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Results of the 1995 End of Season Survey of Groundfish Fishers from the Southern Gulf of St. Lawrence

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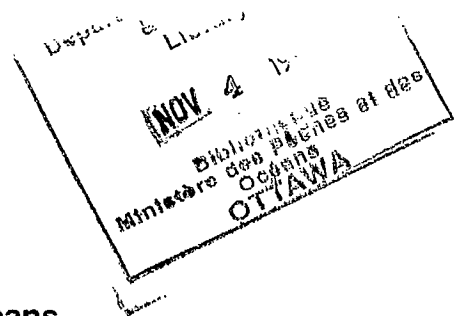
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3 - Abstract

A telephone survey was conducted of participants that were active in the southern Gulf of St. Lawrence groundfish fishery in 1995. 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 1995, was surprising, given that directed fishing for these species was forbidden under the moratoria.

One-third of the respondents were able to recall the exact number of days that they spent fishing for groundfish in 1995, which averaged 22 days. Those respondents that could not recall the exact number of days that they spent fishing for groundfish in 1995 were asked for their "best estimate". The majority of these respondents estimated that they spent from 10-39 days fishing for groundfish in 1995.

Most respondents indicated that groundfish were the same size or larger in 1995 than in previous years. In comparison to previous years, most of the respondents indicated that they used the same amount of fishing gear or less and only 36% indicated that they spent the whole season fishing for groundfish in 1995. Compared to 1994, the majority indicated that they spent fewer or the same number of days fishing for groundfish in 1995. Overwhelmingly, the most common reason given for spending fewer or more days fishing for groundfish in 1995 was change(s) in fisheries management (i.e., closures of fisheries, quota reductions, etc.).

The vast majority of the respondents considered the abundance of dogfish to be very low in 1995. Most of the respondents reported that they saw seals when they fished for groundfish in 1995 but their opinions were equally split concerning the abundance of seals in 1995 (i.e., the number of respondents that felt that the abundance of seals was below average was equal to the number that felt that the abundance was above average). More of the respondents considered the abundance of cod to be low or very low than considered it to be high or very high. The majority considered the abundance of white hake to be below average, whereas most of them regarded American plaice as above average. The opinions of respondents who indicated that they targeted winter flounder in 1995 were split, with slightly more considering the abundance to be below average than above average.

Most of the respondents that identified cod, hake or winter flounder as their first, second or third priority felt that the 1995 fishery was worse or much worse than they could recall but the opinions of respondents that directed for plaice were split with almost equal numbers of respondents judging the 1995 fishery to be worse or better than their long-term experience in the groundfish fishery.

4 - Résumé

5 - 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 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. Although public meetings with the groundfish industry and D.F.O. biologists have become commonplace since the moratoria, it is debatable whether the views and opinions expressed at these meetings, actually reflect the perceptions of

active fishermen. To address this need a telephone survey was conducted of the participants that were active in the 1995 southern Gulf groundfish fishery. This document reports the results of this survey.

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

The questionnaire (Appendix 3), which contained 25 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 25 questions were selected and arranged in order to:

1. Characterize the respondent, their fishing vessel and fishing activities in 1995 by gear, directed species, etc.
2. Identify any factors that may have affected their fishing activities in 1995.
3. Quantify their fishing effort in 1995 (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 1995.

With fishing activity greatly reduced in 1995 because of the moratoria in the cod and hake fisheries, there was a unique opportunity to interview a significant proportion of the fishers that fished for groundfish in the southern Gulf (in 1995). Interview subjects were selected from a list of all of the southern Gulf (NAFO Division 4T) purchase slips (i.e., each purchase slip represents the sale of groundfish) that were received and processed by December 1, 1995 (232 fishers were identified from New Brunswick, Nova Scotia and Prince Edward Island). The interviews, which were conducted by telephone in both of the official languages, started on December 12, 1995 and ended on January 9, 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.

7 - Results and Discussion

Of the 232 vessels whose owners were identified from purchase slips as having sold groundfish in 1995, 138 were successfully interviewed. Of the remaining vessels that were identified and whose owners were not interviewed: 61 could not be reached by telephone (three attempts were made with each fisher), 7 could not complete the whole interview, 5 refused to participate and 21 indicated that they did not fish for groundfish in 1995. This latter group is indeed 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 fishers other than the registered owners of the vessels in question.

