

1998

Canadian Manuscript Report of Fisheries and Aquatic Sciences No. 2442E

Fisheries and Oceans Pêches et Océans

Canada

Canadian Manuscript Report of Fisheries and Aquatic Sciences

Manuscript reports contain scientific and technical information that contributes to existing knowledge but which deals with national or regional problems. Distribution is restricted to institutions or individuals located in particular regions of Canada. However, no restriction is placed on subject matter, and the series reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries and aquatic sciences.

Manuscript reports may be cited as full publications. The correct citation appears above the abstract of each report. Each report is abstracted in *Aquatic Sciences and Fisheries Abstracts* and indexed in the Department's annual index to scientific and technical publications.

Numbers 1-900 in this series were issued as Manuscript Reports (Biological Series) of the Biological Board of Canada, and subsequent to 1937 when the name of the Board was changed by Act of Parliament, as Manuscript Reports (Biological Series) of the Fisheries Research Board of Canada. Numbers 901-1425 were issued as Manuscript Reports of the Fisheries Research Board of Canada. Numbers 1426-1550 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Manuscript Reports. The current series name was changed with report number 1551.

Manuscript reports are produced regionally but are numbered nationally. Requests for individual reports will be filled by the issuing establishment listed on the front cover and title page. Out-of-stock reports will be supplied for a fee by commercial agents.

Rapport manuscrit canadien des sciences halieutiques et aquatiques

Les rapports manuscrits contiennent des renseignements scientifiques et techniques qui constituent une contribution aux connaissances actuelles, mais qui traitent de problèmes nationaux ou régionaux. La distribution en est limitée aux organismes et aux personnes de régions particulières du Canada. Il n'y a aucune restriction quant au sujet; de fait, la série reflète la vaste gamme des intérêts et des politiques du ministère des Pêches et des Océans, c'est-à-dire les sciences halieutiques et aquatiques.

Les rapports manuscrits peuvent être cités comme des publications complètes. Le titre exact paraît au-dessus du résumé de chaque rapport. Les rapports manuscrits sont résumés dans la revue *Résumés des sciences aquatiques et halieutiques*, et ils sont classés dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros 1 à 900 de cette série ont été publiés à titre de manuscrits (série biologique) de l'Office de biologie du Canada, et après le changement de la désignation de cet organisme par décret du Parlement, en 1937, ont été classés comme manuscrits (série biologique) de l'Office des recherches sur les pêcheries du Canada. Les numéros 901 à 1425 ont été publiés à titre de rapports manuscrits de l'Office des recherches sur les pêcheries du Canada. Les numéros 1426 à 1550 sont parus à titre de rapports manuscrits du Service des pêches et de la mer, ministère des Pêches et de l'Environnement. Le nom actuel de la série a été établi lors de la parution du numéro 1551.

Les rapports manuscrits sont produits à l'échelon régional, mais numérotés à l'échelon national. Les demandes de rapports seront satisfaites par l'établissement auteur dont le nom figure sur la couverture et la page du titre. Les rapports épuisés seront fournis contre rétribution par des agents commerciaux.

Canadian Manuscript Report of
Fisheries and Aquatic Sciences No. 2442E

1998

Results of the 1996 End of Season Survey of Groundfish Fishers from the Southern Gulf of St. Lawrence

Thomas Hurlbut

Department of Fisheries and Oceans
Science Branch, Maritimes Region
Gulf Fisheries Centre
P.O. Box 5030
Moncton, N.B.
E1C 9B6

No. FS 97-4/2442E ISSN 0706-6473

Correct citation for this publication:

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.

Cette publication est aussi disponible en français.

Table of Contents

1 - List of Figures

1 - List of Figures - Continued

2 - List of Appendices

3 - Abstract

A telephone survey was conducted of participants that were active in the southern Gulf of St. Lawrence groundfish fishery in 1996. During this survey, a questionnaire was used to obtain the views and opinions of fishermen concerning stock abundance, environmental conditions, the impact of seals, dogfish, markets, fishery management actions, etc., for inclusion in stock assessments.

The number of respondents that identified cod and white hake as the species that they fished for, 'most of the time', in 1996, was surprising, given that directed fishing for these species was forbidden under the moratoria.

Most of the respondents indicated that cod, plaice, winter flounder and turbot were the same size or larger in 1996, than in previous years, and most felt that white hake and halibut were the same size, or smaller, in 1996. In comparison to previous years, most of the respondents indicated that they used the same amount of fishing gear or less in 1996, and only 35% indicated that they spent the whole season fishing for groundfish in 1996. Twenty-two percent of the respondents were able to recall the exact number of days that they spent fishing for groundfish in 1996, which averaged 15 days. Those respondents that could not recall the exact number of days that they spent fishing for groundfish were asked for their "best estimate". The majority of these respondents estimated that they spent from 10-39 days fishing for groundfish in 1996. Compared to 1995, the majority indicated that they spent fewer or the same number of days fishing for groundfish in 1996. Overwhelmingly, the most common reason given for spending fewer or more days fishing for groundfish in 1996 was change(s) in fisheries management (i.e., closures of fisheries, quota reductions, etc.).

Most of the respondents considered the abundance of dogfish to be lower than average in 1996. The majority of the respondents reported that they saw seals when they fished for groundfish in 1996 and most of them described their abundance as high or very high. Twice as many considered the abundance of cod and plaice in 1996 to be above average as considered it to be below average. Most of the respondents felt that white hake were below average in abundance and all but one of the respondents thought that turbot were above average. The majority considered the abundance of halibut, witch and yellowtail to be average or above average but most of the respondents described the abundance of winter flounder as average or below average.

Most of the respondents that directed for cod in 1996 felt that they were more abundant than in 1995 or during the period from 1991 to 1995, however, their opinions were split when asked to compare the abundance of cod in 1996 to all the years that they fished for it (i.e., slightly more respondents judged the abundance as lower or much lower than judged it to be higher or much higher than their long-term experience). One of the two fishermen that directed for white hake felt that the abundance was the same in 1996 as in 1991 to 1995 but the other felt that the abundance was higher in 1996. The opinions of the same two fishermen were divided when asked to compare the abundance of hake in 1996 to all the years that they fished for it (one described the abundance as lower and the other described it as higher than their long-term experience). In general, the respondents that directed for American plaice considered the abundance in 1996 to be the same or higher than in any of the years that they directed for this species. Conversely, the respondents that directed for winter flounder considered the abundance in 1996 to be the same or lower than in any of the years that they directed for this species. The majority of the respondents that targeted witch and halibut described the 1996 abundance as the same or higher than in 1995 or during the period from 1991 to 1995. The respondents that directed for turbot consistently regarded the 1996 abundance as higher than in any of the years that they directed for this species. Finally, all of the respondents that directed for yellowtail regarded the 1996 abundance as higher than in any of the years that they directed for this species.

4 - Introduction

The current closure of many groundfish fisheries throughout Atlantic Canada was precipitated by substantial declines, over the past 8 to 10 years, in the catch of groundfish, 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 with the groundfish industry and D.F.O. biologists have become commonplace since the moratoria. Unfortunately though, the attendance at these meetings has been highly variable. Consequently, a telephone survey was conducted of participants in the 1995 southern Gulf groundfish fishery, in order to document the views and opinions of a random sample of active fishermen (Hurlbut 1997). A similar survey was conducted of fishers that were active in the 1996 southern Gulf groundfish fishery. This document reports the results of this survey.

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

The questionnaire (Appendix 3), which contained 26 questions covering a diverse range of topics was developed by biologists from the Gulf Fisheries Centre (Moncton, N.B.). Methodological 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 structured in such a way to avoid "leading questions" and ambiguous responses. The 26 questions were selected and arranged in order to:

1. Characterize the respondent, their fishing vessel and fishing activities in 1996 by gear, directed species, etc.
2. Identify any factors that may have affected their fishing activities in 1996.
3. Quantify their fishing effort in 1996 (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 1996.

With fishing activity greatly reduced in 1996 because of the moratoria in the cod and hake fisheries, there was a unique opportunity to interview a significant proportion of the fishermen that fished for groundfish in the southern Gulf. The 1995 survey (Hurlbut 1997) interviewed fishermen from New Brunswick, Nova Scotia and Prince Edward Island. For 1996, the survey population was expanded to include fishermen from Quebec and the Magdalen Is. Interview subjects were selected from a list of all of the southern Gulf (NAFO (Northwest Atlantic Fisheries Organization) Division 4T) purchase slips (i.e., each purchase slip represents the sale of groundfish) that were received and processed by November 15, 1996 (385 fishermen were identified from New Brunswick, Nova Scotia, Prince Edward Island and Quebec). To minimize the impact of time delays on the accuracy of the respondent's memories of the 1996 fishery, it was also our goal to commence the survey as soon as possible after fishing ended (October 31, 1996) and to complete it within one month, and before Christmas holidays. To accomplish this and to maximize the geographical coverage of the survey during the month of interviews, the interviewer was instructed to attempt to interview a maximum of ten fishermen from each fisheries statistical district (Figure 1). After the interviewer had attempted to contact a maximum of ten fishermen from a statistical district she would not attempt to interview any more fishermen from that district. The interviews, which were conducted by telephone in both of the official languages, started on November 20, 1996 and ended on December 14, 1996 (the calls were generally made during the afternoon or evening on weekdays and weekends). The respondents were assured that their responses were strictly confidential and would not be disclosed in any way that could identify them. All of the interviews were conducted by the same individual.

6 - Results and Discussion

Of the 385 vessel owners who were identified from purchase slips as having sold groundfish in 1996, 223 were successfully interviewed. No attempt was made to contact 92 of the 385 owners because the interviewer had already contacted 10 fishermen from their respective statistical districts. Of the remaining owners: 38 could not be reached by telephone (three attempts were made with each fisherman), 5 refused to participate and 27 indicated that they did not fish for groundfish in 1996. 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 cases where groundfish were caught and landed by fishermen other than the registered owners of the vessels in question.

The remainder of this discussion will focus on the 223 completed questionnaires. The average duration of these interviews was 14 minutes (range from 8-44 minutes). In terms of the experience of these 223 fishermen in the groundfish fishery (Question 4), the average number of years fishing commercially for groundfish was 19 years (range from 2-50 years). The average size (i.e., length overall) of the fishing vessels that they used when fishing for groundfish in 1996 (Question 5) was 12.2 m (40.0 ft) (range from 5.5-26.6 m or 18-87 ft).

The 223 respondents were from 40 statistical districts located throughout the southern Gulf and St. Lawrence estuary, and on the east coast of Cape Breton Island (See 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 1996.

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 7). On this question, many respondents indicated that they fished for more than one species of groundfish, 'most of the time'. In this case, the respondents 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 11) indicate the following preferences (in order of importance): Cod, Winter Flounder, Turbot, White Hake, American Plaice, Halibut, Witch, Redfish and Dogfish.

The respondents were also asked to identify the species of groundfish that they fished for, 'most of the time', in 1996 (Question 8). The following table and Figure 12 summarize the preferences of the 223 respondents, based on their responses to this question:

Groundfish Species	Number of Respondents Who Indicated That They Directed for this Species of Groundfish in 1996* (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 1996* (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	100	78	3
Turbot	49	48	1
American Plaice	65	44	4
Cod	29	25	13
Halibut	20	12	0
Witch	19	7	0
Spiny Dogfish	12	5	1
White Hake	8	2	3
Yellowtail	4	2	0

* For example: 29 respondents indicated that they directed some of their fishing effort on cod in 1996 and 25 identified cod as their primary choice of the species that they directed for.

The number of respondents that identified cod and white hake as the species that they fished for, 'most of the time' in 1996, may be surprising, given that directed fishing for these species was forbidden

under the moratoria (i.e., by-catch only). The participation of some of these respondents in the Sentinel Fishery may partially explain this occurrence (13 of the 29 respondents that identified cod as the species that they fished for 'most of the time' in 1996 were participants in the Sentinel Fishery and 3 of the 8 respondents that identified hake as the species that they fished for 'most of the time' in 1996 were also participants in the Sentinel Fishery). As well, several of the respondents that identified cod as the species that they fished for, 'most of the time' in 1996, indicated that they fished for cod in the recreational fishery (i.e., 10 fish/day) and the same may be true for a few of the respondents that identified hake as the species that they fished for, 'most of the time' in 1996.

Figures 2-10 show the geographical distribution of the respondents based on the species of groundfish that they fished for, 'most of the time' in 1996 (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 1996).

When asked to compare the average size of the species of groundfish that they fished for 'most of the time' in 1996 to previous years (Question 9), most respondents indicated that cod, plaice, winter flounder and turbot were the same size or larger than in previous years (Figure 13). In contrast, most respondents felt that white hake and halibut were the same size or smaller in 1996 and most respondents suggested that witch, yellowtail and dogfish were about the same size in 1996 as in previous years.

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 1996 (Question 10a). In general, fixed gears tended to be used by respondents that directed for cod, hake, halibut, turbot and dogfish and mobile gears tended to be used by respondents that directed for plaice, witch and yellowtail (the respondents that directed for winter flounder used fixed and mobile fishing gears). When the respondents were asked to quantify the amount of fishing gear that they used during a typical day of fishing (Question 10b) the results were as follows:

All Respondents & All Species

Fishing Gear	Average Amount Used	Minimum Amount Used	Maximum Amount Used
Gillnet (# of nets)	37	4	80
Longline (# of hooks)	1612	30	7000
Otter Trawl (# of sets)	6	3	12
Seine (# of sets)	6	4	10

When asked to compare the amount of fishing gear used in 1996 with the amount used in previous years (Question 11), the majority of the 223 respondents indicated that they used the same amount of fishing gear or less in 1996 (Figure 15). Likewise, when the responses to this question were examined based on the species of groundfish fished for, 'most of the time' in 1996, most respondents reported using the same amount of fishing gear or less (Figure 15). The only respondents that did not indicate that they used less fishing gear in 1996 were fishermen that directed for yellowtail.

Only 35% of the respondents (78 fishermen) indicated that they spent the whole season fishing for groundfish in 1996 (Question 12). The percentage varied depending on the species of groundfish fished for 'most of the time' and ranged from 0% for fishermen that fished for white hake to 53% for fishermen that fished for turbot.

Species	Percentage of Respondents That Spent the Whole Season Fishing for Groundfish in 1996
Cod	28
Hake	0
A. Plaice	42
Winter Flounder	31
Halibut	45
Turbot	53
Witch	32
Yellowtail	50
Dogfish	33

Questions 13 to 16 asked the respondents the following:
- if they switched to another fishery (i.e., tuna, herring, scallops, etc.) during the 1996 groundfish season? (Question 13)
- what fishery did they switch to? (Question 14)
- what was their main reason for switching from fishing for groundfish? (Question 15)
- if they usually switch from groundfish to another fishery during the groundfish season? (Question 16)

Of all the respondents that indicated that they did not spend the whole season fishing for groundfish in 1996, 77% (111 fishermen) reported that they switched to another fishery during the groundfish season. Again, the percentage that switched to another fishery varied depending on the species of groundfish fished for 'most of the time'.

Species	Percentage of Respondents Who Reported That They Switched to Another Fishery (Other Than Groundfish) in 1996
Cod	81
Hake	75
A. Plaice	79
Winter Flounder	84
Halibut	55
Turbot	57
Witch	69
Yellowtail	100
Dogfish	63

Figure 16 shows the fisheries that these respondents switched to, with herring and snow crab being the most popular choices. Figure 17 illustrates the main reasons given by respondents for switching from groundfish fishing to another fishery during the 1996 groundfish season. In this case, the two most common reasons given for switching to another fishery were fishery closures and low numbers of groundfish. Of the 111 respondents that reported that they switched to another fishery, 53% (59 fishermen) said that they usually switch to another fishery during the groundfish season.

Twenty-two percent (50 fishermen) of the 223 respondents were able to recall the exact number of days that they spent fishing for groundfish in 1996 (Question 17), which averaged 15 days (range from 1-175 days). The respondents that could not recall the exact number of days that they spent fishing for groundfish in 1996 were asked for their "best estimate" (Question 18). The responses (Figure 18) show that the majority of the respondents spent from 10-39 days fishing for groundfish in 1996 (their estimates ranged from less than 10 to more than 100 days). Again, the responses varied depending on the species of groundfish fished for 'most of the time', with yellowtail and hake fishermen reporting the most days fishing (i.e., median value = 30-39 days) and cod fishermen reporting the least (i.e., median value = 10-19 days).

Compared to 1995, the majority of the 223 respondents indicated that they spent fewer or the same number of days fishing for groundfish in 1996 (Question 19 - Figure 19) (Note: Four of the 223 respondents did not fish for groundfish in 1995, so their responses were coded as "not applicable" - N/A). However, when the responses to this question were examined based on the species of groundfish fished for 'most of the time' in 1996, there were no major differences discernible for fishermen that targeted cod, winter flounder, halibut or yellowtail (i.e., for each of these species, the number of respondents claiming that they fished fewer, more or the same number of days in 1996 was approximately equal). For fishermen that directed for plaice, turbot, witch and dogfish in 1996, there were more respondents that said they fished fewer days than more days. The only other obvious difference was that most of the respondents that targeted hake indicated that they spent more days fishing for groundfish in 1996 than in 1995. Overwhelmingly, the most common reason given for spending fewer or more days fishing for groundfish in 1996 was change(s) in fisheries management (i.e., closures of fisheries, quota reductions, etc.) (Question 20 - Figure 20).

When asked to compare the number of days when the weather was too bad to fish for groundfish in 1996 with previous years, the majority of the respondents (133 fishermen) indicated that there were about the same number of bad weather days as usual (Question 21 - Figure 21). Thirty-six fishermen reported fewer days of bad weather in 1996 than usual and fifty-four reported more bad weather days in 1996.

Only 18% of the respondents (40 fishermen) indicated that dogfish interfered with their efforts to fish for groundfish in 1996 (Question 22). Most of the respondents (89 fishermen) considered the abundance of dogfish to be lower than average in 1996 (i.e., low or very low) (Question 24a - Figure 22). On the other hand, 48 respondents felt that the abundance of dogfish was high or very high in 1996 and 71 felt that it was average.

Most of the respondents (173 fishermen = 78%) reported that they saw seals when they fished for groundfish in 1996 (Question 23) and most of them provided the locations (Appendix 1). When asked to describe the abundance of seals in 1996, most of the respondents (131 fishermen = 61%) considered it to be high or very high (Question 24b - Figure 23). Twenty-two percent of the respondents (48 fishermen) felt that seal abundance was about average and 17% (37 fishermen) thought that it was low or very low.

Questions 24c, d and e asked for opinions on the abundance of each of the species of groundfish that they fished for, 'most of the time', in 1996 (the respondents were asked to give their opinions in order of priority, starting with the species that they most preferred to catch (i.e., first priority)). Figure 24a presents the results for species identified as the first, second or third priority of respondents.

Of the respondents that identified cod as their first, second or third priority (29 fishermen), twice as many regarded the abundance of cod in 1996 to be high or very high as considered it to be low or very low. A significant number (i.e., 10) of the respondents felt that the abundance was average. Of the few respondents that identified white hake as their first, second or third priority (8 fishermen), 5 considered the abundance to be low or very low but 3 considered it to be high. Twice as many of the respondents that identified American plaice as their first, second or third priority, felt that the abundance was above average as considered it to be below average (i.e., 24 versus 12 fishermen). Again, a significant number (i.e., 28) of the respondents felt that the abundance of plaice was average. Most of the respondents who indicated that they fished for winter flounder, 'most of the time' in 1996, considered the abundance to be average (52 fishermen) but more of the respondents felt that it was below average than above average (i.e., 26 versus 19 fishermen). The majority of the respondents that identified halibut as their first, second or third priority (20 fishermen), considered the abundance to be average or above average (only 4 fishermen suggested that the abundance of halibut was below average in 1996). Only one of the 49 respondents who indicated that they fished for turbot, 'most of the time' in 1996, felt that the abundance was below average (38 of these respondents considered the abundance to be high or very high). With the exception of one fishermen who considered the abundance to be very low, all of the rest of the respondents that targeted witch considered the abundance to be average or high. Of the four respondents that directed for yellowtail in 1996, two felt that the abundance was average

and two felt that it was high. The majority of the respondents that directed for dogfish in 1996 (4 out of 12 fishermen) considered the abundance to be average but the opinions of the remainder were split, with 4 respondents considering the abundance to be below average and 4 considering it to be above average.

In November and December 1996, scientific staff from the D.F.O., Gulf Fisheries Centre, made presentations on the groundfish stocks of the southern Gulf of St. Lawrence at public meetings in Grande-Rivière, Québec, Caraquet, N.B., Charlottetown, P.E.I., Port Hawkesbury, N.S. and Cap-aux-Meules, Québec. The purpose of these meetings was to obtain views from fishers and the fishing industry on the status of the various groundfish stocks in the southern Gulf in 1996. Similar meetings have been held at the same locations for the past several years. In general, 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 questionnaire, the responses of fishers from the southwestern and southeastern Gulf were compared (Figure 24b). For cod, the previously described divergence of opinions was not apparent: most of the respondents from the southwest (11 out of 22) described the abundance of cod as above average, whereas, the opinions of respondents from the southeast were split with two respondents judging it to be below average and two respondents judging it to be above average. For hake, there was a distinct divergence of opinion, with the majority of respondents from the southwest (5 out of 6) considering the abundance below average and the two respondents from the southeast regarding it above average. There was also a pronounced divergence in the opinions of respondents that directed for American plaice: most respondents from the southwest (9 out of 18) felt that plaice abundance was below average in 1996, whereas, the majority from the southeast (24 out of 47) considered it to be above average.

In questions 25a-c, the respondents were asked to compare the abundance of their most preferred species (i.e., First Priority) in 1996, with its abundance in previous years.