The remainder of the discussion will focus on the 138 completed questionnaires. The average duration of these interviews was 16 minutes (range from 8-30 minutes). In terms of the experience of these 138 fishers in the groundfish fishery (Question 4), the average number of years fishing commercially for groundfish was 20 years (range from 2-53 years). The average size (i.e., length overall) of the fishing vessels that they used when fishing for groundfish in 1995 (Question 5) was 12.1 m (39.6 ft) (range from 5.5-24.4 m or 18-80 ft). The 138 respondents were from statistical districts located throughout the southern Gulf and three statistical districts on the east coast of Cape Breton (See Figure 1). Although they were from statistical districts located outside of the southern Gulf, purchase slips indicated that the respondents from eastern Cape Breton caught and landed groundfish in the southern Gulf (NAFO Division 4T).

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 6).

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 6) indicate the following preferences (in order of importance): Winter Flounder, American Plaice, Cod, White Hake and Dogfish (No respondents indicated that they fished for Witch or Turbot, 'most of the time', before the fisheries for cod and hake were closed).

The respondents were also asked to identify the species of groundfish that they fished for 'most of the time', in 1995 (Question 7). Surprisingly, the responses to this question (Figure 7) are amazingly similar to the responses to the preceding question (i.e., the species of groundfish that they fished for 'most of the time', before the fisheries for cod and hake were closed), even though directed fishing for cod and white hake was forbidden in 1995 under the moratoria (i.e., by-catch only). The following table summarizes the preferences of the 138 respondents based on their responses to this question:

Groundfish Species	Number of Respondents Who Indicated They Directed for this Species of Groundfish in 1995* (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 They Directed for in 1995* (Where respondents directed for more than one species)
Cod	44	27
White Hake	39	19
American Plaice	60	42
Winter Flounder	68	48
Witch	7	0
Turbot	0	0
Spiny Dogfish	2	2

* For example: - 44 respondents indicated that they directed some of their fishing effort on cod in 1995 and 27 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 1995, is surprising, given that directed fishing for these species was forbidden under the moratoria (i.e., by-catch only). If the respondents had not been asked, as they were in Question 5, which species of groundfish they fished for before the moratoria, a possible explanation for these unexpected results could have been that they assumed that the question referred to their fishing practices before the moratoria. However, this was not the case and the conclusion seems inescapable that there was a considerable amount of effort directed at cod and hake in 1995, despite the moratoria. It is possible that some or most of these respondents that indicated that they targeted cod and hake in 1995 did so in the recreational fishery (i.e. 10 fish/day). Unfortunately, the respondents were not asked if this was the case. Figures 2-5 show the geographical distribution of the respondents based on the species of groundfish that they fished for, 'most of the time', in 1995 (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 1995).

When asked to compare the average size of the species of groundfish that they fished for 'most of the time' in 1995 to previous years (Question 8), most respondents indicated that the fish were the same size or larger than in previous years (Figure 8) (the species represented in Figure 8 represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish).

Figure 9 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 1995 (Question 9). In all cases, mobile gears (i.e., otter trawl and seine) were predominant. When the respondents were asked to quantify the amount of fishing gear that they usually used during a typical day of fishing the results were as follows:

Fishing Gear	Average Amount Used	Minimum Amount Used	Maximum Amount Used
Gillnet (# of nets)	14	1	88
Longline (# of hooks)	1402	10	2000
Otter Trawl (# of sets)	6	1	10
Seine (# of sets)	6	1	20

When asked to compare the amount of fishing gear used in 1995 with the amount used in previous years (Question 10), the majority of the 138 respondents indicated that they used the same amount of fishing gear or less in 1995 (Figure 10). Likewise, when the responses to this question were examined based on the species of groundfish fished for, 'most of the time' in 1995, most respondents reported using the same amount of fishing gear or less (Figure 10).

Only 36% of the respondents (49 fishers) indicated that they spent the whole season fishing for groundfish in 1995 (Question 11).

Questions 12 to 15 asked the following:

- if they switched to another fishery (i.e., tuna, herring, scallops, etc.) during the 1995 groundfish season? (Question 12)
- what fishery did they switch to? (Question 13)
- what was their main reason for switching? (Question 14)
- if they usually switch from groundfish to another fishery during the groundfish season? (Question 15)

Unfortunately, the interviewer was unable to obtain responses to question 12 from all of the respondents which rendered the responses to questions 13 to 15 meaningless.

One-third of the 138 respondents (45 fishers) were able to recall the exact number of days that they spent fishing for groundfish in 1995 (Question 16), which averaged 22 days (range from 2-65 days). Those respondents that could not recall the exact number of days that they spent fishing for groundfish in 1995 were asked for their "best estimate" (Question 17). The responses (Figure 11) show that the majority of the respondents spent from 10-39 days fishing for groundfish in 1995 (their estimates ranged from less than 10 to more than 100 days). The responses varied depending on the species of groundfish fished for 'most of the time', with winter flounder and plaice fishermen indicating the most days and cod and hake fishermen indicating the least.

Compared to 1994, the majority of the 138 respondents indicated that they spent fewer or the same number of days fishing for groundfish in 1995 (Question 18 - Figure 12) (Note: Ten of the 138 respondents did not fish for groundfish in 1994, so their responses were coded as "not applicable"). Furthermore, when the responses to this question were examined based on the species of groundfish fished for, 'most of the time' in 1995, most respondents reported spending fewer or the same number of days fishing for groundfish (Figure 12). Overwhelmingly, the most common reason given for spending fewer or more days fishing for groundfish in 1995 was change(s) in fisheries management (i.e., closures of fisheries, quota reductions, etc.) (Question 19 - Figure 13).

When asked to compare the number of days when the weather was too bad to fish for groundfish in 1995 with previous years, most of the respondents (77 fishers) indicated that there were about the same number of bad weather days as usual (Question 20 - Figure 14). Thirty-five fishers reported fewer days of bad weather in 1995 than usual and twenty-four reported more bad weather days in 1995 (Figure 14).

Only 23% of the respondents (32 fishers) indicated that dogfish interfered with their efforts to fish for groundfish in 1995 (Question 21). The vast majority of the respondents (84 of the 138 fishers) considered the abundance of dogfish to be very low in 1995 (Question 23a - Figure 15). On the other hand, 3 respondents felt that the abundance of dogfish was high in 1995 and 15 felt that it was very high.

Most of the respondents (94 fishers = 68%) reported that they saw seals when they fished for groundfish in 1995 (Question 22) and all but two of them provided the locations (Appendix 1). Interestingly though, opinions were equally split concerning the abundance of seals in 1995 (i.e., 45 felt that seal abundance was very low in 1995 and 15 felt that it was low, whereas 22 felt that seal abundance was high in 1995 and 38 felt that it was very high) (Question 23b - Figure 16).

Questions 23c, d and e asked for opinions on the abundance of each of the species of groundfish that the respondents fished for, 'most of the time', in 1995 (they 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 17 presents the results for species identified as the first priority of respondents and Figure 18 combines the results for species that were identified as the first, second or third priority of respondents.

Of the respondents that identified cod as their first priority, more (i.e., 12) felt that the abundance was low or very low than considered it to be high or very high (i.e., 8). Likewise, for the group of respondents that identified cod as their first, second or third priority, more of them (i.e., 17) considered the abundance to be low or very low than considered it to be high or very high (i.e., 14). A significant number (i.e., 10) in the latter group felt that the abundance was average.

More of the respondents (i.e., 9) that identified hake as their first priority felt that the abundance was below average (i.e., low or very low) than considered it to be above average (i.e., 6). For the group that identified hake as their first, second or third priority, the majority of them (i.e., 23) considered the abundance to be below average and only 10 considered it to be above average (Note: only 3 respondents considered the abundance to be average).

Nearly three times as many of the respondents (i.e., 20) that identified American plaice as their first priority felt that the abundance was above average as considered it to be below average (i.e., 7 fishers). Of the respondents that identified American plaice as their first, second or third priority, the majority of them (i.e., 25) considered the abundance to be above average but 14 considered it to be below average. A significant number (i.e., 21) in the latter group felt that the abundance was average.

The opinions of respondents who indicated that they fished for winter flounder, 'most of the time' in 1995 (first, second or third priority) were split, with slightly more (i.e., 22) considering the abundance to be below average than above average (i.e., 18). A large number of these respondents (i.e., 23) considered the abundance to be average.