The majority of the respondents that directed for cod in 1996 (13 out of 20 fishermen) considered the abundance to be higher than in 1995 (Question 25a - Figure 25). Neither of the two respondents that directed for white hake in 1996 could comment on this question because they did not fish for white hake in 1995. Of the respondents that targeted plaice in 1996, more than half (22 out of 41 fishermen) felt that the abundance was higher in 1996 than in 1995. For winter flounder, the largest proportion of the respondents (28 out of 66 fishermen) 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. Most of the respondents that directed for halibut (11 out of 12 fishermen) felt that the abundance was the same or higher in 1996, than in 1995. The majority of the respondents that directed for turbot in 1996 (36 out of 46 fishermen) considered the abundance to be higher or much higher than in 1995. For witch, the 7 respondents felt that the abundance was the same or higher in 1996, than in 1995. The two respondents that targeted yellowtail felt that the abundance was the same in both years. Of the 5 respondents that targeted dogfish in 1996, four felt that the abundance was the same or lower than in 1995.

Question 25b asked the respondents to compare the abundance of their most preferred species (i.e., First Priority) in 1996, with its abundance from 1991 to 1995 (See Figure 26). For cod, the majority of the respondents considered the abundance to be higher or much higher in 1996. One of the two fishermen that directed for white hake felt that the abundance was the same in 1996 as in 1991 to 1995 and the other felt that the abundance was higher in 1996. Most of the respondents that targeted plaice (28 out of 41) regarded the abundance as the same or higher in 1996. For the respondents whose first priority was winter flounder, most (57 out of 73) considered the abundance to be the same or lower in 1996. For halibut, most of the respondents (8 out of 12) felt that the abundance was the same or higher in 1996. The majority of the respondents that directed for turbot (39 out of 46) regarded the abundance as higher or much higher in 1996, than during 1991 to 1995. Most of the respondents that directed for witch considered the abundance in 1996 to be the same or higher than during 1991 to 1995. The two respondents that targeted yellowtail felt

that the abundance was the same in 1996 as in 1991 to 1995 and 4 of the 5 respondents that directed for dogfish regarded the abundance as the same or lower than during 1991 to 1995.

The final question in this series (Question 25c) asked the respondents to relate the abundance of their most preferred species in 1996 to its abundance in all the years that they fished for it (see Figure 27). Of the respondents that identified cod as their first priority in 1996, the opinions were split, with 11 respondents judging the abundance as lower or much lower and 9 respondents judging it to be higher or much higher than their long-term experience. The opinions of the two fishermen that directed for white hake were also divided, with one describing the abundance as lower and the other describing it as higher than their long-term experience. For plaice, twice as many of the respondents considered the abundance in 1996 to be higher or much higher as considered it to be lower or much lower, but almost one third of the respondents felt that the abundance was the same in 1996 as it had been in all the years that they fished for plaice. The majority of the respondents that targeted winter flounder (63%) felt that the abundance was the same or lower in 1996 than their long-term experience and most of the respondents that directed for halibut (58%) considered the abundance in 1996 to be the same as their long-term experience. The majority of the respondents that targeted turbot (67%) regarded the abundance in 1996 as higher or much higher than in all the years that they fished for turbot. On the other hand, most of the respondents that directed for witch (5 of 6) regarded the abundance as the same or lower in 1996. Both of the respondents that targeted yellowtail considered the abundance to be the same as their long-term experience. Likewise, 3 out of 5 of the respondents that directed for dogfish felt that the abundance was the same in 1996 as it had been in their long-term experience.

All of the respondents (223 fishers) indicated that they wanted to receive a copy of the results of the questionnaire (Question 26).

The final question on the questionnaire, which asked the respondents if they had any additional comments that they wanted to make on the 1996 groundfish fishery, yielded a wide variety of comments and opinions (Appendix 2). For convenience, these comments were grouped into the following categories:

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

7 - Acknowledgments

All of the telephone interviews were conducted by Monique Niles. The questionnaire data were coded and entered by Doris Daigle and Richard Stevens. I would also like to thank Colin MacDougall and Doug Swain 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.

9 - Figures

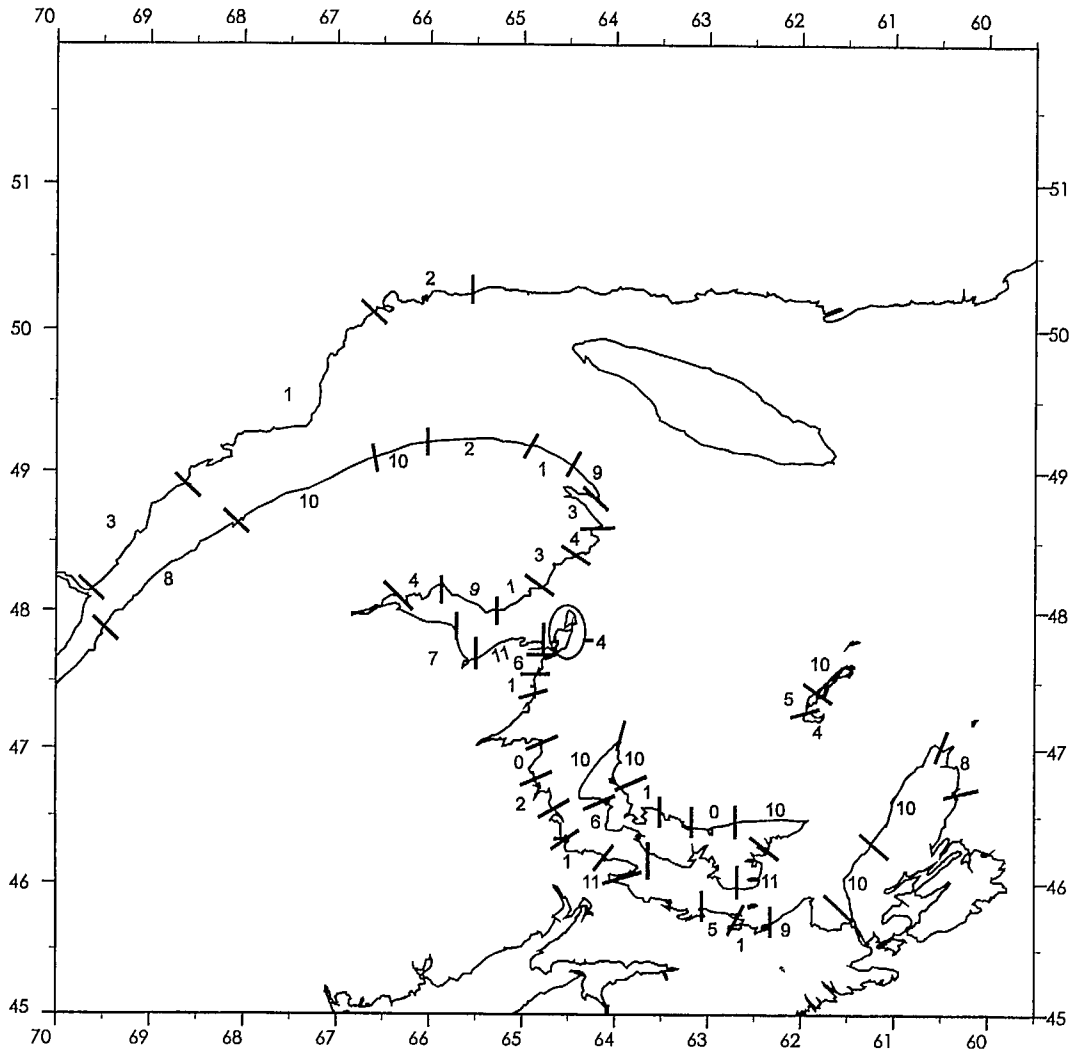
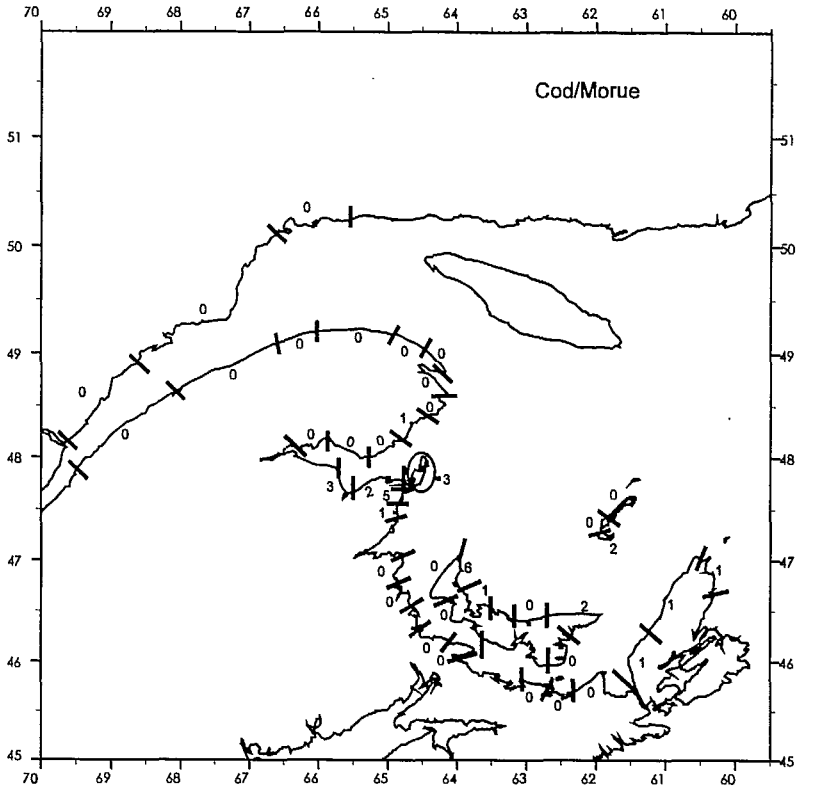
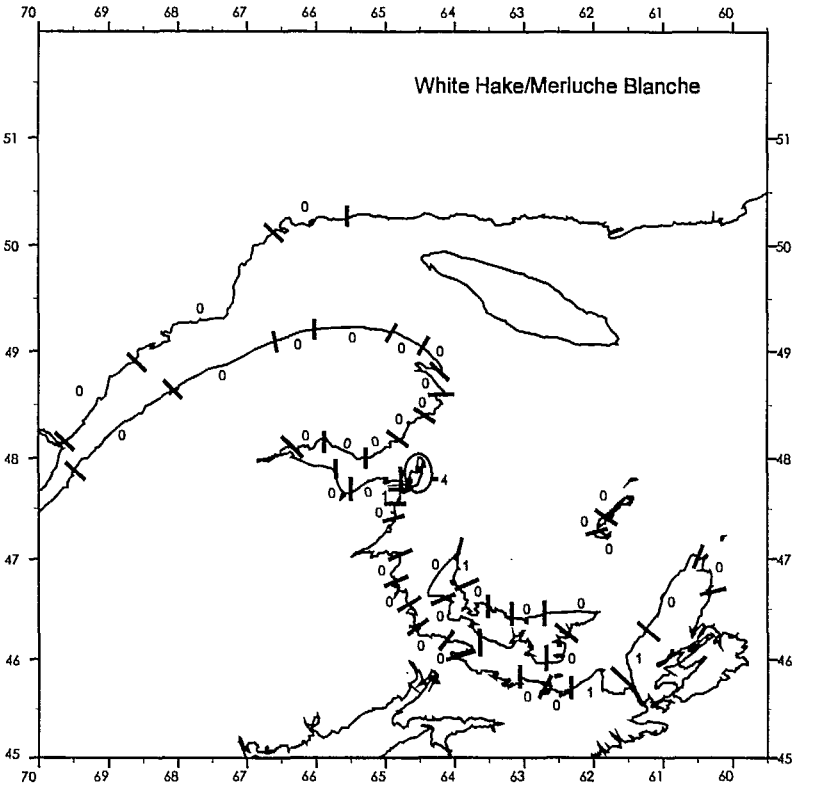
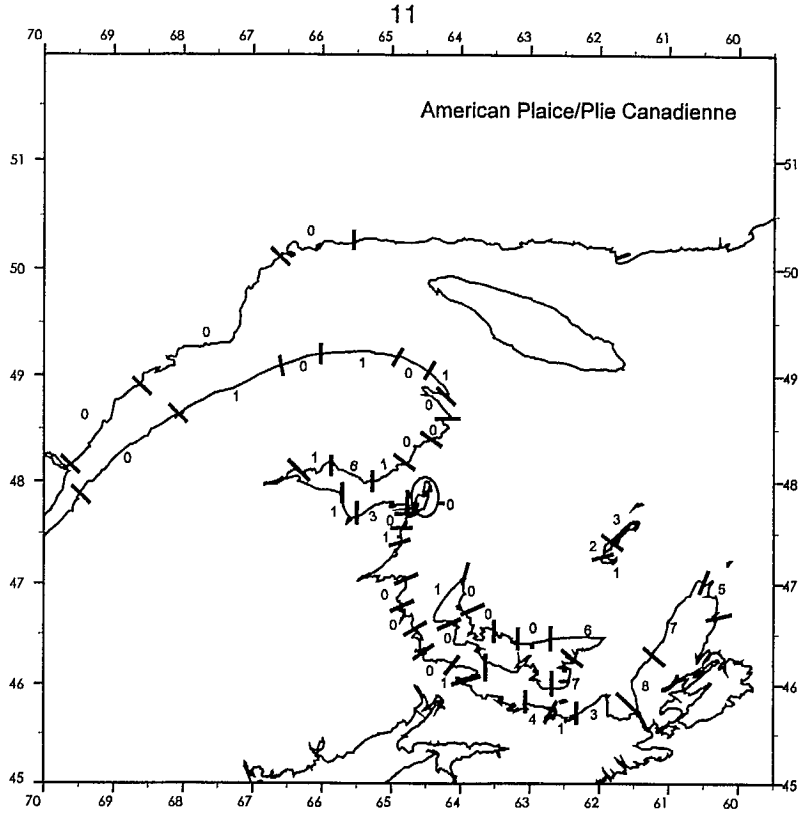


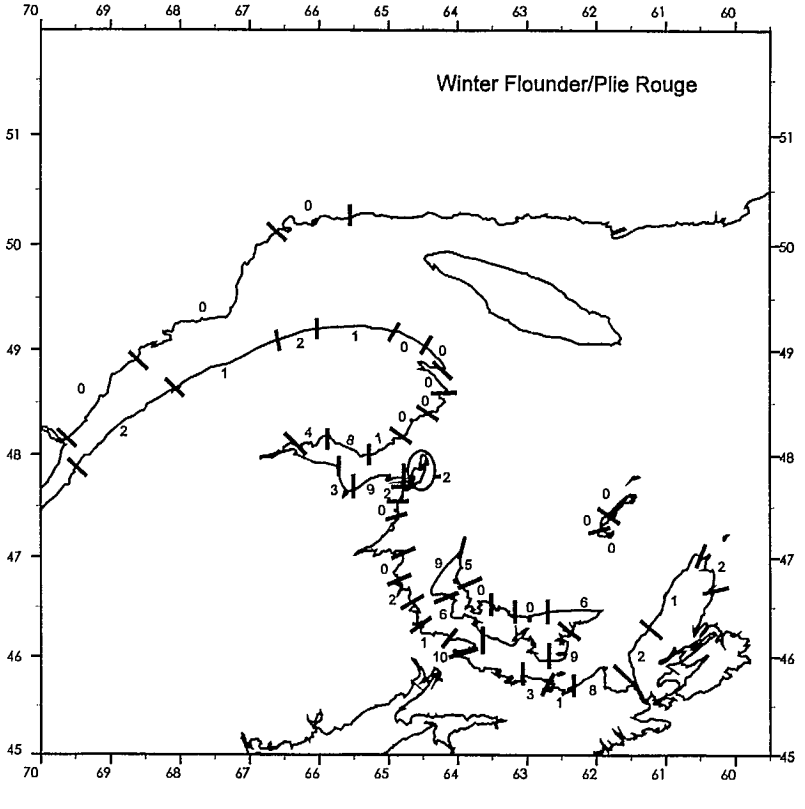
Figure 1. The geographical distribution of all respondents to the 1996 groundfish questionnaire (The lines delimit the borders of statistical districts occupied by respondents).



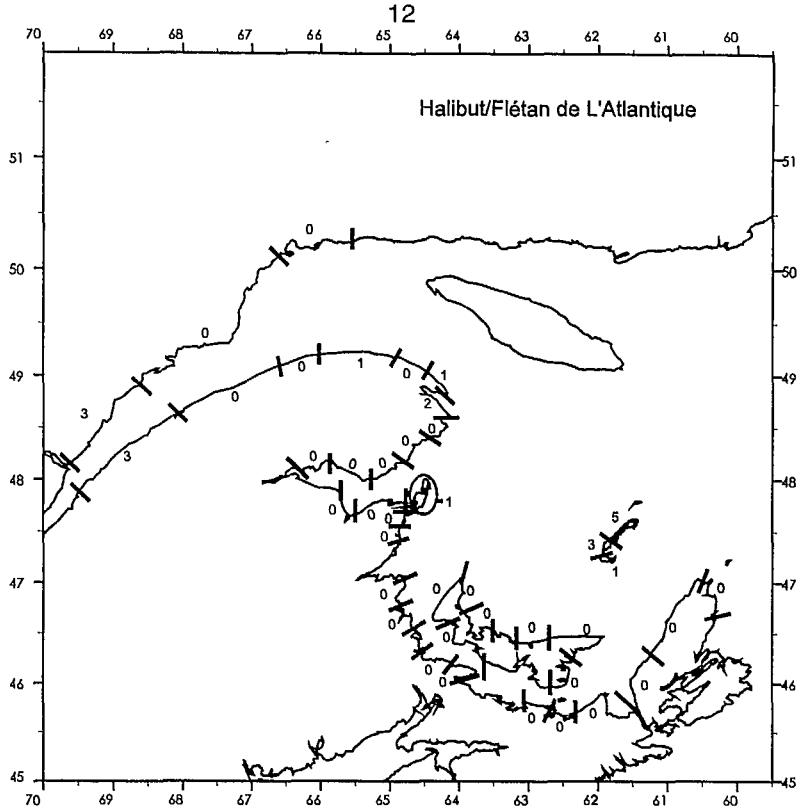


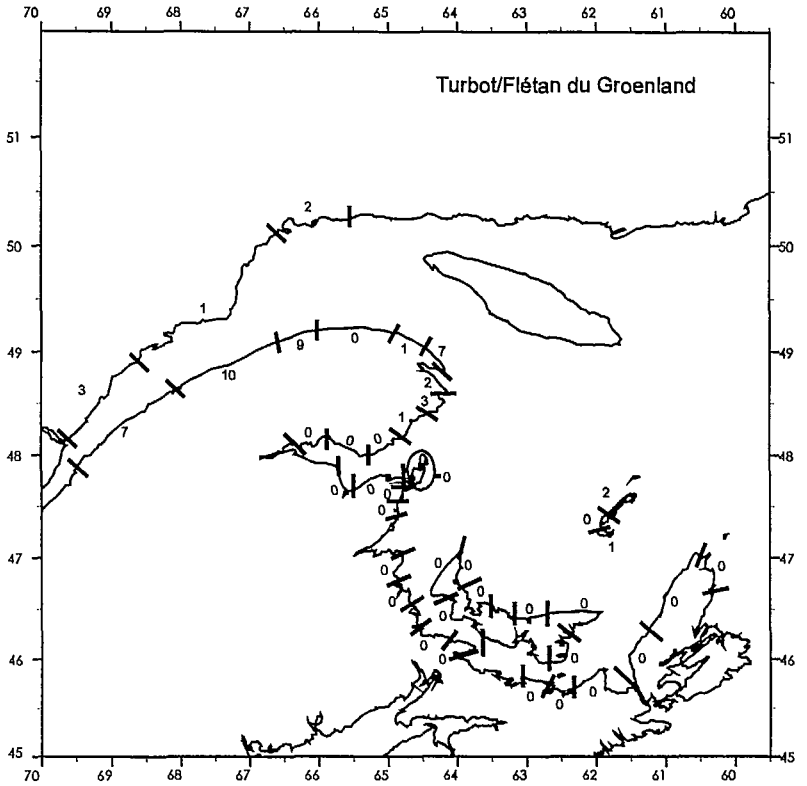
Figures 2 and 3. The geographical distribution of respondents that fished for cod and white hake 'most of the time' in 1996 (These species were either the first, second or third priority of respondents that fished for more than one species of groundfish in 1996). The lines delimit the borders of statistical districts occupied by respondents.