In November and December 1995, personnel from the D.F.O., Gulf Fisheries Centre, made presentations at public meetings in Grande-Rivière, Québec, Caraquet, N.B., Charlottetown, P.E.I., Port Hawkesbury, N.S. and Cap-aux-Meules in the Magdalen Islands, on the groundfish stocks of the southern Gulf of St. Lawrence. 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 1995. In general, the views of fishers from the southwestern Gulf differed 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 was judged to be low, while fishers in the southeastern area indicated that they 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 19). For cod, there was a pronounced divergence with the majority of the respondents from the southwest (11 out of 17) describing the abundance as below average and most of the respondents from the southeast (18 out of 24) saying that it was average or above average. There was less divergence in the opinions of respondents concerning the abundance of white hake. All of the respondents from the southwestern Gulf that offered opinions suggested that the abundance of hake was below average and most from the southeastern area (19 out of 32) described it as below average (Note: 10 out of 32 respondents described the abundance as above average). There were differences in the opinions of respondents from the southwestern and southeastern Gulf concerning the abundance of American plaice. Most from the southwest (12 out of 17) judged the abundance as average or below average, whereas, the majority from the southeast (36 out of 43) felt that the abundance was average or above average. For winter flounder, there were no obvious differences in the responses from the southwest and southeast: most of the fishers from the southwest (21 out of 27) described the abundance as average or below average but the opinions of respondents from the southeast were evenly split.

The respondents were asked to compare the 1995 groundfish fishery to the 1994 fishery (Question 24a - Figure 20). For cod, white hake, American plaice and winter flounder, the majority of the respondents that identified these species as their first, second or third priority, indicated that they felt that the 1995 fishery was better or much better than the 1994 fishery (Note: a significant number considered the 1995 fishery to be about the same as the 1994 fishery).

Question 25b asked the respondents to compare the groundfish fishery in 1995 to the fishery from 1990-1994 (Figure 21). For respondents that identified cod or plaice as their first, second or third priority, the opinions were split with almost equal numbers of respondents judging the 1995 fishery to be worse or better than the fishery from 1990-1994 (i.e., for cod, 14 fishers felt that the 1995 fishery was better or much better than the fishery from 1990-1994 but 13 felt that the 1995 fishery was worse or much worse; for plaice, 20 fishers felt that the 1995 fishery was better or much better than the fishery from 1990-1994 but 18 felt that the 1995 fishery was worse or much worse). More of the fishers that identified white hake as their first, second or third priority considered the 1995 fishery to be worse or much worse (i.e., 14 respondents) than considered it to be better or much better (i.e., 10 respondents) than the fishery from 1990-1994 (7 fishers felt that the 1995 fishery was about the same). Likewise, more of the fishers that identified winter flounder as their first, second or third priority felt that the 1995 fishery was worse or much worse (i.e., 25 respondents) than considered it to be better or much better (i.e., 17 respondents) than the fishery from 1990-1994.

The final question in this series (Question 24c) asked the respondents to relate the 1995 groundfish fishery to all the years that they fished for groundfish (see Figure 22). The majority of the respondents that identified cod, hake or winter flounder as their first, second or third priority felt that the 1995 fishery was worse or much worse than they could recall. However, of the respondents that identified plaice as their first, second or third priority in 1995, the opinions were split with almost equal numbers of respondents judging the 1995 fishery to be worse or better than their long-term experience.

All of the respondents (138 fishers) indicated that they wanted to receive a copy of the results of the questionnaire (Question 25).

The final question asked the respondents if they had any comments or opinions that they wanted to make on the 1995 groundfish fishery. These comments and opinions are presented in Appendix 2.

8 -Acknowledgments

All of the telephone interviews were conducted by Nadine Langis and the questionnaire data were coded and entered by Christine Smith. The author wishes to thank Gloria Porier, Claude LeBlanc and Rod Morin for their constructive reviews of an earlier version of this manuscript.