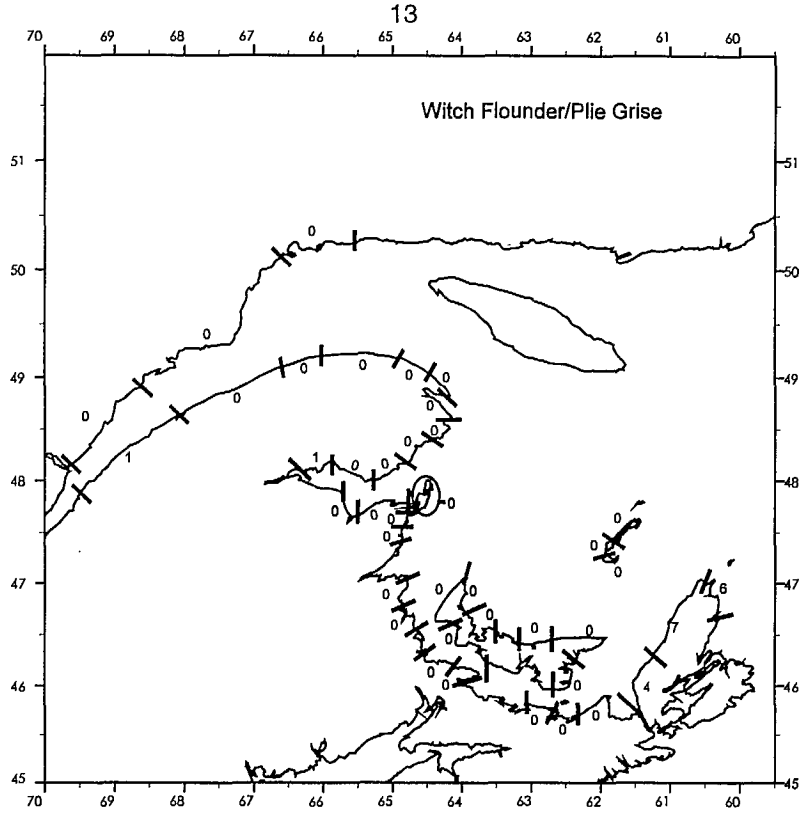


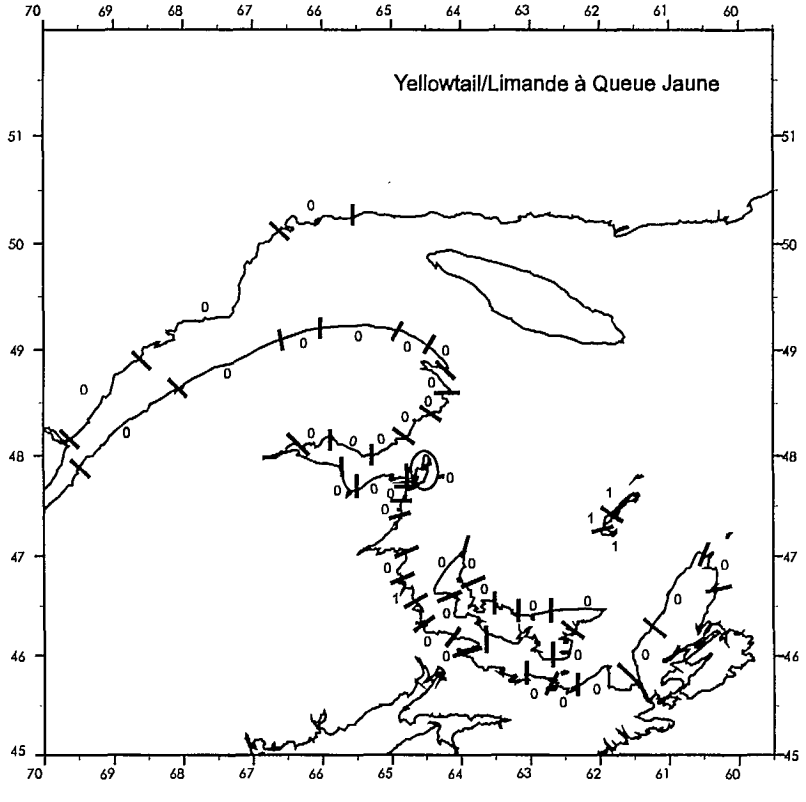
Figures 4 and 5. The geographical distribution of respondents that fished for plaice and winter flounder 'most of the time' in 1996 (These species were either the first, second or third priority of respondents that fished for more than one species of groundfish in 1996). The lines delimit the borders of statistical districts occupied by respondents.





Figures 6 and 7. The geographical distribution of respondents that fished for turbot and halibut 'most of the time' in 1996 (These species were either the first, second or third priority of respondents that fished for more than one species of groundfish in 1996). The lines delimit the borders of statistical districts occupied by respondents.





Figures 8 and 9. The geographical distribution of respondents that fished for witch and yellowtail 'most of the time' in 1996 (These species were either the first, second or third priority of respondents that fished for more than one species of groundfish in 1996). The lines delimit the borders of statistical districts occupied by respondents.

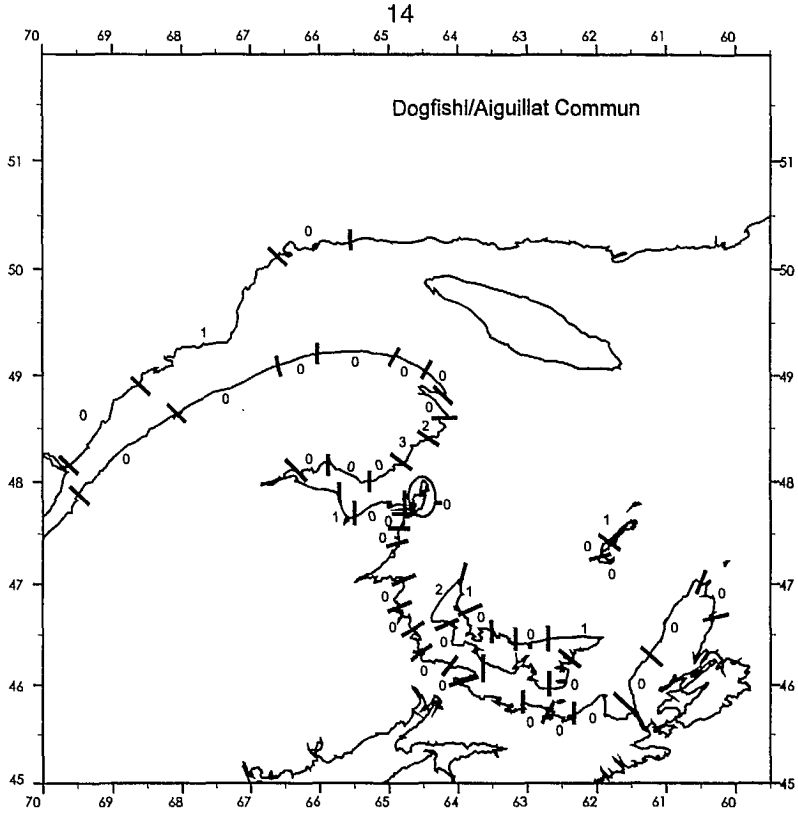


Figure 10. The geographical distribution of respondents that fished for spiny dogfish 'most of the time' in 1996 (These species were either the first, second or third priority of respondents that fished for more than one species of groundfish in 1996). The lines delimit the borders of statistical districts occupied by respondents.

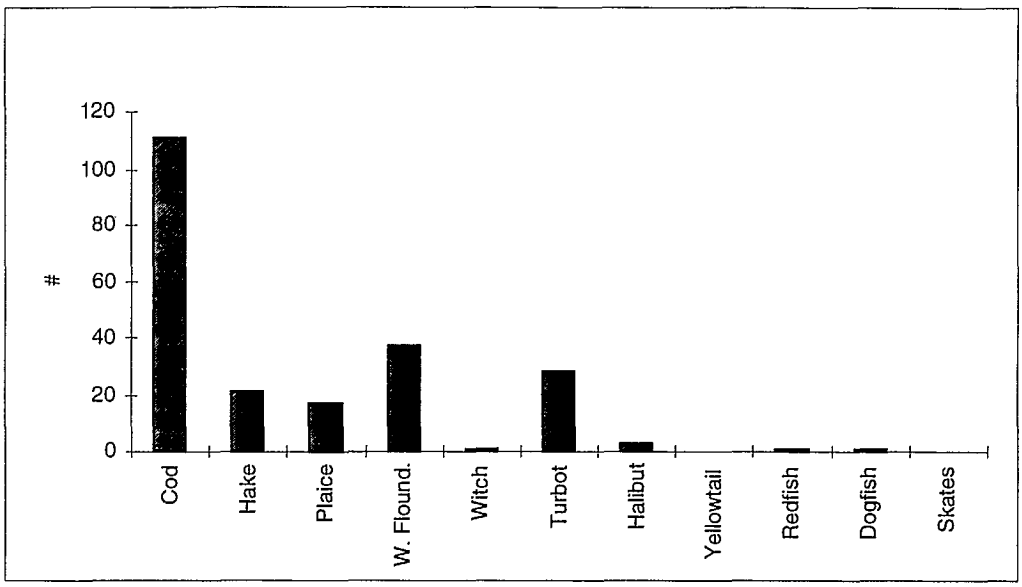


Figure 11. The species of groundfish that respondents fished for 'most of the time' before the fisheries for cod and hake were closed (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

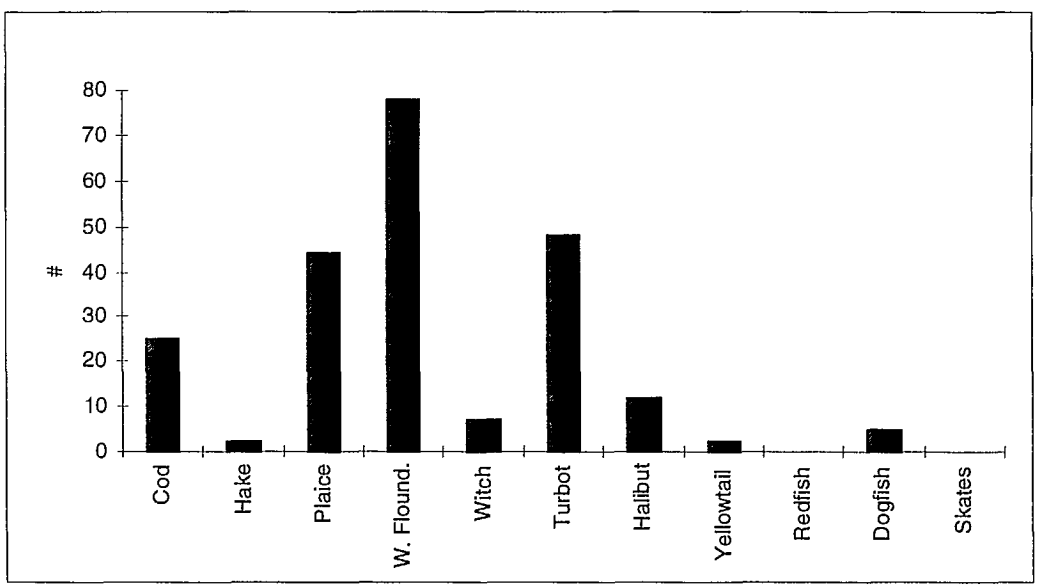


Figure 12. The species of groundfish that respondents fished for 'most of the time' in 1996. (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

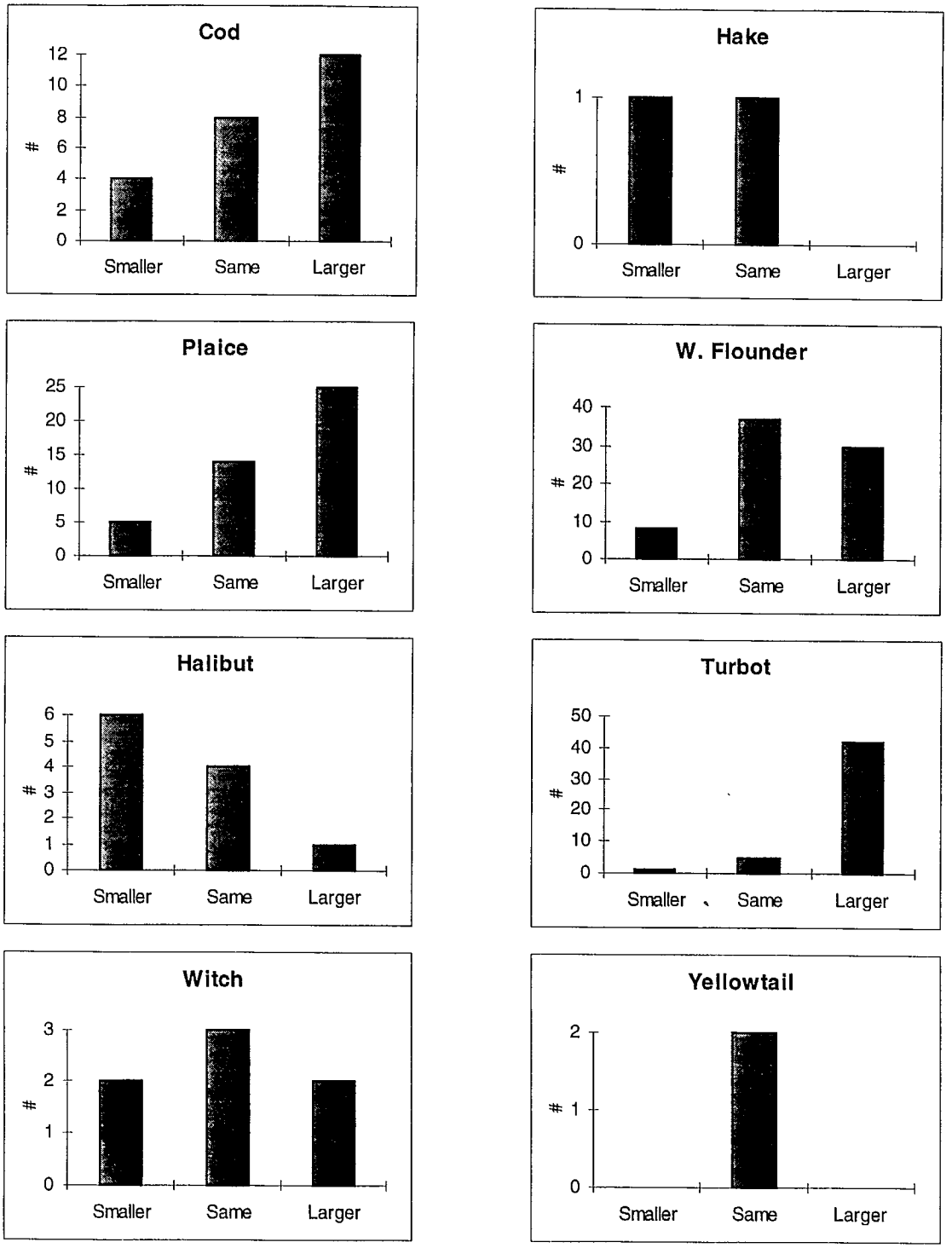


Figure 13. Comparison to previous years of the average size of the species of groundfish fished for 'most of the time' in 1996 (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

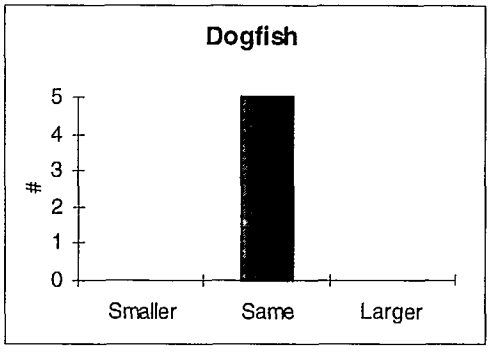
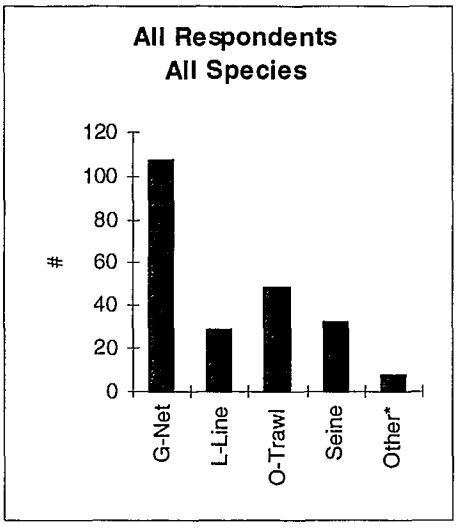
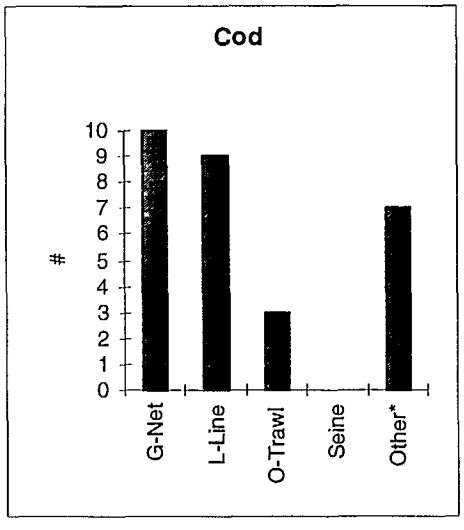


Figure 13. Continued.
Comparison to previous years of the average size of the species of groundfish fished for 'most of the time' in 1996.





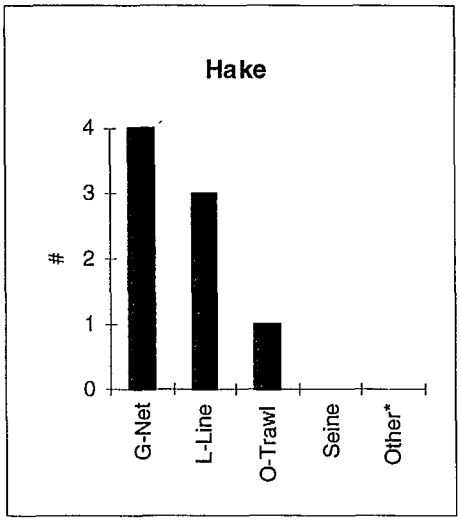


Figure 14. The fishing gear that was used 'most of the time' by respondents.
(Note: 1. These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time'. 2. Other Gear represents handline).

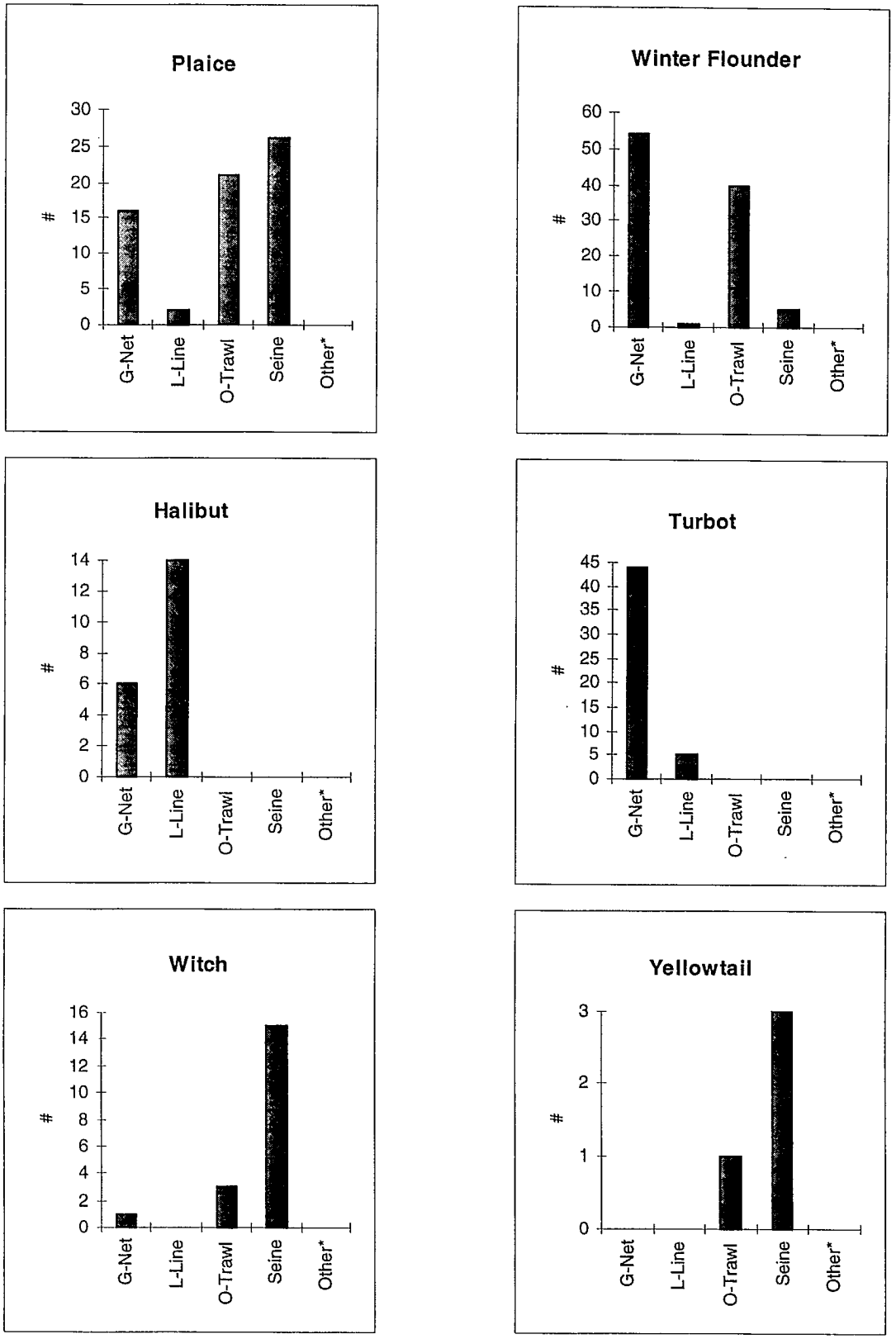


Figure 14. Continued.
The fishing gear that was used 'most of the time' by respondents.
(Note: 1. These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time'. 2. Other Gear represents handline).

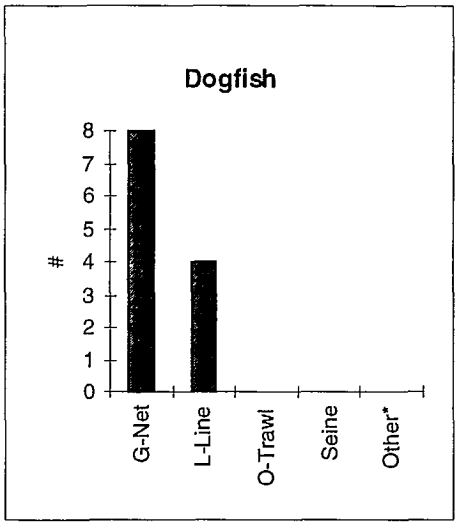
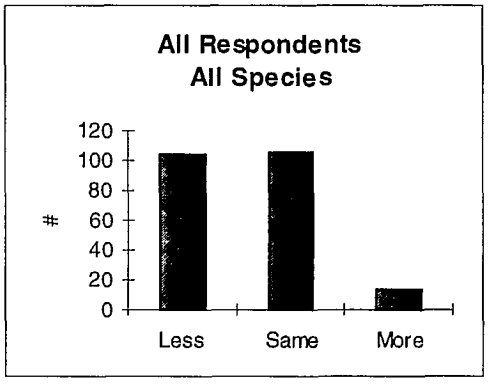
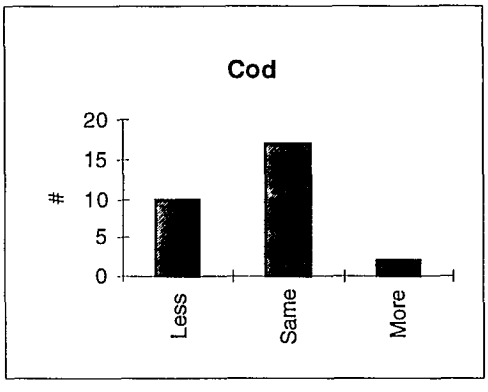


Figure 14. Continued.
The fishing gear that was used 'most of the time' by respondents.





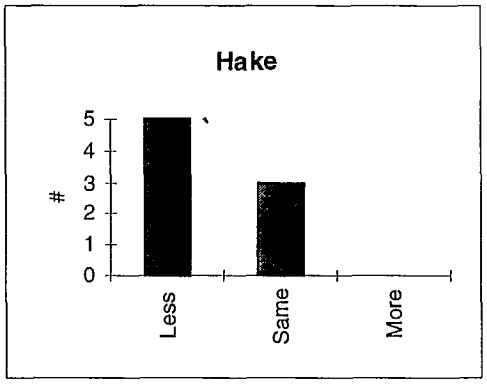


Figure 15. Comparison to previous years of the amount of fishing gear used in 1996. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

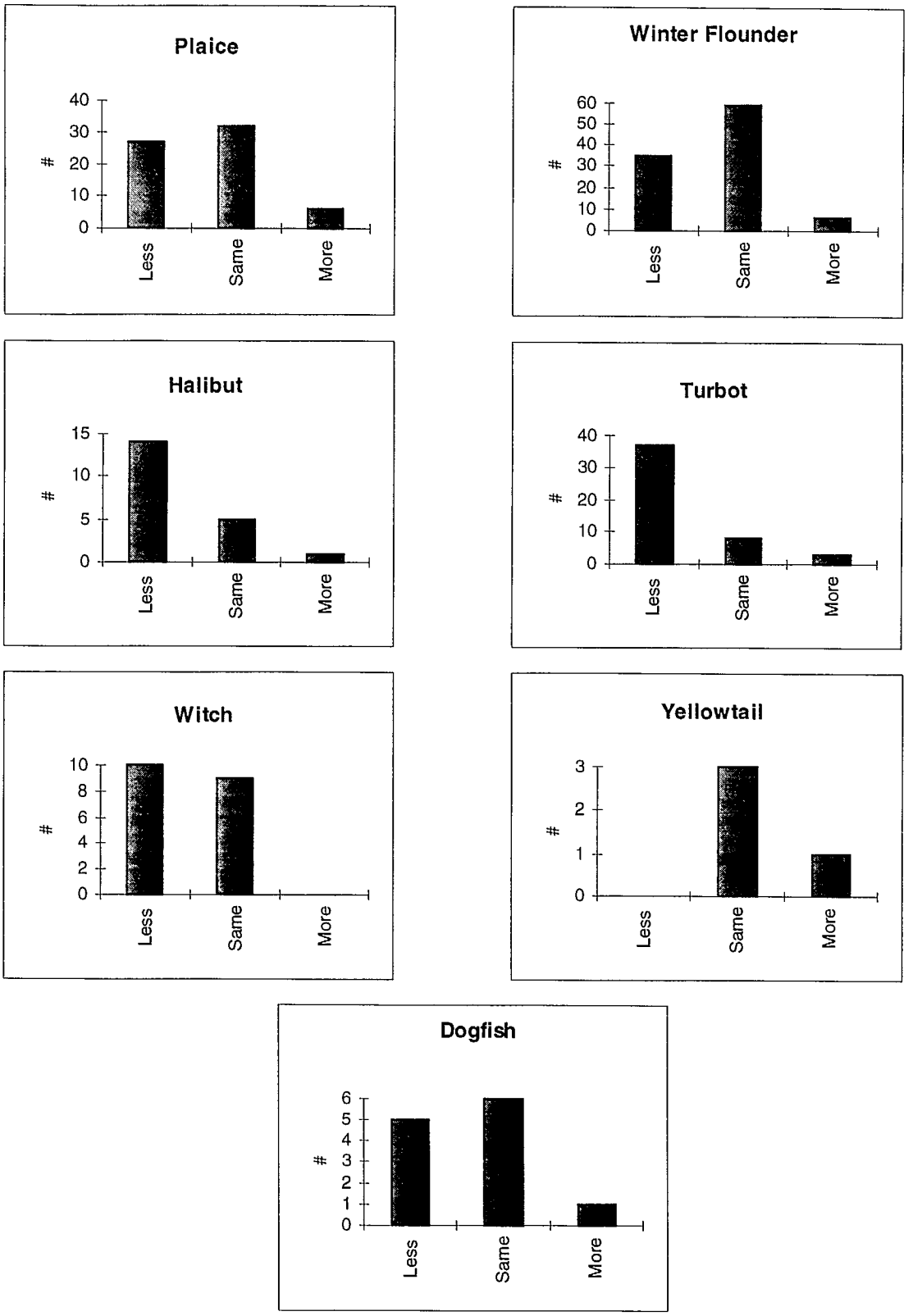


Figure 15. Continued.
Comparison to previous years of the amount of fishing gear used in 1996.

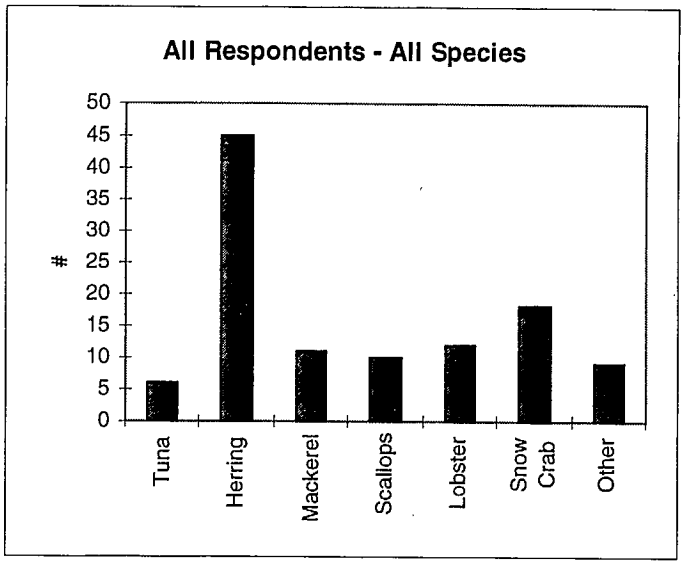


Figure 16. Fisheries that respondents switched to during the 1996 groundfish season. (Note: "Other" category includes fisheries like rock crab, surf clams, shrimp, etc.).

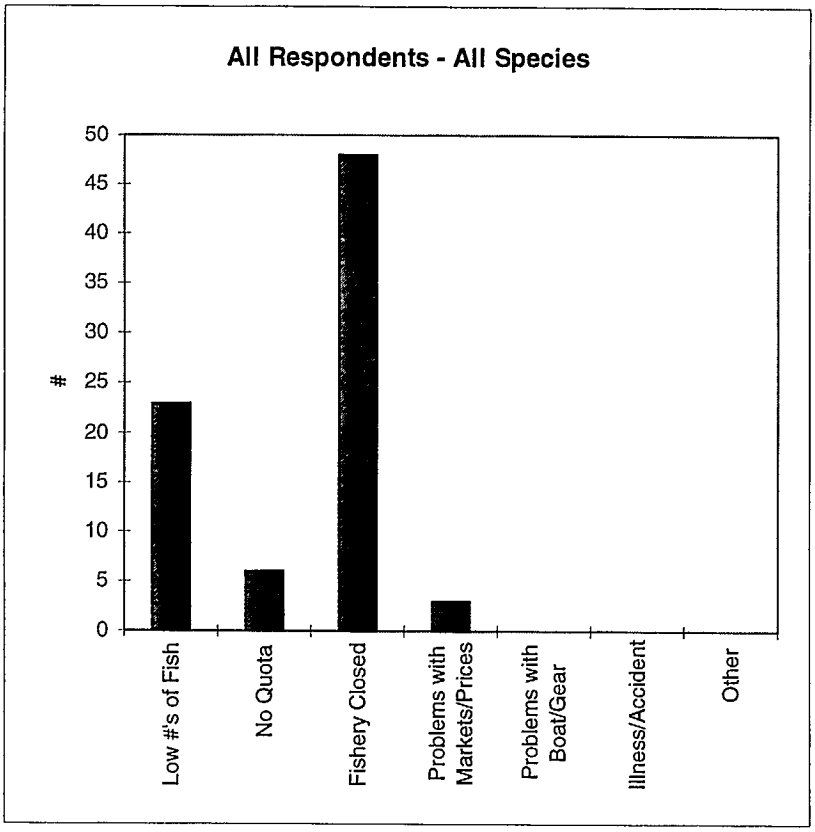


Figure 17. Main reasons given by respondents for switching from groundfish fishing to another fishery during the 1996 groundfish season.

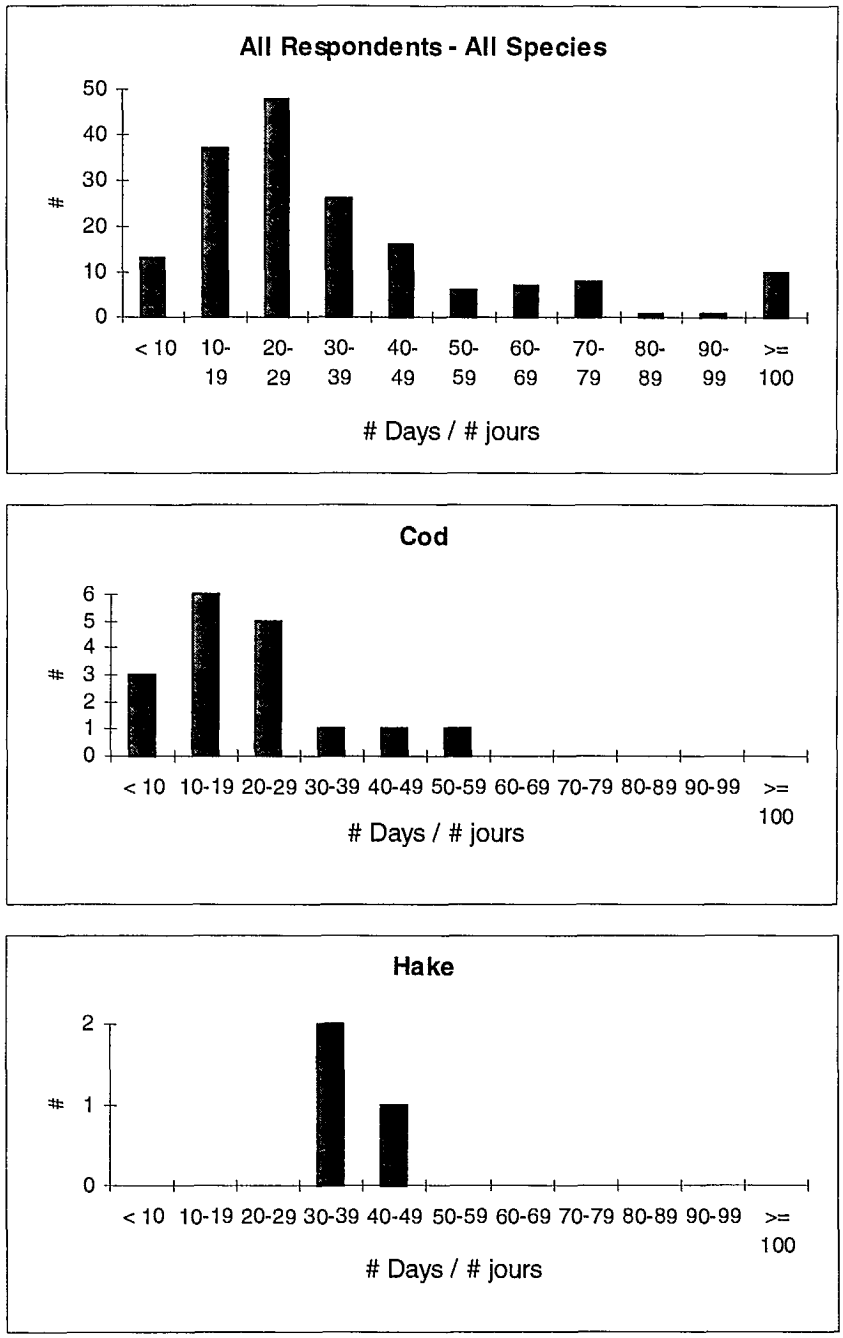
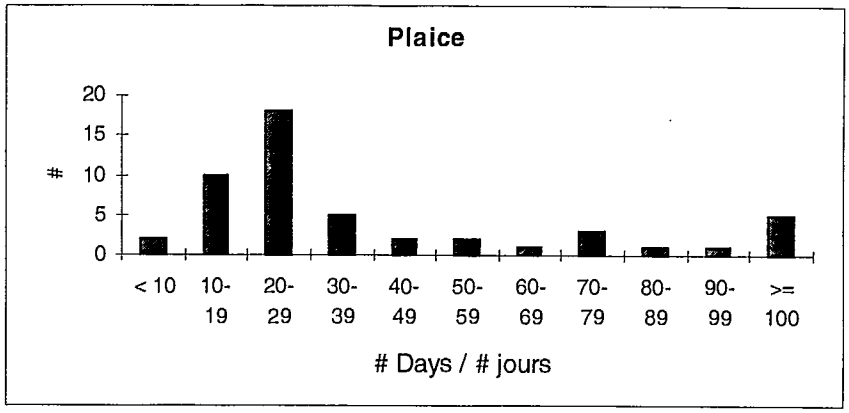
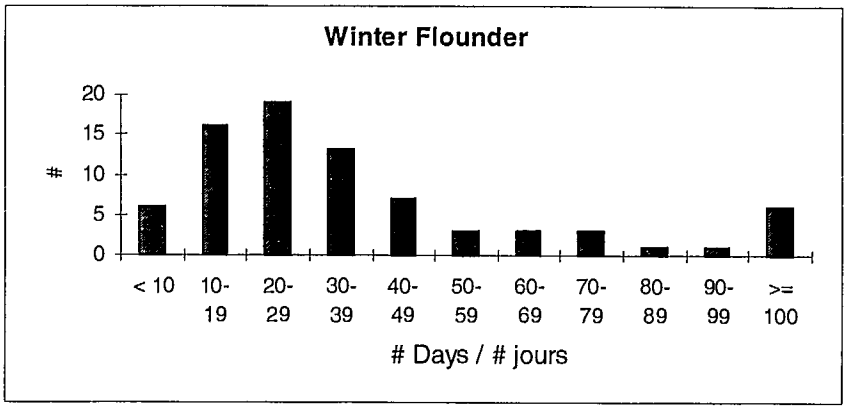


Figure 18. Estimates of the number of days spent fishing for groundfish in 1996 made by respondents that could not recall the exact number (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').





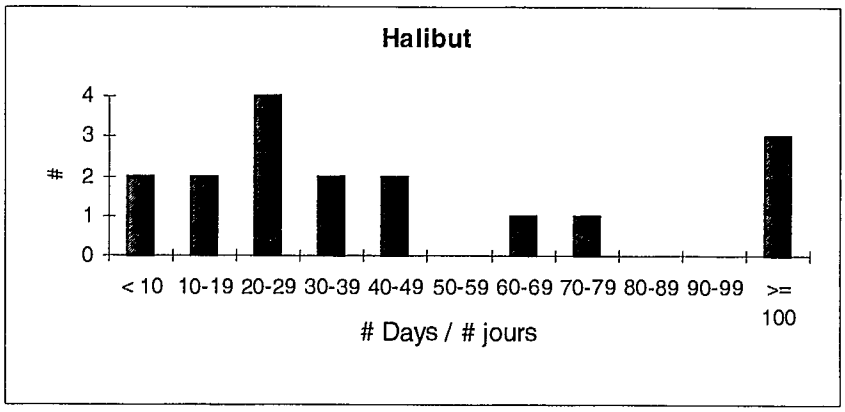
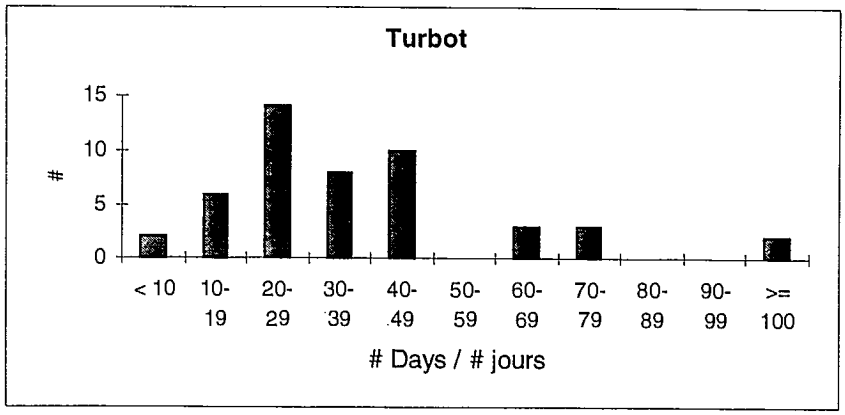
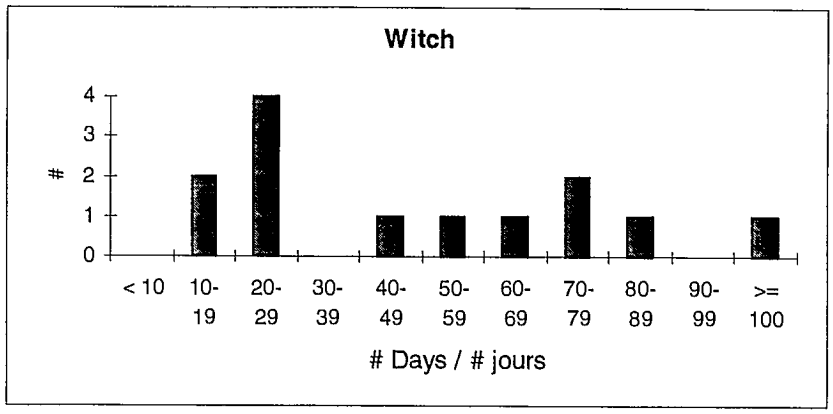


Figure 18. Continued.
Respondent's best estimates of the number of days they spent fishing for groundfish in 1996. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').





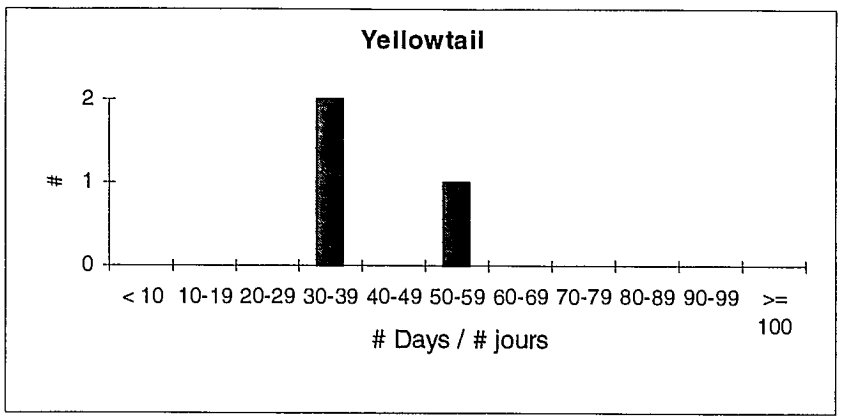


Figure 18. Continued.
Respondent's best estimates of the number of days they spent fishing for groundfish in 1996. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

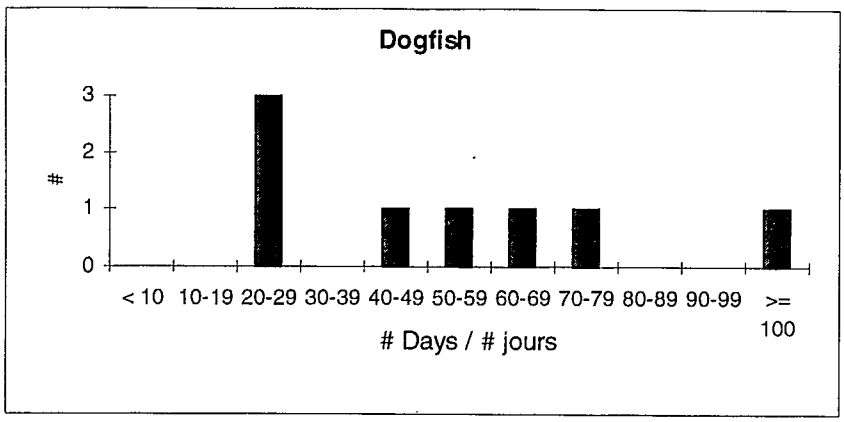


Figure 18. Continued.
Respondent's best estimates of the number of days they spent fishing for groundfish in 1996. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

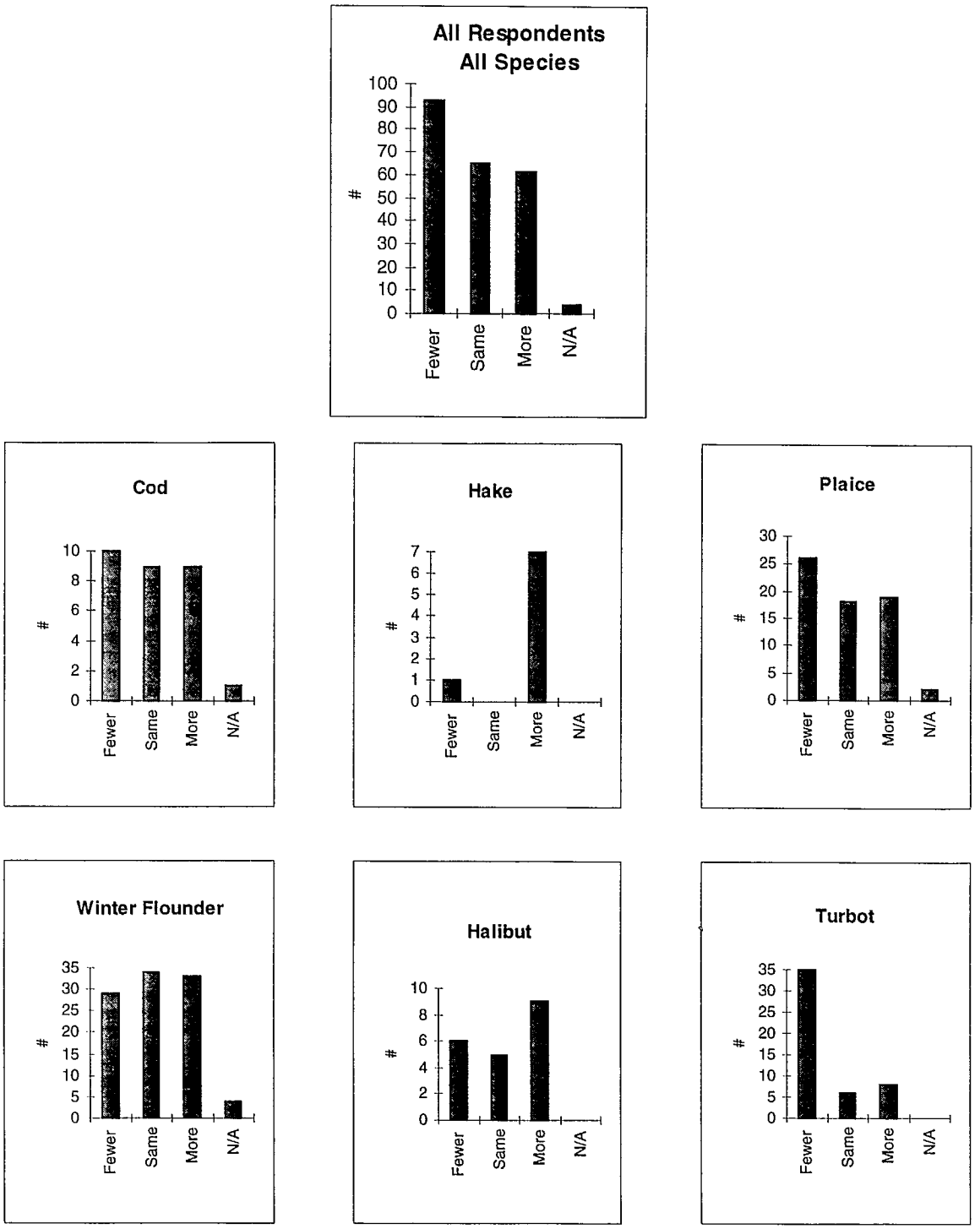
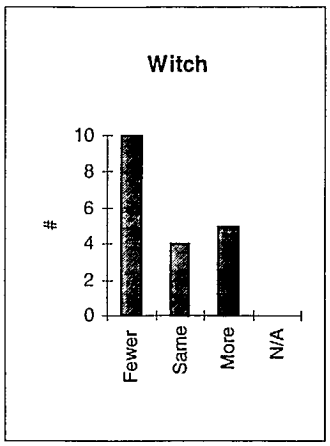
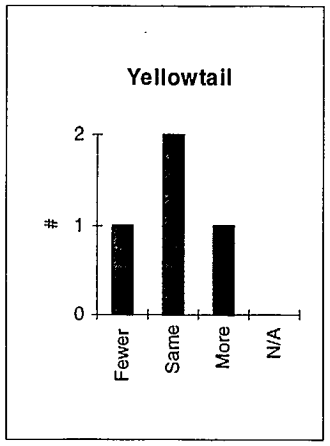


Figure 19. Comparison to 1995 of the number of days spent fishing for groundfish in 1996. (Note: 1. These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time'.Note: 2. "Not Applicable" category represents respondents that did not fish for groundfish in 1995).