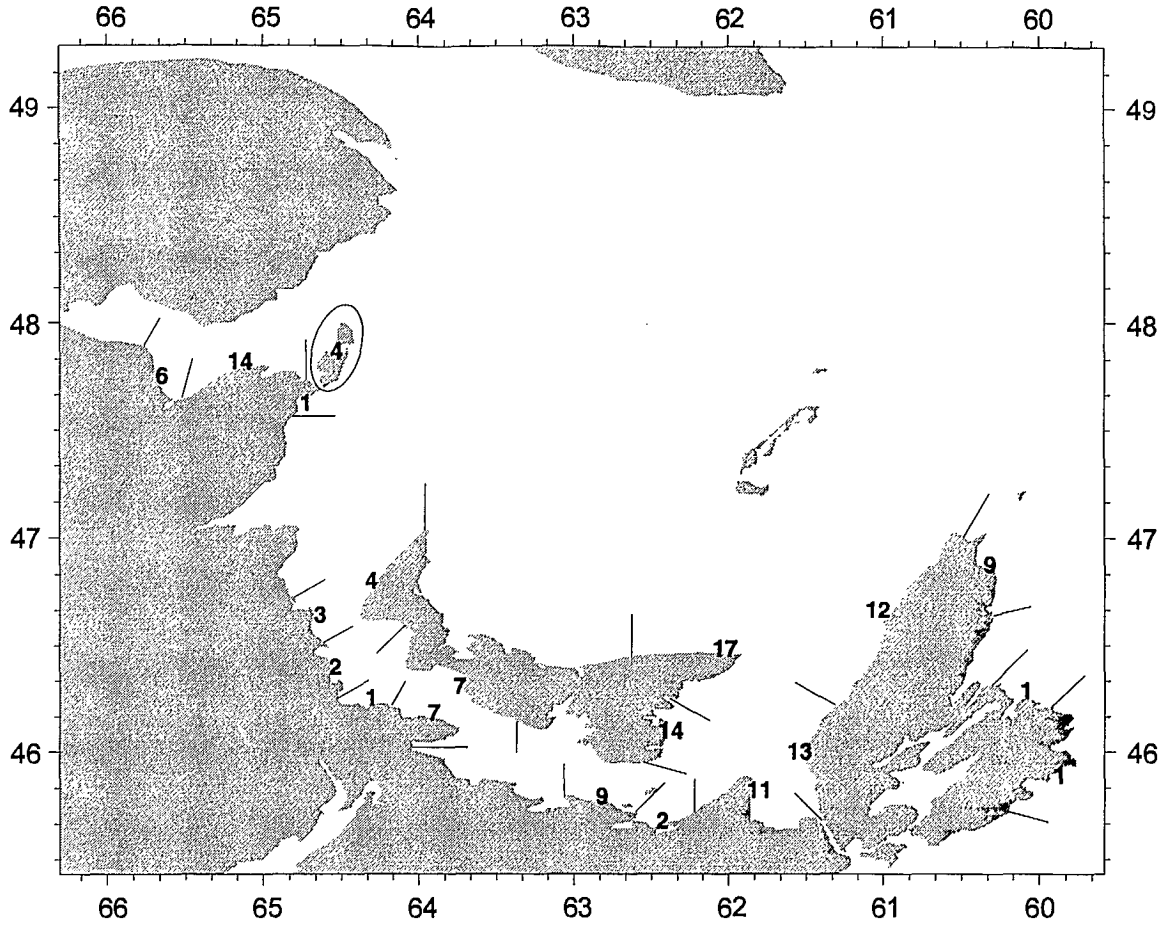
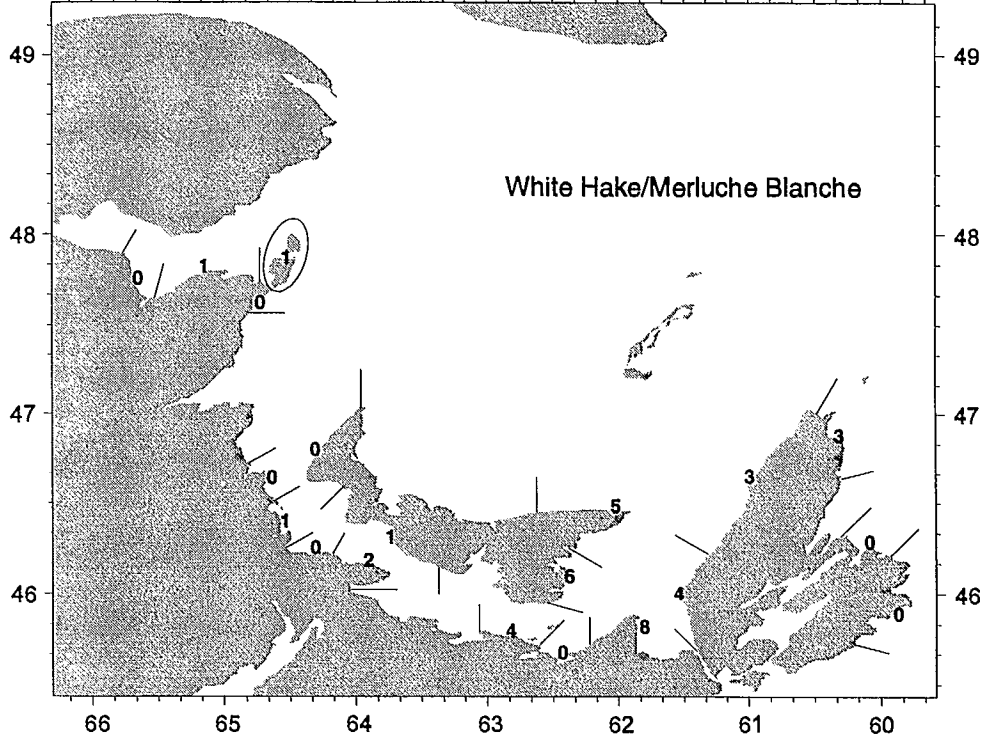