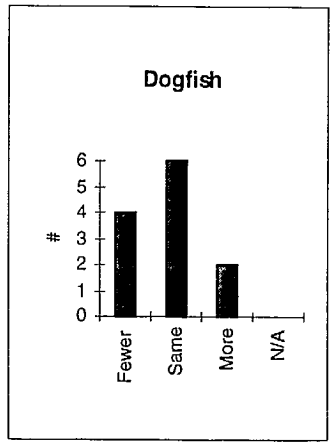


Figure 19. Continued.
Comparison to 1995 of the number of days spent fishing for groundfish in 1996. (Note: 1. These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time'.Note: 2. "Not Applicable" category represents respondents that did not fish for groundfish in 1995).

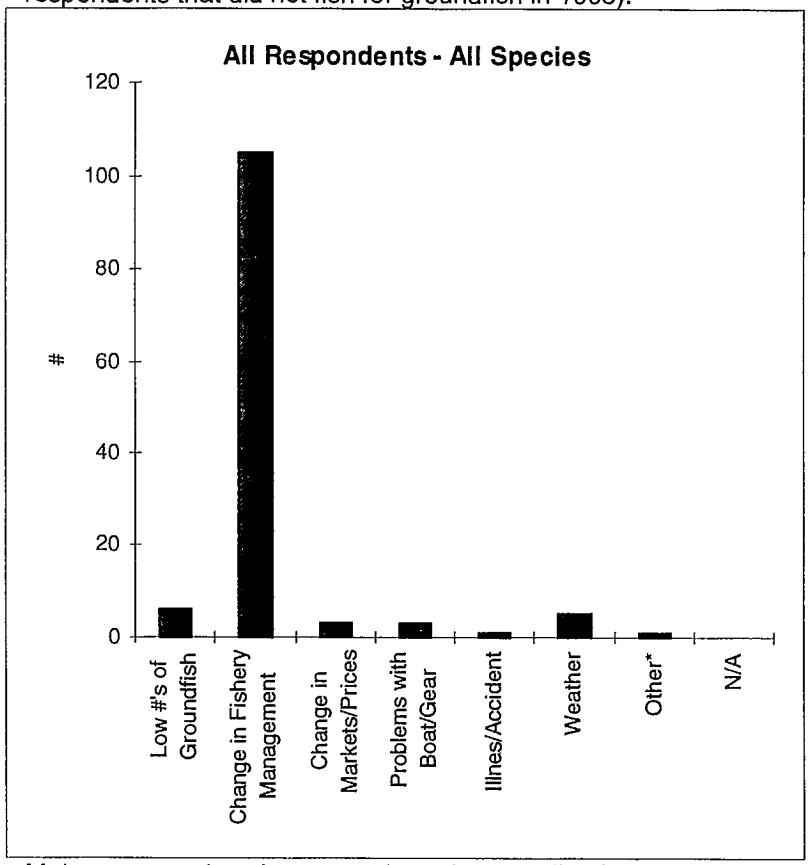


Figure 20. Main reasons given by respondents for spending less or more time fishing for groundfish in 1996 than in 1995.
(Note: 1. "Not Applicable" category represents respondents that did not fish for groundfish in 1995).

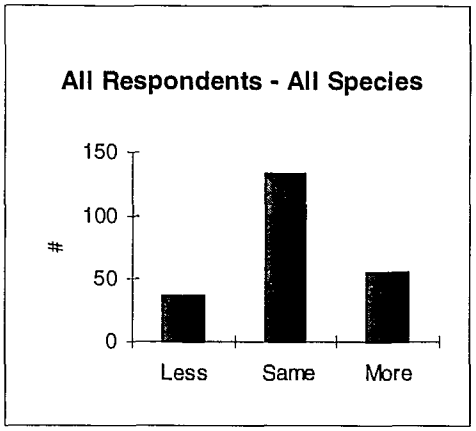


Figure 21. Comparison to previous years of the number of days when the weather was too bad to fish for groundfish in 1996.

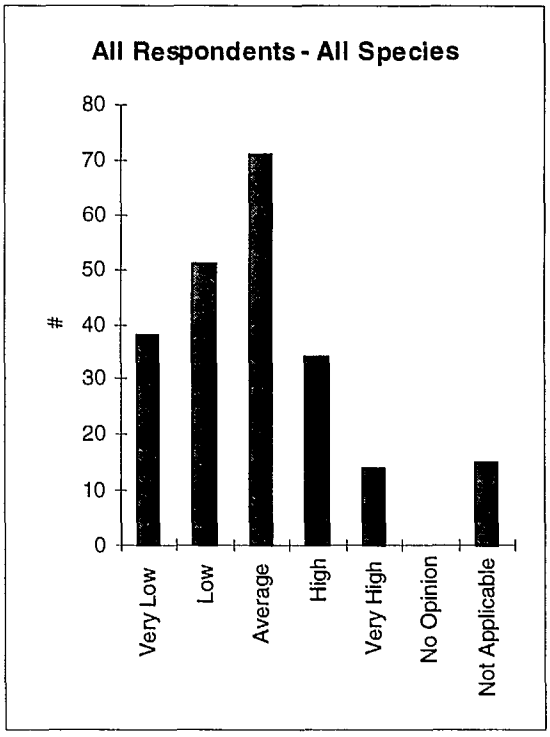


Figure 22. Opinions of respondents concerning the abundance of dogfish in 1996.

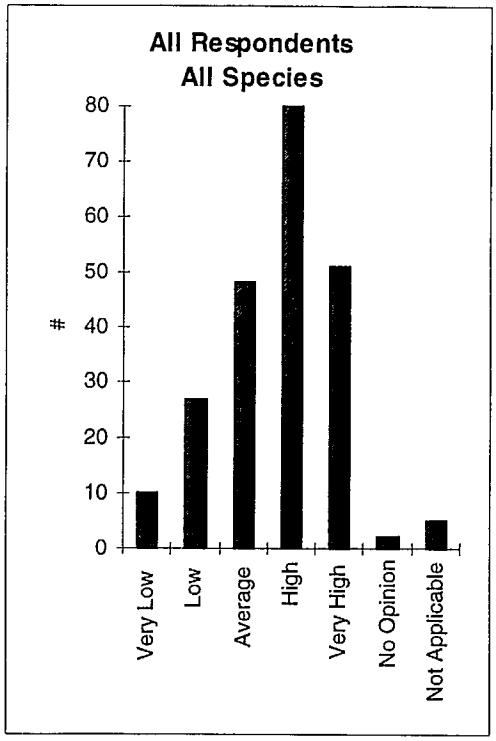
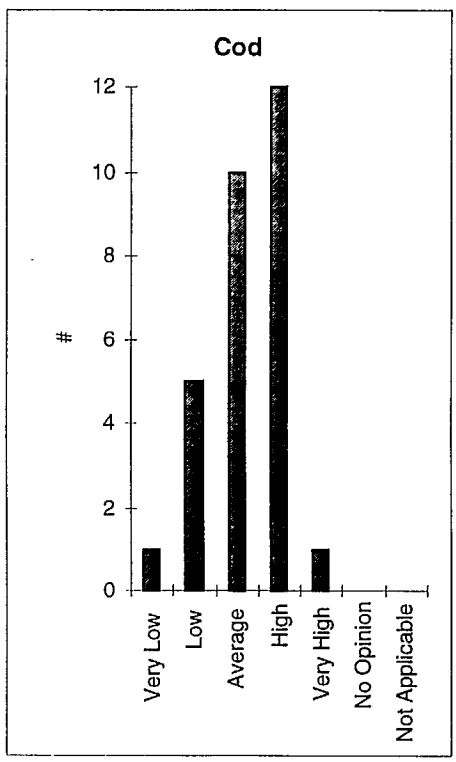


Figure 23. Opinions of respondents concerning the abundance of seals in 1996.



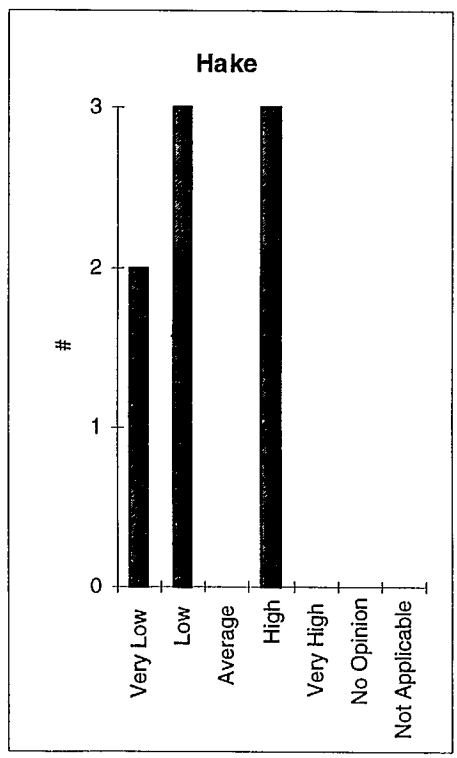


Figure 24a. Opinions of respondents concerning the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

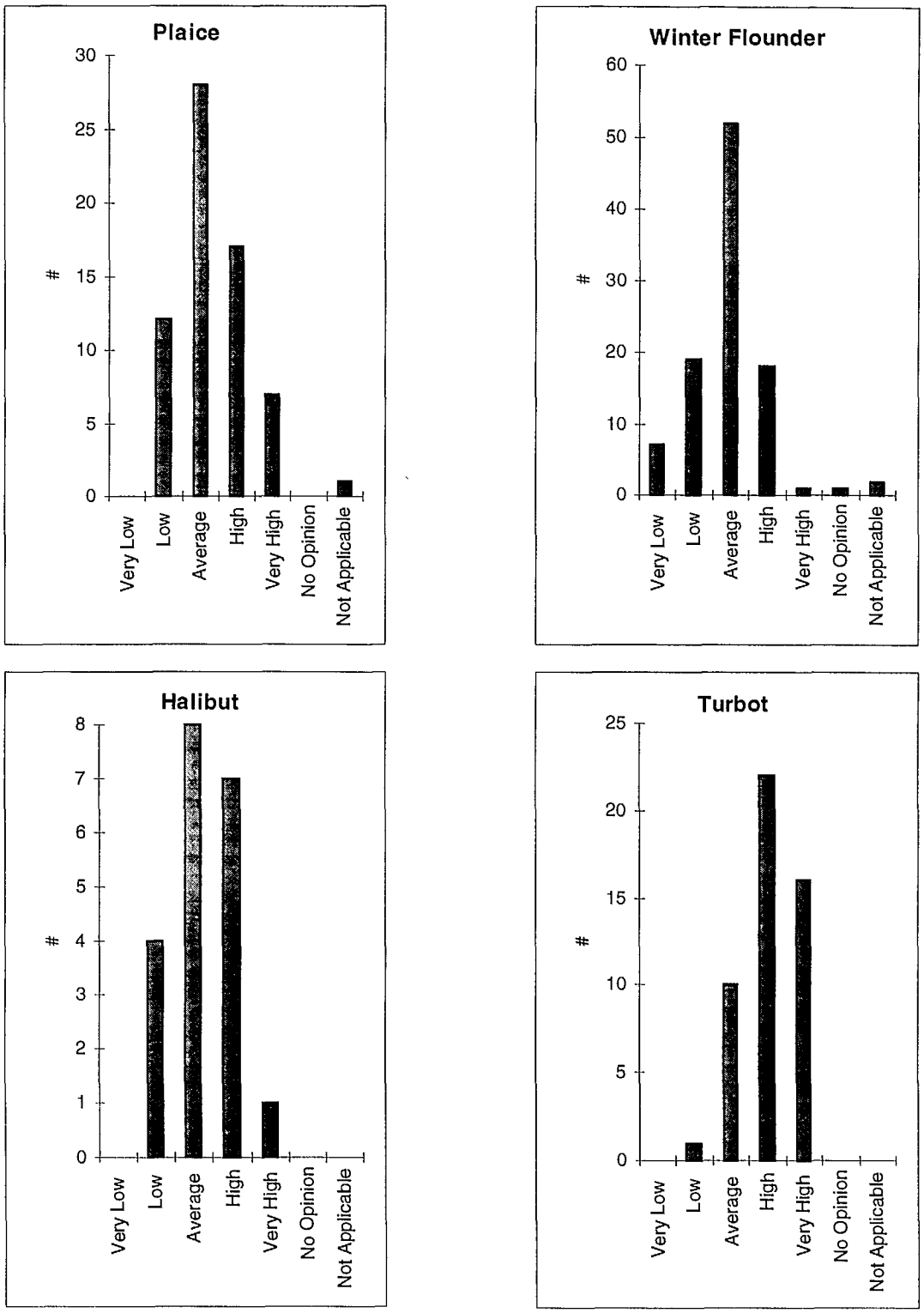
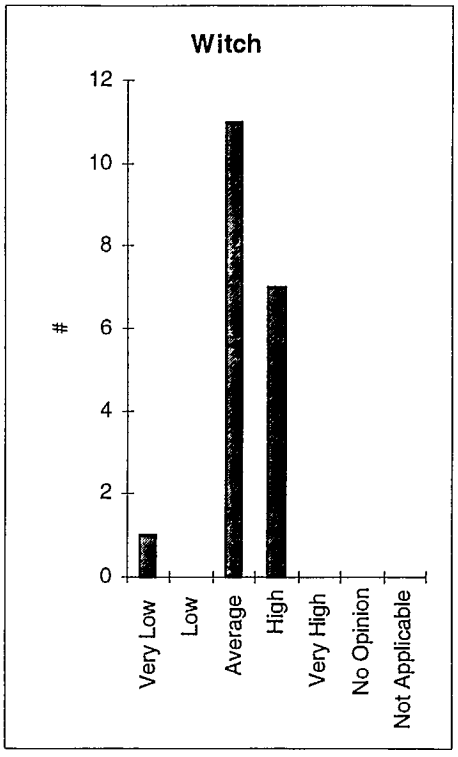
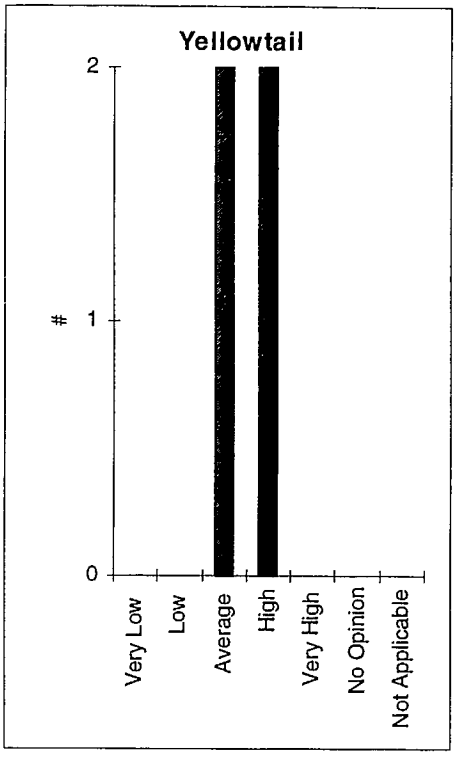


Figure 24a. Continued.
Opinions of respondents concerning the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').





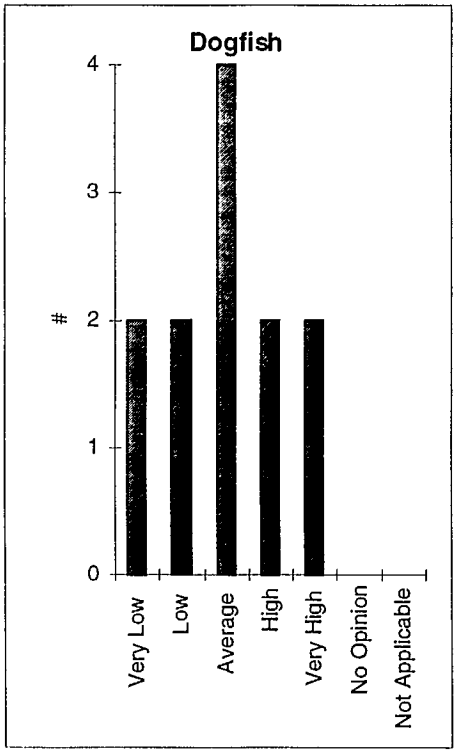


Figure 24a. Continued.
Opinions of respondents concerning the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996.

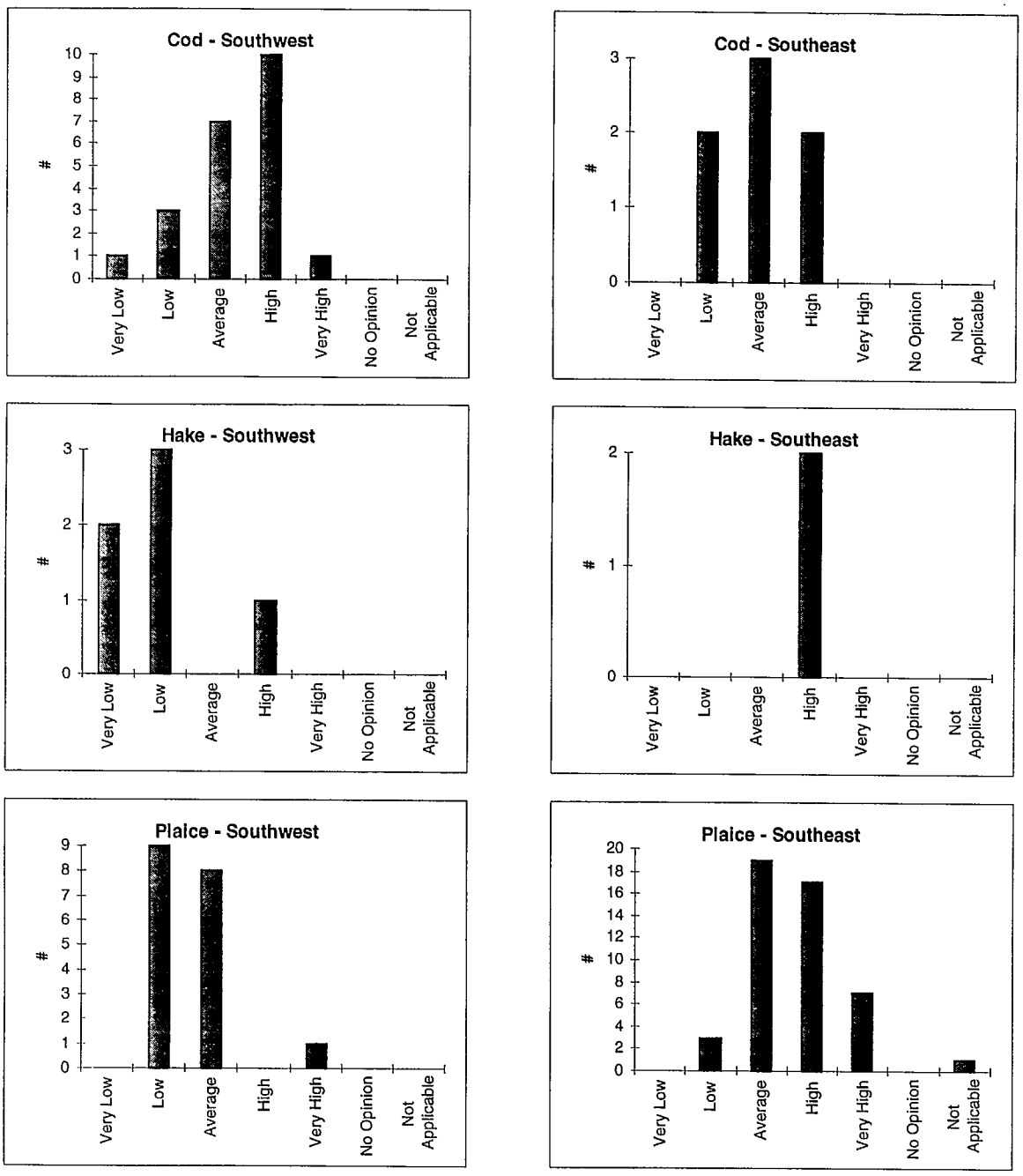


Figure 24b. Opinions of respondents from the southeastern and southwestern Gulf concerning the abundance of cod, hake and plaice in 1996.
(Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

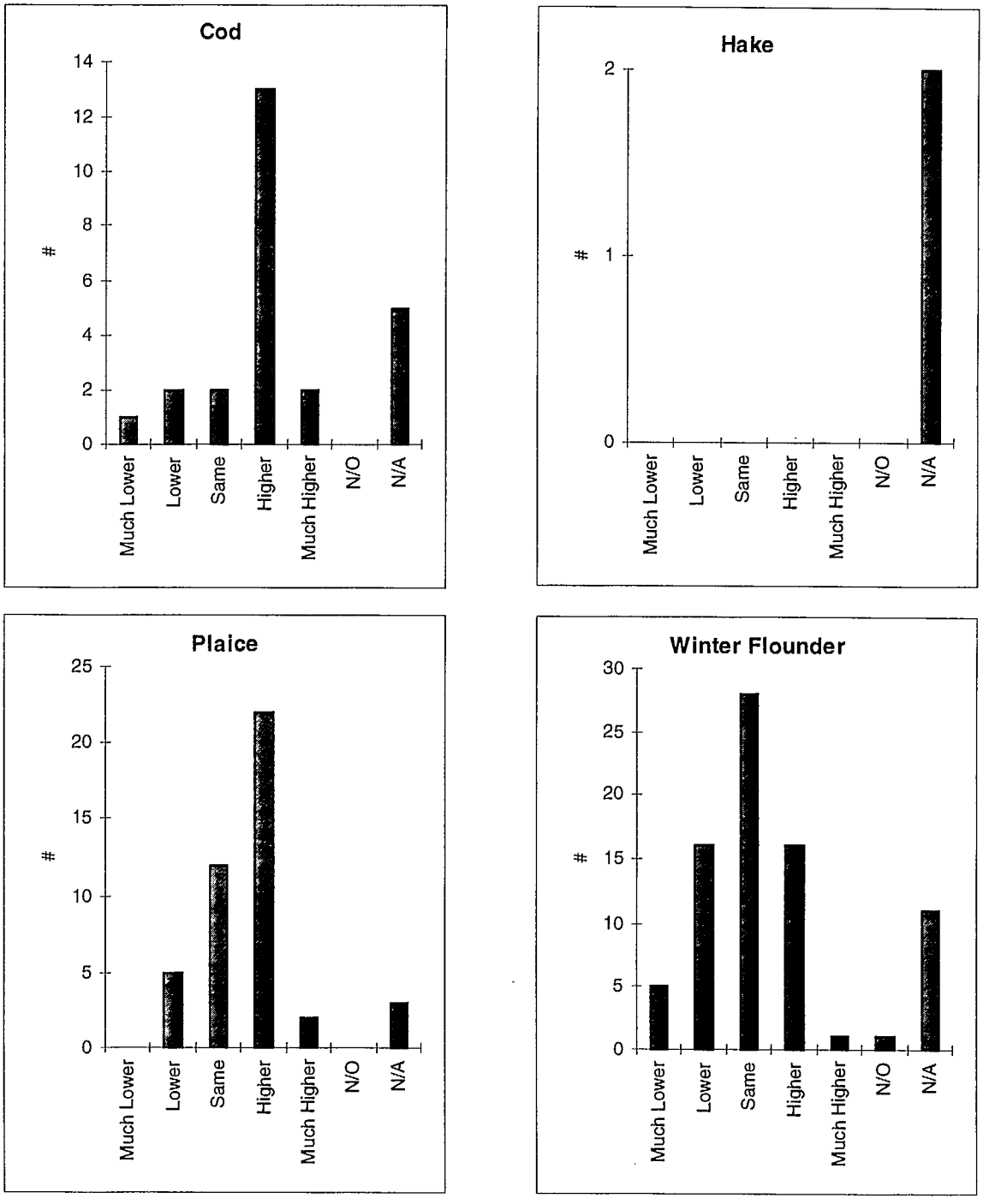


Figure 25. Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 with their abundance in 1995. (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

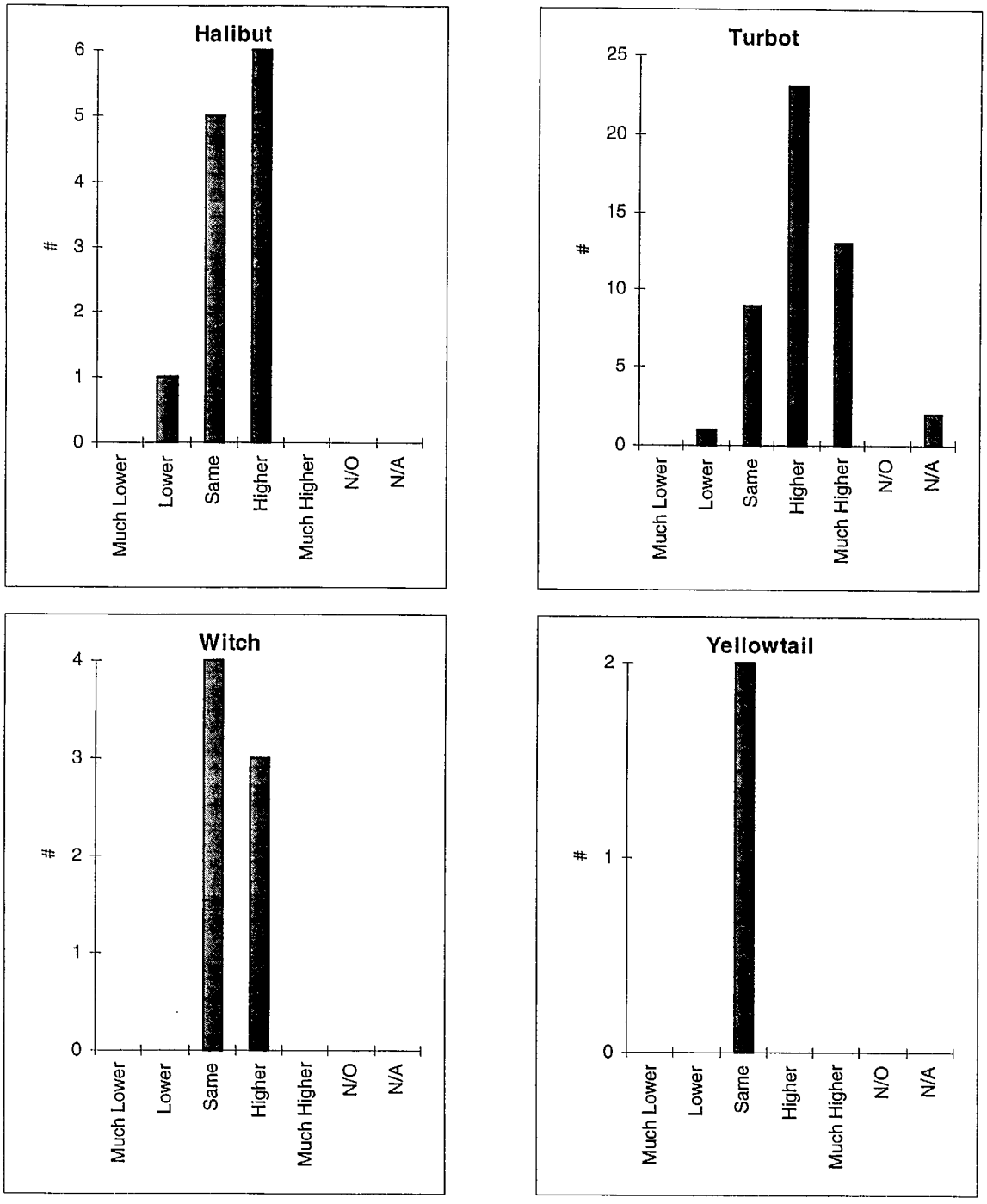


Figure 25. Continued.
Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 with their abundance in 1995 (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

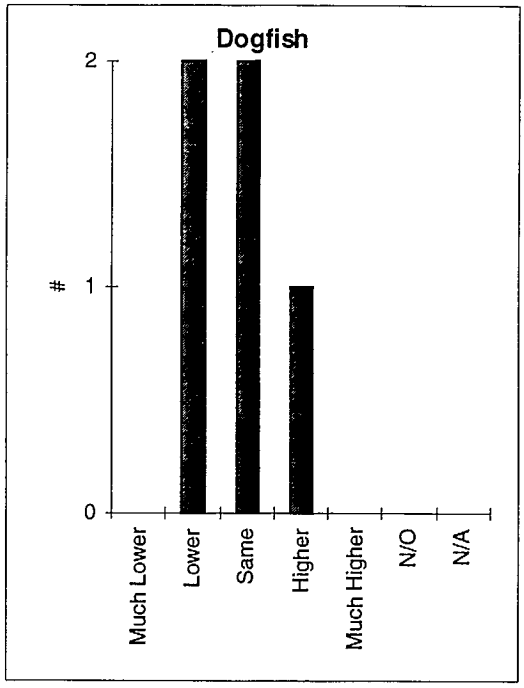
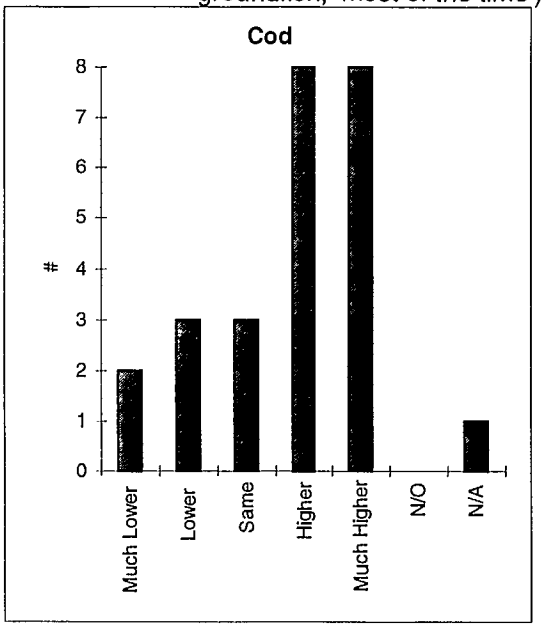


Figure 25. Continued.
Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 with their abundance in 1995. (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').



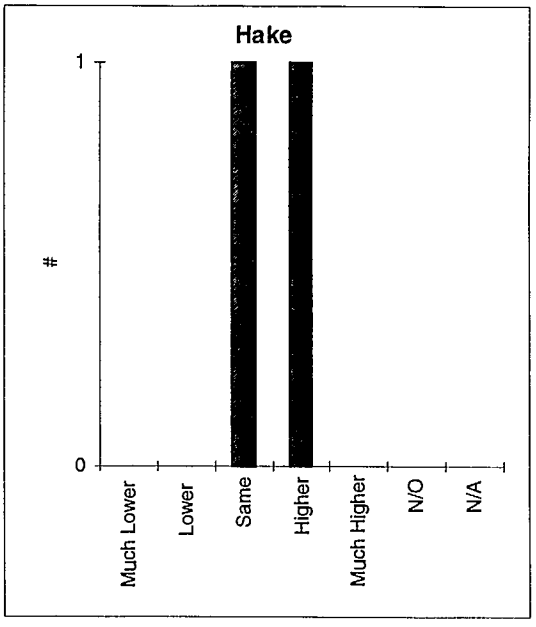


Figure 26. Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 with their abundance from 1991 to 1995 (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

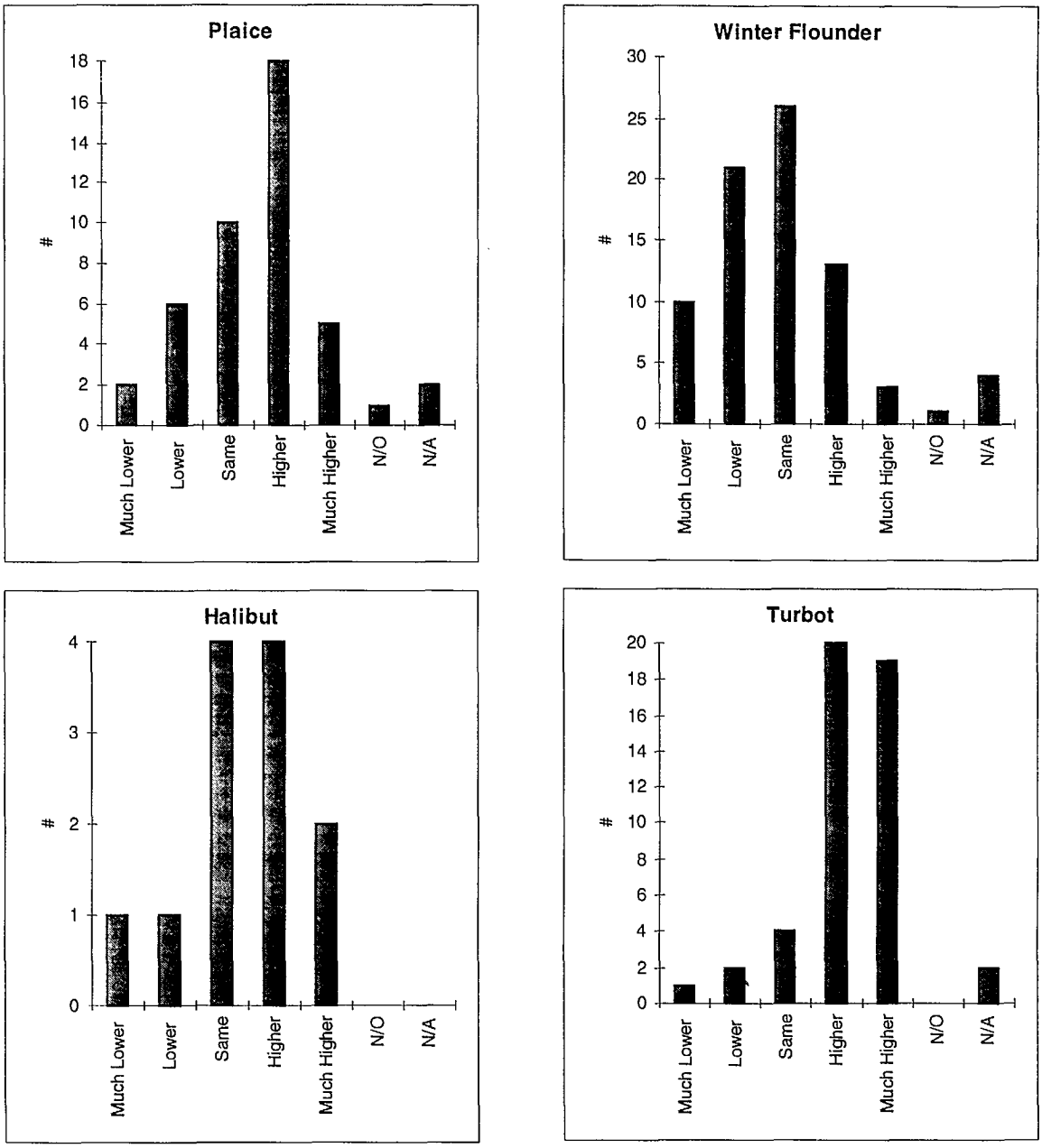
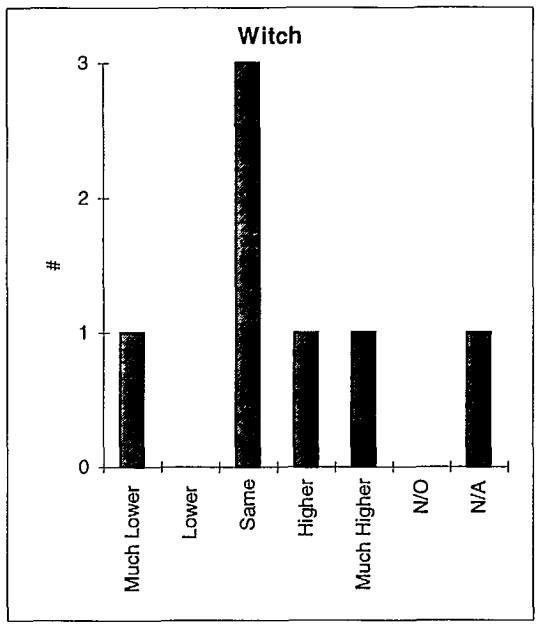
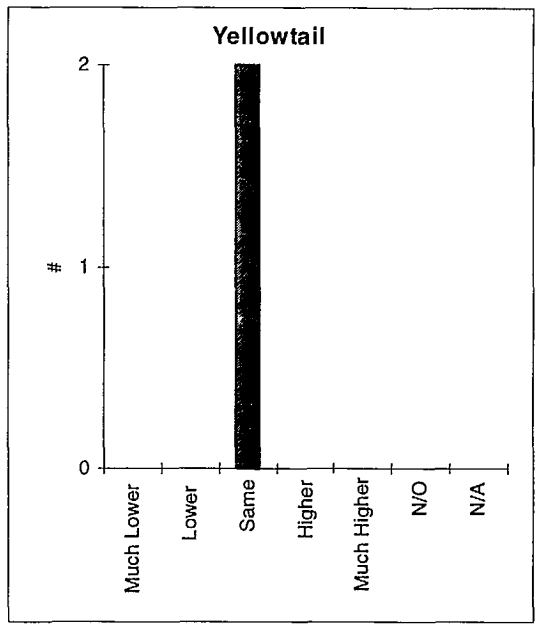


Figure 26. Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 with their abundance from 1991 to 1995 (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').





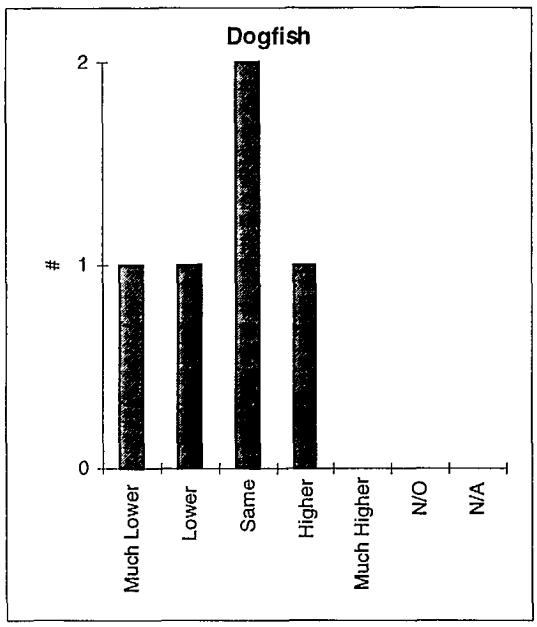


Figure 26. Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 with their abundance from 1991 to 1995 (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

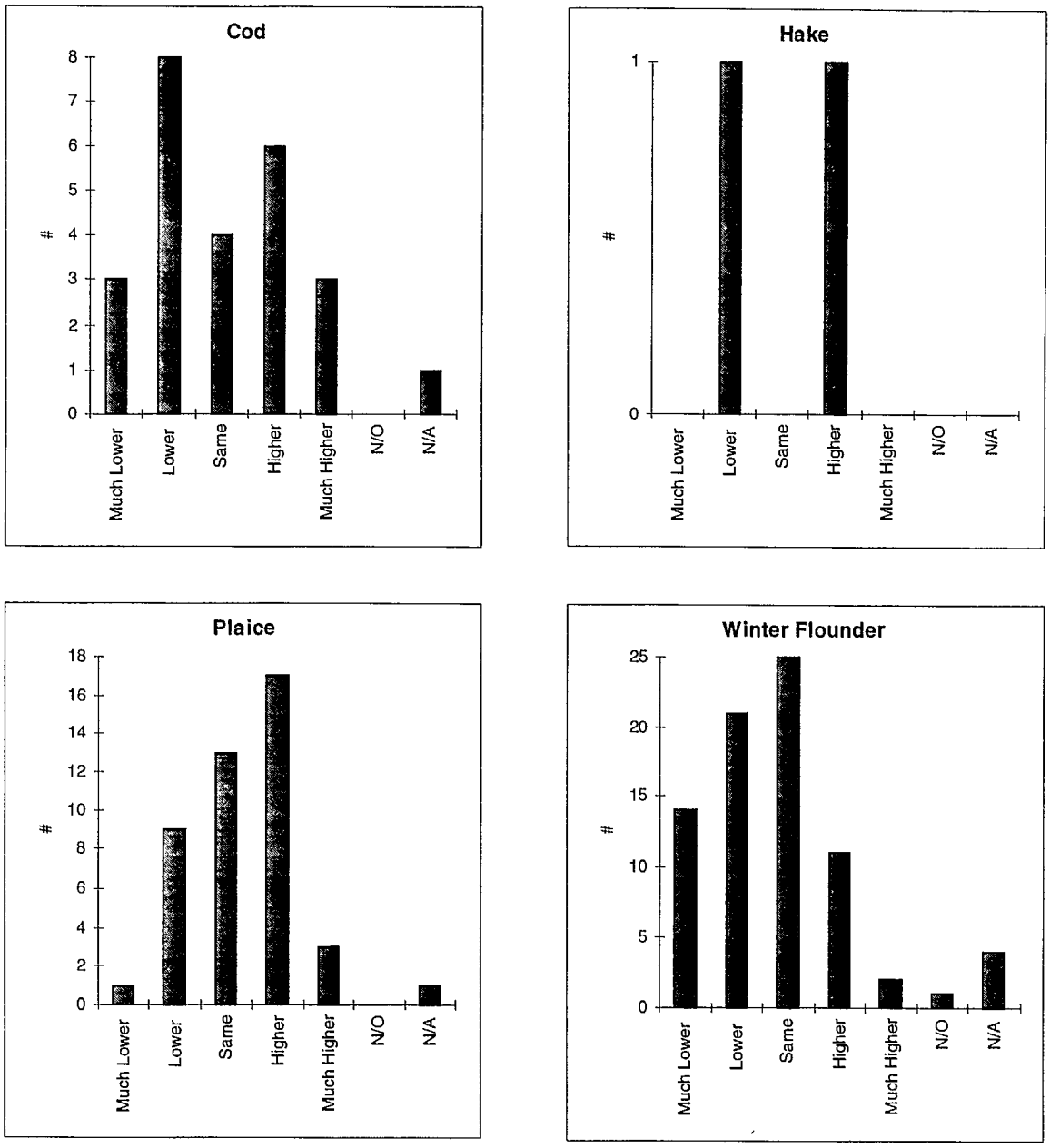


Figure 27. Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 with their abundance during all of the years that they fished for this species (Note: These species represent the 'first priority' of respondents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

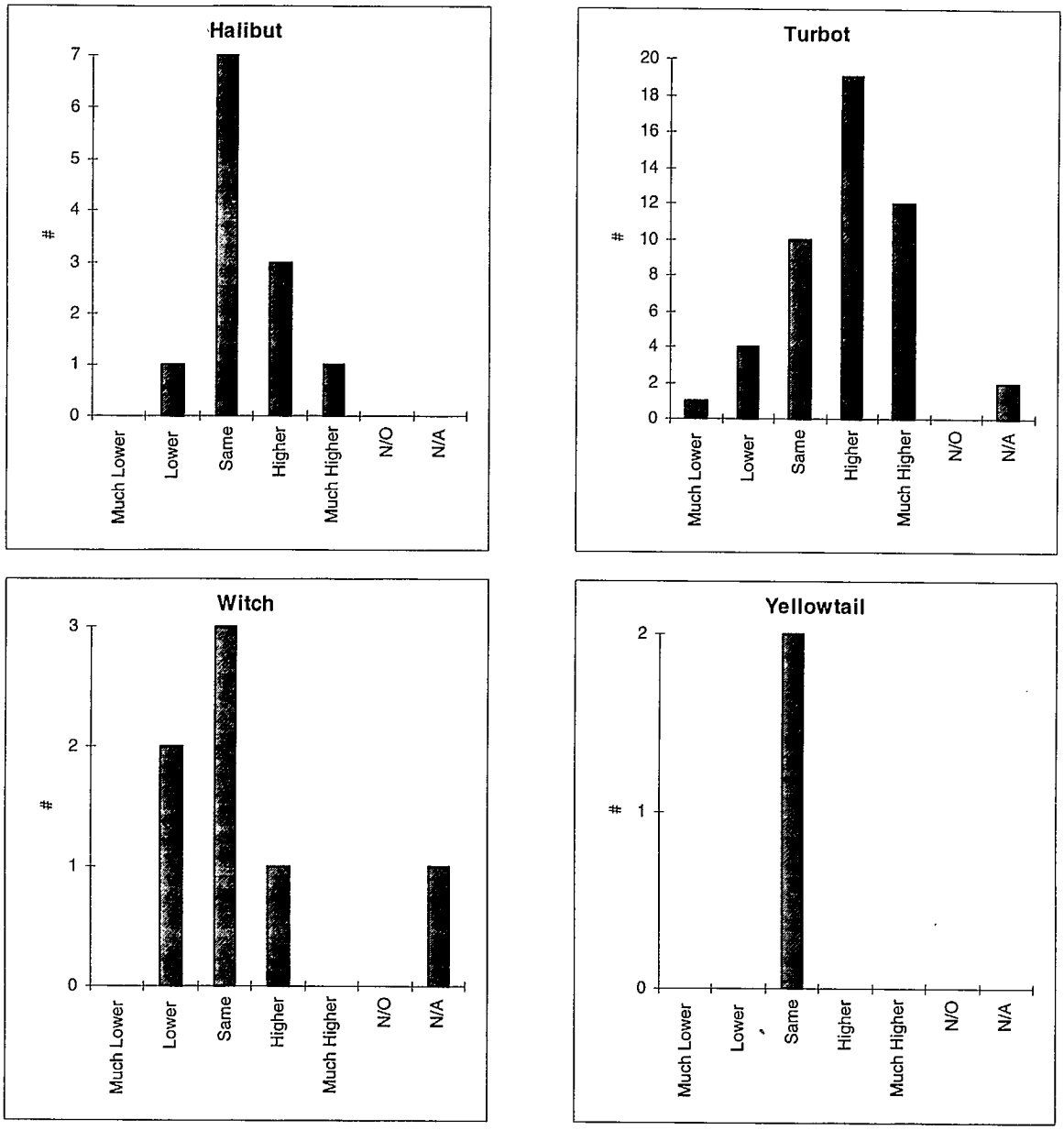


Figure 27. Continued.
Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 with their abundance during all of the years that they fished for this species (Note: These species represent the 'first priority'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

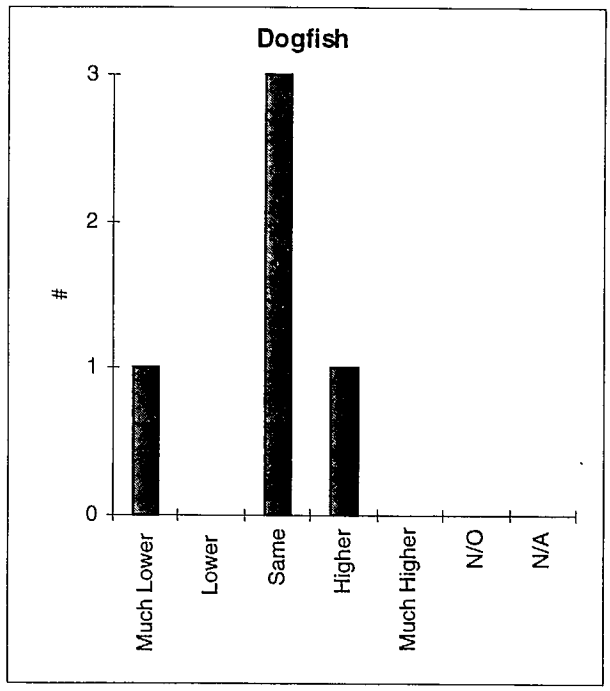


Figure 27. Continued.
Opinions of respondents asked to compare the abundance of cod, hake, plaice, winter flounder, halibut, turbot, witch, yellowtail and dogfish in 1996 with their abundance during all of the years that they fished for this species (Note: These species represent the 'first priority'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

10 - Appendices

Appendix 1
Locations Where Respondents Reported They Observed Seals
While Fishing for Groundfish in 1996

Cape St.Lawrence/Chéticamp to Cape North, N.S.
Cape St.Lawrence, N.S.
Cape North, Cape St.Lawrence, N.S.
Cape St.Lawrence, N.S.
Cape North, Cape St.Lawrence, N.S. We also see turtles.
49B fishing area - Cape St. Lawrence, N.S.
4T9A and 4VN fishing zones (N.S.)
Off Mckenzie Mtn., Cape Breton, N.S.
Off Chéticamp, N.S.
8-10 miles offshore of Chéticamp, N.S.
10 miles off McKenzie Mtn, Cape Breton, N.S. (4T9B fishing zone)
Henry Island, Port Hood Island, N.S.
Port Hood - Port Hood Island, N.S.
Port Hood ,Henry Island, N.S.
Western Cape Breton, N.S. shore
Off Henry Island & Port Hood, N.S. (Off of Black Pt.)
Off Port Hood, N.S. (Fishing Area 4T8).
Off Lismore & Arisaig, N.S.
Off River John, N.S. (Area 4Th).
8-10 miles offshore of Cape George/Lismore, N.S.
Off of Arisaig, N.S. in deeper water.
East of Cape George, N.S. (caught in nets).
Off Cap George/Livingston's Cove, N.S.
St. Geoges Bay, N.S.
Off Arisaig/Cape George, N.S.
St. Georges Bay, N.S.
St. Georges Bay, N.S. (in the Strait up to the causeway).
St. Georges Bay, N.S. (along the Strait up to the causeway).
Along the shore near Arisaig, N.S.
Off Livingston's Cove & Balantyne's Cove
Petit Rocher/Nigadoo, N.B.
Petit-Rocher/Belledune, N.B.
Off Petit-Rocher, Belledune & Pointe Verte, N.B.
Near the wharves at Petit-Rocher & Stonehaven, N.B.
Along the Laurentian Channel from Cap des Rosiers (Que.) to St. Paul's Island.
Chaleur Bay, N.B.
Southeast of Miscou Is., N.B.
Near Miscou Is., N.B.
All over Chaleur Bay, N.B.
Bay of Chaleur, and off of Stonehaven to Bathurst, N.B.
Chaleur Bay, Stonehaven, N.B. area.
Along the shore at Stonehaven, N.B.
South of Miscou, Is., N.B.
Northeast of Miscou Island, N.B. (10 miles from shore).
Chaleur Bay & off Stonehaven, N.B.
Offshore from St-Marie-sur-Mer, N.B.
Along the shore near Le Goulet, N.B.
Miscou Is./Baie des Chaleurs, N.B.
Off of Miminegash, P.E.I. & all along shore off Richibucto Cape.
Off Cap Lumière, N.B.
Off Little Cape, 12 miles north of wharf and outside of Jerimain Shoal, N.B.
In Northumberland Strait off N.B., and off Cape Egmont, P.E.I.
Bayfield, N.B. Area.
Cape Tormentine to Richibucto, N.B.
Off Murray Corner, N.B.
Shediac, N.B. to Borden, P.E.I., and off Cape Egmont, P.E.I.
Cape Egmont, P.E.I. to the Fixed Link.
Along shore in the Miminegash, P.E.I. area.
Off Skinners Pond and North Cape, P.E.I.
North Cape, P.E.I. area.
District T4 for lobster and off of Tignish, P.E.I.
Close to shore off Miminigash, P.E.I. (Area 4T5).
Off Miminigash, P.E.I. (2 to 5 miles offshore).
Between Cape Bald and Little Cape, N.B.
Around the harbour near Montague, P.E.I.
Off Fisherman's Bank, P.E.I.
Off Fisherman's Bank, P.E.I.
From Graham's Pond to Fisherman's Bank, P.E.I.
Harbours off east end of P.E.I., Fisherman's Bank.
Off Fisherman's Bank, P.E.I.
In the Strait (east of Pictou Island).
5 miles off shore from Graham's Pond, P.E.I.
South of the Ridge off eastern P.E.I.
Off Cape Cocagne, N.B.
8 miles off Souris, P.E.I., east of East Pt., on the Ridge.
Off North Lake, P.E.I.

Appendix 1 - Continued
Locations Where Respondents Reported They Observed Seals
While Fishing for Groundfish in 1996

Off Cape George, N.S.
From East Pt. to Big Pond, P.E.I.
Everywhere.
Off East Pt., P.E.I.
Off East Point, P.E.I.
All kinds in the harbours (off east P.E.I.).
Off North Cape, P.E.I.
Off Miminigash, P.E.I.
West side of P.E.I. (west from North Point).
Western end of P.E.I. from North Cape.
Between Port Hood and Mabou, N.S. (in 120 ft. of water).
From St-Raphaël-St-Marie-sur-mer, N.B. to 10 miles offshore.
The Goulet (Gulf side), Miscou point , Pte Verte offshore, N.B.
Off Le Goulet and Pigeon Hill, N.B.
In the Baie des Chaleurs.
South of Shippagan Gully (near the Stait) & in the Shediac Valley of N.B.
Off West Point, P.E.I. in the Strait.
Off east end of P.E.I.
In harbour at Seacow Pond, P.E.I.
West of wharf at Bonaventure, Que.
Inshore to Cap-Chat, Que.
North side of the Magdalan Islands, Que.
Rivière-au-Renard to St-Louis, Que.
Between 15-22 miles offshore from Mont-Louis, Que.
Everywhere in the Gulf.
Off Rimouski & Baie Comeau, Que.
Les Escoumins to Baie Comeau, Que.
Hundreds of grey seals and thousands of harp seals in the St. Lawrence.
Off Sept-Iles, Que.
Fishing Areas 4T3 & 4Si - off Que.
All over NAFO Div's. 4S and 4T, between Mont-Louis and Sept-Iles, Que.
From 1 to 10 miles offshore from Mont-Louis, Que.
All over the St. Lawrence River.
NAFO Div's. 4RST and off Matane, Que.
All over the St. Lawrence River.
All around Grande Entrée Island.
From les Méchins to Trinité, Que.
NAFO Div. 4S off Sept-Iles, Que.
Off north side, by Pointe des Mont (Godbout), Que.
Off Mont-Louis, Que.
La Pocatière to Gaspésie, Que.
On the north shore, between Sept-Iles and Gaspé, Que. (Grande Vallée).
Sectors 31-36 off Mont-Louis, Que.
Off Cap-Chat, Que.
Off Tourelle & Ste-Morte, Que.
Off Mont-Louis & Ste. Anne des Mont (30 miles offshore).
Off Tourelle, Que.
Off south and west coasts of Magdelan Is., Que.
South coast of Grande Entrée Is., Que.
North side of Magdelan Is., Que.
Off Carleton, Que.
On Miscou Bank (Off N.B.).
All over the St. Lawrence River.
Off Rivière-du-Loup, Que.
Between Grande-Rivière & Newport, Que.
Off Rivière Nord, Que.
Off Matane, Que.
North of Magdelan Is., Que.
North of Etang du Nord, Que.
All along Gaspé coast. 200 seals in front of my house (Mont-Louis).
Off Matane & Godbout, Que.
West & east of Anticosti Is. and off la Grande Coulée, Que.
NAFO Div's. 4RST.
Along the shore, north coast of Gaspésie, Que.
All over the St. Lawrence, Matane to the north shore (Que.).
Along the shore near Paspébiac, Que.
On Miscou Bank (N.B.).
Along the shore between Trois-Pistoles and Rimouski, Que.
Along the shore of the Baie des Chaleurs.
In NAFO 4T from shore to 30 miles out from Rivière à Claude to Sept-Iles, Que.
Off Cap Gaspé, Que.
From Rimouski to Anticosti Is., Que.
Southeast of the Magdalen Is., Que.
Around the Magdalan Is., Que.
Offshore of Rivière-au-Renard & Cape Gaspé, Que.
Northwest of Etang-du-Nord (Magdalen Is., Que.).
Off Bonaventure Is., Miscou Bank, & along the shore of Ste. Thérèse, Que.
Off St-Siméon and Pascodiaque, Que.(25 fathoms deep).
North side of Grosse Ile, Magdalen Is., Que.

Appendix 1 - Continued
Locations Where Respondents Reported They Observed Seals While Fishing for Groundfish in 1996

Inshore of Bonaventure Is., Que.
All around Sept-Iles, Que.
Offshore from Rivière-Nord, Que.
Brillants Island, Que.
Off Careleton & Migwasha, Que.
North of Magdalen Is., Que.
Southeast of Magdalen Is., Que.
Offshore from Cap Gaspé
Everywhere around the Magdalen Is., Que.
All around Rivière-au-Renard, Que.
Grand Cascapédia to Pointe à la Garde, Que.
North and south shore, in front of Trinité Baie, Que.
Between New Carlisle and Bonaventure, Que. (in 90' of water).
Around Capelan & New Richmond, Que.
Along the Baie des Chaleurs between Shigawake & Port Daniel, Que.
Off Caplan, Que. (inshore area).
Offshore of Bic Is., Que.
Off Bonaventure Is., Que.

Appendix 2
Final Comments and Opinions Made by Respondents on the 1996 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

Comments and Opinions Regarding Seals

Something should be done about the seals, they eat more fish than we catch.
There should be a controlled kill of seals.
A lot of seals out there, even offshore.
Should issue permits to hunt seals.
There are too many seals....something has to be done.
Too many seals.
Something should be done about the seal problem.
There should be a seal hunt.
Need to eliminate some seals.
There should be a seal hunt. When we see a large group of seals in a certain area there are no fish in it the next day.
Something has to be done about the seals.
They're a real problem.
Seals are a big problem. They destroy our herring nets.
Hunt the seals.
Seals have eaten a lot of cod and Am. plaice.
Regulate the seal population.
Do something about the seals.
Hunt the seals. They're large predators on the fish.
The seals have eaten all the cod.
Allow a seal hunt.

Comments and Opinions Regarding Dogfish

Not on the water when the dogfish were there, so we can't know their abundance.
More work should be done on finding markets for the dogfish.
Should do something about the problem.
A lot of dogfish but no markets.
Can't use mackerel for bait as it attracts dogfish.
There is potential in fishing for dogfish.
Dogfish are not considered groundfish.
They allowed us to go after dogfish but at that time they had moved too far out.
Caught 5000 lbs. of dogfish in one set.
A market could be developed for dogfish.
Dogfish fishery was opened at a time that there was no fish.
The invisible fish.
Large numbers in some areas, small in others.
The dogfish fishery was closed because of too much cod bycatch.

Comments and Opinions Regarding Mesh Sizes

The square mesh should have been used 20 years ago; the fish would be plentiful today.
Mesh size should stay the same.
The bigger mesh size seems to indicate lower numbers of flounder but that is not necessarily the case.
Mesh size should be 150 instead of 155 and stay with the square mesh.
A selective net has been developed that catches Am. plaice instead of cod because of the size of the mesh.
The increases in mesh size every year makes it hard to compete.
5 1/2" mesh, as an agreement we use 6 1/2".
Mesh size needs to be increased from what it is now. Haven't had my mesh size checked in ten years of fishing.
Mesh size was one size too big in 1996. Could have increased our catch of legal size from 10 to 15(%) if we were using the 1995 mesh size.
Like to see the mesh sizes drop.
Mesh sizes need to be larger.
A 6" square mesh is too big for cod; it should be a 5 1/8" mesh. Mesh sizes are not enforced.
Want to go back to 5 3/4" mesh sizes. There is no basis for increasing the mesh size.
Mesh size in 1996 was a reasonable size. We didn't get any small ones: larger mesh would be no good.
The 6' mesh is a good size.
Mesh size should be 5 1/2" instead of 6 1/2".
With that size 90% of the females caught were gravid with eggs. We are going to destroy the Greenland halibut stocks. We are ready to research the problem with an independent scientist.
The 6" mesh is going to destroy the fishery by taking large broodstock fish. 5 1/2"- 5 7/8" is better.
The 6" mesh is taking too many broodstock fish
The 5 1/2" is better. There should be 60 nets per boat instead of 80.
Capturing too many broodstock with the 6" mesh. The 5 1/2" would be better.
The number of nets is decreased. The augmented mesh is the reason for such large takes of fish.
Redo the mesh sizes. We were getting a lot of large females.
Mesh sizes should be closely regulated. A lot of fishermen take small fish.

Comments and Opinions Regarding Gear Conflicts

The fixed gear should not be the only fishery closed. The mobile gear gets a lot of fish and throw 80% overboard. Hoping for the fixed fishery to open in 1997.
The stern trawler (for research) does not reflect reality - underestimates compared with Danish seines.
Longline fishery doesn't destroy the fishery like the big trawlers. We fish for personal use limits of 10 fish a day.
Would like to see the trawlers (Flatfish) restricted from fishing in the Baie des Chaleurs. They catch all the cod. If this would be implemented, the fish would have a chance to rebuild in 5 years.

Comments and Opinions Regarding Gear Conflicts

The draggers destroy my longline gear; I lost a lot last year. I report them to the fishery officers without any results. The fixed gear fleet is the future; the large draggers destroy the stocks.
Stop dragging. Draggers destroy equipment and stocks. Longlines will save the fishery.
Seines should be outlawed. Those that have seine licenses could fish with longlines or gill net. The longlines and gill nets are more selective and do not destroy the bottom.
There should not be Am. plaice and cod draggers in the region. They destroy the bottom.
Otter trawling for groundfish should be stopped.
Can't see that dragging should ever be done again. It ruins the bottom and the fishery will be devastated. If the fishery opens it should be for gillnets, handlines and longlines only.
Cod tanglenets (gillnets) should not be allowed to fish. They are destroying all the stocks (cod, hake, salmon, etc...) - We call them ghost nets because they fish all year 'round. It's not right.
Gillnet fishers would set up where herring fishermen had been. We have to move away from them and stay 1/2 mile away from the gillnets. Fishermen should be able to use either gillnets or trawls, but not both.
Fishing should be done by fixed gear only until the stocks increase. That way there would be lots of fish for everyone.
If they are going to open the fishery for cod it should be for handlines only.
If they open the fishery no draggers should be allowed.
Gillnets take small fish just like the draggers.
The draggers have destroyed the stocks and should not be allowed to resume fishing.
Draggers should not be put back out. They kill the fish.
Otter trawls should not be allowed. I have an otter trawl license and I don't want to use it.
Seiners get a lot of small fish.
The square mesh nets are not catching properly.
When the fishery opens fixed gear will fish the fixed gear sector. All the bigger draggers want everything. It should not be a directed fishery except for handline.
Gillnets and longlines do not hurt the fishery. Draggers do.
With the longline you can release small fish back into the water. Gillnets can kill up to 15% of your catch. Handlines catch cod by the gut - Waste of fish.
Cut down on draggers, especially Danish seines.
Draggers should not be allowed to fish.
Longlines and handlines don't destroy the resource.
The draggers have destroyed the hake and winter flounder. It's a fiasco.
Keep the draggers at bay. They land fish 7 to 8" long.
Draggers have destroyed small fish.
Trawlers have destroyed turbot stocks.
Do not let otter trawling for cod start again. They destroy the bottom.
The draggers will destroy the resource.
Draggers should have to catch the same size fish as everybody else.
Impossible to fish halibut by longline.
Draggers destroy the resource.
Should not open the fishery to draggers.
I could fish better if the draggers didn't destroy everything.
If otter trawls fish for cod there will be no fishery left.
Since we stopped the trawlers there has been an increase in cod and Am. plaice numbers.
Do not allow large seiners and draggers to fish.
In our area 20 nets per boat is enough to make a living.
If the cod fishery opens do not allow Danish seines to be used. They destroy the bottom.
Don't let trawlers destroy the fishery.

Comments and Opinions Regarding Licenses and Quotas

Like more individual quotas.
Like an increase in Am. plaice quotas.
Because of decrease in quotas it's difficult to make comparisons to previous years.
Would like the cod fishery open on a limited basis - small quotas.
In the witch fishery, the TAC should be separated from 4R, separate each; 4R, 4S, 4T.
Hard to answer questions on winter flounder when the quotas were cut from 5000 to 2000 t. Don't know why these cuts occurred because everyone seems to think there's lots of fish in the water. The fish are there.

Comments and Opinions Regarding Licenses and Quotas - Continued

Would like an increase in Am. plaice TAC for their area.
The Am. plaice fishery was closed due to bycatches of cod. The TAC could have stayed at 5000 metric tonnes.
They cut the quota for Am. plaice; we are kept tied up, but there is some 500 tons left in the water. Why? The situation is frustrating. No ITQ's (Individual transfer quotas).
More quotas for Am. plaice. There was a lot out there.
The quota was too low.
The TAC should be higher than it was.
Give us more quotas.
Like to get some of the Am. plaice quota back; it was cut by 60% last year. Also like to see Hake bycatch go from 10% to 25% of the total catch.
There should be a bigger bycatch on hake. We had to leave some fishing areas due to too much hake.
Like to see an increase in the plaice quotas. Look at the results from 1995.
We fish for groundfish to keep our licenses. Fishers have a lot of different licenses for various species.
Should increase bycatch of cod on winter flounder permits or open cod quotas because the bycatch of cod is too high.
The bycatch limits of cod should be increased to take the pressure off Am. plaice and winter flounder.
The problem is that too much cod is being caught as bycatch. The limit should be raised from the 10% that it is now
Should increase the bycatch quotas on cod. That way we could still fish for Am. plaice.
I'd like to see the cod fishery open on a boat quota basis.
Like the quota for herring to be longer because then we could fish flounder longer. Herring catch should be by quota.
The season is very short. Boat quotas would be fairer.
Why is there just one quota for the whole region?
Like to see bigger quota for Am. plaice.
TAC's need to be conservative. They should average out the cod bycatch by fleet sector. A lot of multispecies fishermen are led to believe that they have to fish in order to maintain their licenses.
The quota is too small - If its going to be that small it should remain closed.
The quota was too small and the season too short to be worth while.
Boat quotas would be great.
Forecasts say that there will be small quotas.
The fishery will be over in two days.
If they give us boat quotas of 10,000 lb. I would be happy. We could find out what's there.
The only way the fishery will work is with a boat quota.
Individual quotas.
Like to see individual boat quotas.
Should give quotas of 120-125,000 for turbot.
Individual quotas for Greenland halibut.
Quotas should be larger. The resources are there.
Raise the quotas to 4000 tonnes.
The cod bycatch numbers are too low. The turbot quotas should be increased.
The fishery could have supported a quota of 4000 tonnes instead of 1200 tonnes.
We want a license to fish halibut since there is no cod.
There should have been higher quotas this year. It was a good year.
No individual quotas. We want to remain competitive.
Cod bycatch quotas are too low.
Should increase the cod bycatch levels.
I hope the quotas for Greenland halibut increase to 6000 tonnes. There should be a small cod fishery.
Not happy with the Greenland halibut quotas.
Everybody should be able to fish the same amount.
All fishermen should be able to get licenses for rock crab, sea urchins, etc.
Fishermen do not like the established quotas.
Fishermen with 20 years experience have smaller quotas than new fishermen.
One quota per boat.
They should put the quotas back to 400 tonnes.
Shouldn't have cut the halibut quotas - There are a lot out there.
Quotas should be increased and individualized.
Too few quotas.
Could increase the size of the cod bycatch.
2000 tonnes and 20 nets per boat makes good sense.
Set up reasonable bycatch quotas for cod.
More reasonable cod bycatch quotas.
The quota should be equal for cod.

Comments and Opinions Regarding Fisheries Management

Be careful with re-opening and increasing quotas.
The size of witch flounder is getting smaller.
Like allocations instead of bycatch.
Hake is poor in this area and the abundance of cod is low. Good size of turbot and winter flounder.
Fishery only opened June 1st; therefore missed witch flounder.
There is no cod.
Unusually high amounts of flounder in 1996.
Like to have more say in the fishery. Was all geared up to fish for 10 days; the fishery was only opened Oct. 1st.
Noticed an increase in cod numbers. They seem to go out in the Gulf earlier in the fall. In my opinion the cod in the fall take a different route.
There are large numbers of Am. plaice. The numbers of cod have increased.
The sentinel fishery had us going to specific places and not where we would normally fish.
Am. plaice are more plentiful than in previous years. They (DFO, FRCC) cut the Am. plaice off and there are lots of them out there. Only did 7 days of fishing compared to 45 days in 1995.
Like to see the fishery open for longer periods; July 1 to end of Oct. Only open one weekend.
I think it would be all right to fish for cod and hake now.
We see a lot of cod when fishing for lobster and mackerel.
Wasn't much of a fishery, it was always closed.
There's more flounder now than there was 20 years ago.
The blackbacks and flounder should be open at the same time. Hake seem to be coming back in numbers.
It's opened too early. It should only open July 15.
For question #24d (winter Fl.), I say average but it was very low in the summer and very high in the fall. The fishery is starting to go on the upgrade.
Catch does not take into consideration escapement. The Am. plaice should be open in one period?
No worries about plaice numbers. There's more hake than what is believed.
The flounder in the Baie des Chaleurs is smaller than here, but they put all in the same bag.
Watch for fish migrations; there may be fish in one area but not in another area. Lots of cod and hake out there. They're ready to be fished.
Fishing flounder for the first years may not catch as much as someone fishing flatfish for many years. Seems to be more Am. plaice in the area.
We found that there was an abundance of hake out there. Large quantity of good size hake. We had to avoid catching hake.
Close the fishery. There's no fish. Sentinel fishery should be used to verify if the fish is present, if yes open the fishery, if not it should be closed.
For winter flounder, the stock is low but we keep fishing to keep our permits. This fishery should close. The Quebec fleets are fishing all sizes.
There's a lot of cod out there.
Re-open the longline fishery.
It's almost impossible to fish for plaice because of cod bycatch. They should re-open the cod fishery.
Open the season earlier. We like to catch our own bait.
Would like the fishery to open. When the small boats go out to fish they close down the fishery because they catch too much cod. The category is too large. The 85 foot boats continue to fish on a large scale.
We don't have enough time to prepare because we are told how many nets we can use only a couple of weeks in advance. We want to know this in December.
Would like to be able to catch more than ten cod per day (at least 25 per day).
It is being managed OK. It should be closed a little while longer.
I'd like to see the cod and hake fishery open for a bit next year.
The opening and closing of the fishery is confusing. We don't know which zones are closed and the lobster lines are not always known to the fishers. Lack of communication.
I'd like to see the fishery open.
Flounders don't come out before August-September but we can't fish there because it's closed due to cod.
Either close the fishery or open it; not off and on as it has been.
It's managed a little better now.
The fishery was closed every time someone caught cod. Then we'd have to wait for the testing. Some people will set cod nets to catch cod and close the fishery. It's a frustrating situation.

Comments and Opinions Regarding Fisheries Management - Continued

Is there going to be a fishery next year?
I'd like to see the fishery open. Like to see a set number of nets per day. The number of nets is not enforced.
Pleased with the monitoring program.
If there is a wide open fishery next year it will be over in 48 hours.
There is not a lot of cod out there. Do not open for cod. There should be no directed fishery for cod. Small fish protocol was not enforced.
Observers just go on the boat to go to sleep.
We call the observers on every trip. They should be done away with. We call our landings in on the radio and everyone can listen in.
Want more time to fish next year. Only had four weeks this year.
The monitoring deal is no good. Too much monitoring. We had to call a monitor within 72 hours. A lot of red tape. Maybe if they were closer then we could call the previous evening.
I hope they let us fish longer.
If they close the fishery, close it for everyone. If they open it, open it for everyone.
That one day of fishing was a test fishery. We caught cod and hake only to have the fishery close by 2:00 pm.
We should have been allowed to fish longer.
I wish they'd open the fishery in 1997.
Should open the cod fishery on a limited basis. Small quotas.
Should open the cod fishery.
The fishery should be opened for coastal handline fishery.
They're doing a good job. The quotas are good and the cod seems to be increasing in numbers.
Like to see a spring flounder fishery on the North side.
We were allowed to fish for winter flounder for one day in early July but the fish is abundant in September-October.
Should slowly open the cod fishery.
The season is too short.
The fishery should last long enough for the fishers to get their stamps.
The fishery was too late this year. We were catching a lot more small fish than in 1995.
The fishermen are not well informed as to the fisheries plan. They listen to rules and regulations rather than to the fishermen. The rules and regulations do not cover everyone.
Should have the right to set more nets.
The cod fishery should re-open. I was forced to stop fishing because I caught too much cod.
The fishery should have been open at least 16 weeks so that we could get unemployment.
Fishers who catch too much cod should stay on shore. Don't close the fishery because of a few people.
There should be the same number of nets per boat for everyone.
Let the fishermen fish.
The Atlantic halibut fishery opened too late. It should have started in April.
Open the fishery on a small scale in 1997. Longlines only.
Cod numbers have gone up since the moratorium. Open the fishery.
Do not open the cod fishery. Numbers are not high enough. If it does open, it should be longlines only.
The season is too short.
Should continue to catch groundfish cautiously.
Could start catching cod soon.
Should let us fish longer.
The fishery is too short. If it is not increased we can't make a living.
Re-open the cod fishery on a limited basis.
Do not open the commercial fishery.
Groundfish should be closed completely in 1997.
We had to stop fishing because we caught too many cod. The cod were 2 to 3 feet long, 3000 lbs. in one set. It's time to fish the cod.
Cod fishery should open. Could fish for cod at the same time as plaice.
They should let us fish a bit of everything in order for us to make a living.
The fishery doesn't make sense. I take ten flounder for every 100 cod.
The large trawlers do not give the smaller boats a chance and the stocks can't take the stress.
Would have liked the fishery to be opened longer.
Seven weeks doesn't help me in paying off my boat.
Should be something to stop crab fishermen from fishing groundfish while they fish for crab.
When one person fishes too many of a species all are punished with a closed fishery. The offenders should be kept on shore.

Other/Miscellaneous Comments and Opinions

A large fish is worth more.
A lot of invested money was lost when the fisheries closed. It's not worth preparing to fish with large seines. Surveys are a waste of time and money. Hopefully the fishing will be better in 1997 than in 1996.
All provinces should have the same fishing laws.
Am. plaice has moved to deeper waters; the sentinel fishery was wrong. Lots of cod and Am. plaice in the region. I paid $2500 to open the fishery and the large boats shut it down again.
By fishing for one day it is difficult to get a good picture of what is out there. It looks like cod has increased but hake is still low. Western part of the Gulf is where the fish are abundant this fall.
Cod is better off Lameque and Shippigan. Once you get to Lameque the numbers drop off.
Cod is getting better.
Cod numbers are higher.
Cod numbers were not bad.
Cod seemed bigger than last year.
Danish seiners have made money. The fishery is in bad shape; Is it environment or overfishing?
DFO wants to reduce their involvement in the fishery. That way the costs could be deferred among the fishermen. They should render the 125 fishermen in Quebec more solvent rather than eliminate them.
Difficult to compare 1996 groundfish when we are changing mesh sizes.
Do not see the reason for "inspectors". It costs $500-600 per season.
Don't ask enough questions on cod!
Employment insurance recipients had the sentinel fishery. They are not interested in opening the fishery. Atlantic halibut was abundant but the fish were small.
Everybody's fighting for what little there is out there.
Fish numbers have not increased. Am. plaice is down from previous years. Seen some blue sharks. Halibut numbers are better, lots of juveniles.
Greenland halibut numbers have increased. Cod numbers have increased in certain sectors.
Groundfish numbers were greatly increased compared to the early 1990's.
Hake is low.
Hard to estimate the abundance of fish when there was very little fishing done.
How do we know what's out there if we can't go fishing?
I didn't fish enough to get a feel for what's out there.
I hope the biologists will listen to the fishermen.
I think cod can be fished on a small scale.
I'd like to see publications on fishing.
I've caught more Am. plaice and cod with ten nets this year than I did with fifteen nets last year.
If I go out to sea with a bycatch, I try to avoid areas with too much cod, but the next fellow comes in with too much cod and everyone is punished for it.
It is difficult to answer questions because the zones change from year to year.
It is more difficult for smaller boats to travel further out.
It's great you are doing this survey, but it's hard to answer, to assess the numbers when we're only fishing 15 days (mobile) and 0 days (fixed gear). Very frustrated with the situation.
It's hard to comment when there was no fishery. The sentinel fishery caught a lot of fish in this area.
Judging by the cod bycatch there are increased numbers and sizes of cod out there.
Large numbers of cod and Am. plaice. Winter flounder numbers are down. Unfortunately, a lot of fish are dead when they get hauled out of the water. There should be some way of preventing that.
Leave it the way it is now!
Like to choose some of my historical tows in the sentinel fishery. Where did they come up with the sentinel stations? They do not reflect the real fishing grounds. It should also be done in the spring.
Lots of Greenland halibut.
Lots of mud and silt near the fixed link.
More cod along the coasts.
More cod than there has been in three years. In 1996, some times they were biting and sometimes they weren't. There were no draggers or seals.
Not enough cod.
One fellow in DFO will tell me one thing and then another will tell me something different. It's confusing.
Processing ships destroy the resources.

Other/Miscellaneous Comments and Opinions

Recreational fishery should be monitored more closely. They catch small fish.
Scallop draggers have found winter flounder that are a good size.
Since they started building the Confederation Bridge the numbers of flounders are low.
Some profit is coming out of the cod fishery.
Survey should be done more locally.
The cod were weak around the islands this year.
The fish numbers are good. Not enough time to prepare for the questionnaire.
The fisheries industry has suffered greatly.
The flounder spread out more than before. The herring fishermen spread out more too.
The herring fishery was closed in 1996 and we can't find the flounder if the herring fishers don't tell us where herring are spawning.
The larger the hooks the less cod and dogfish you'll catch. Better suited for halibut fishing.
The only way to catch winter flounder is to fish on the herring spawning grounds.
The questions were difficult to answer because I was fishing on a recreational basis. Anytime we did go out we caught our fish in no time.
The sentinel fishery goes to places where commercial fishing has never occurred and at times when commercial fishing does not take place.
The sentinel fishery should permit us greater mobility to go look for fish. Cod numbers have gone up since 1991, but there are a lot of small and a lot of large.
The Sentinel scientists are not coming at the right time of the year.
The shorelines need to be cleaned up. Cod have been getting bigger lately, less parasites.
There are a lot of fish out there.
There are greater cod numbers in the Magdalen islands.
There are less fishermen now. The numbers of Greenland halibut are larger this year than they have been in the past seven years.
There are lots of cod.
There is no fish near the fixed link. The water's too dirty. We had to go to areas where fishing competition was tougher. Near the link silt covers herring eggs.
There seems to be fish everywhere in the two blocks I was allowed to fish. Very good body of fish around.
There was a lot of cod at one time.
They are doing experiments to study cod but they are taking small cod as well. It could destroy the fishery.
They keep opening and closing the fishery.
Those last questions were difficult to answer because we did not get a chance to find out what's out there. Only one day of fishing.
Turbot numbers have increased.
Very bad weather in the fall.
Watch the halibut fishery. A lot of the fish are undersized.
We didn't put as much effort into fishing in 1996. It wasn't worth it.
We look for blackbacks with an underwater camera. It's very useful.
When is the fishery going to re-opened.
Why does the sentinel fishery use draggers with "liners"? They destroy the bottom. Why are the little cod caught by the sentinel fishery wasted as fish meal? Why does the sentinel fishery operate every day, morning and evening?
With 25 nets I caught 2000 lbs. in two days. Lots of fish.

Appendix 3
The Questionnaire used in the 1995 End of Season Survey of Groundfish Fishers from the Southern Gulf of St. Lawrence

Confidential when completed

1996 END OF SEASON SURVEY OF GROUNDFISH FISHERS

(Affix respondent label here)

Final Status
Complete ○ 1
Partial ○ 2
Refusal ○ 3
No contact ○ 4
Unable to trace ○ 5

NOTE TO INTERVIEWER:
If any information above is incorrect or missing, please make necessary corrections in the spaces below.

RESPONDENT ID

DFO DISTRICT

RESPONDENT NAME

ADDRESS

POSTAL CODE

TELEPHONE

Hello, my name is _____. I am calling on behalf of the Department of Fisheries and Oceans in Moncton. We are conducting a survey of groundfish fishers in the southern Gulf of St. Lawrence. The purpose of the survey is to collect information on fishing effort and the abundance of groundfish in the southern Gulf. Your experiences and opinions will give us a more complete picture of the groundfish fishery. Your answers are strictly confidential and will be combined with information from other fishers. This questionnaire is available in both official languages - Would you prefer to use English or French? If you do not have any questions, I would like to start the questionnaire now.

RECORD OF TELEPHONE CALLS

	Date of Call	Time Began	Time Ended	Interview Time	Comments
1					
2					
3					
4					

The following questions deal with your fishing activities during 1996.

1. In 1996, 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 groundfish in 1996?

(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 1996, 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 1996?

_____

NOTE TO INTERVIEWER:

END INTERVIEW FOR RESPONDENTS WHO DID NOT FISH FOR GROUNDFISH IN 1996

THANK RESPONDENT FOR THEIR COOPERATION.

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 1996, 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 1996?

   ⌊⌊⌋⌋ O [1] Feet O [2] Meters

6. In 1996, did you fish for groundfish in the Sentinel Survey or Sentinel Fishery?

   Yes O [1]

   No O [2]

7. 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. 7 & 8: 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)

8. In 1996, 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 ⌊⌊⌋⌋

9. Of the *... name of Main Species #1 stated in Q.8 (_____)...* that you caught in 1996, 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]

10 (a) **In 1996, 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 1996, 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]

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

(a) about the same amount of fishing gear in 1996 O [1]

(b) less fishing gear in 1996 O [2]

(c) more fishing gear in 1996 O [3]

12. **During 1996, did you fish for groundfish for the entire season?**

Yes O [1] (GO TO Question 17)

No O [2]

13. **In 1996, 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 17)

14. **To what fishery did you switch in 1996?**

(Check one only)

(a) Tuna O [1]

(b) Herring O [2]

(c) Scallops O [3]

(d) Other: O ⌊⌊⌊

_____

15. **What was your main reason for switching from fishing groundfish in 1996?**
(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 ⌊⌊⌊

_____

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

Yes O [1]
No O [2]

17. **Can you tell me the exact number of days you spent fishing for groundfish in 1996?**

⌊⌊⌊⌊ *days fishing this year* ..... **(GO TO Question 19)**

Don't know O [9] ..... **(GO TO Question 18)**

18. **Could you give me your best estimate of how many days you spent fishing for groundfish in 1996?**

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

19. **Compared to 1995, would you say that you fished:**

(a) **about the same number of days in 1996** O [1] **(GO TO Question 21)**
(b) **fewer days in 1996** O [2]
(c) **more days in 1996** O [3]

20. **What was your main reason for spending (LESS or MORE) time fishing for groundfish in 1996?**
(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 ⌊⌊⌋

_____

21. **Thinking of those days in 1996 when the weather was too bad to fish groundfish, would you say there were LESS, the SAME, or MORE bad weather days in 1996 than usual?**

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

22. **In 1996, did dogfish interfere with your efforts to fish for groundfish?**

Yes O [1]
No O [2]

Additional comments:

_____
_____
_____

23. **In 1996, did you see any seals while fishing for groundfish?**

Yes O [1]
No O [2]

If YES, where did you see seals in 1996?

_____
_____
_____

The following questions ask you to compare or describe the OVERALL conditions in the groundfish fishery in 1996, using a scale which goes from VERY LOW to LOW to AVERAGE to HIGH to VERY HIGH:

24. 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 1996 was	O 1	O 2	O 3	O 4	O 5	O 7	O 9
(b) seals in your fishing area in 1996 was	O 1	O 2	O 3	O 4	O 5	O 7	O 9
(c) the *... name of Main Species #1 stated in Q.8 (_____)...* that you fished for in 1996 was	O 1	O 2	O 3	O 4	O 5	O 7	O 9
(d) the *... name of Main Species #2* stated in Q.8 (_____)...* that you fished for in 1996 was	O 1	O 2	O 3	O 4	O 5	O 7	O 9
(e) the *... name of Main Species #3* stated in Q.8 (_____)...* that you fished for in 1996 was	O 1	O 2	O 3	O 4	O 5	O 7	O 9

NOTE TO INTERVIEWER

(For Q. 24 & 25:"Main species" of groundfish that you fished for in 1996 = *... name of main species stated in Q.8 ...*)
(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 1996 with previous years, using a scale which goes from MUCH LOWER to LOWER to SAME to HIGHER to MUCH HIGHER:

25. 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.8 (_____)...* in your fishing area in 1996 with their number in 1995?	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.8 (_____)...* in your fishing area in 1996 with their number from 1991 to 1995?	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.8 (_____)...* in your fishing area in 1996 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

26. The results of this survey will be available in the spring of 1997. Would you like to receive a copy?

Yes O 1 CONFIRM COMPLETE MAILING ADDRESS ON COVER PAGE

No O 2

Do you have any additional comments or suggestions
that you would like to make on the 1996 groundfish fishery?

THANK YOU FOR YOUR ASSISTANCE.

Date Due