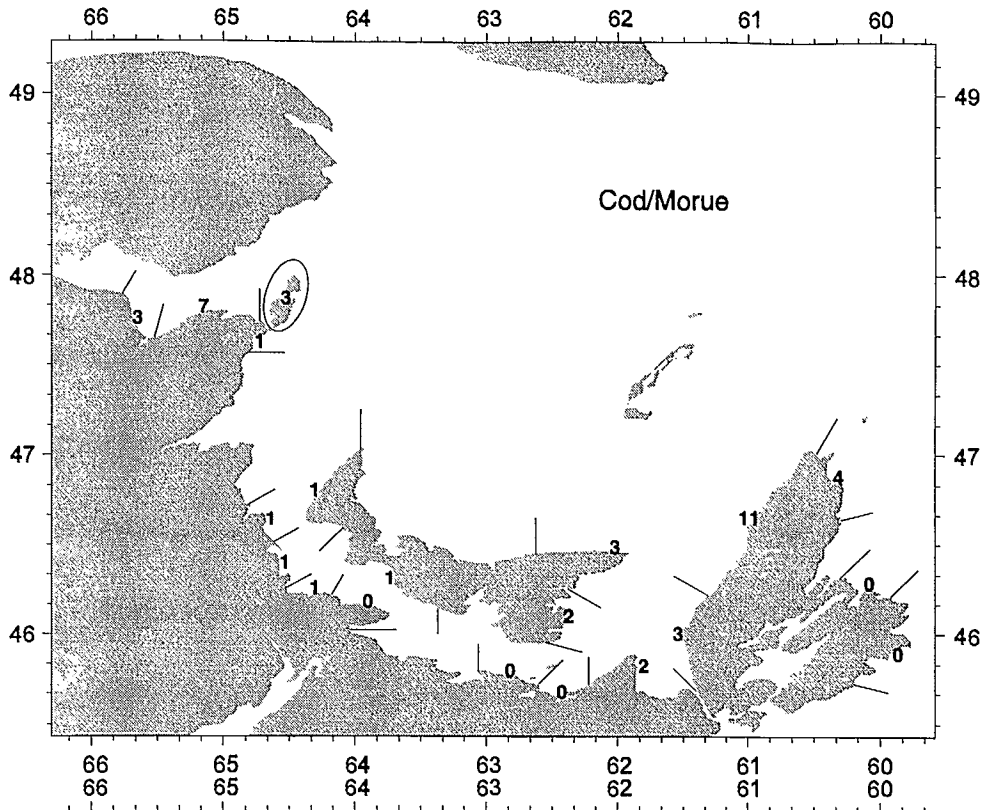
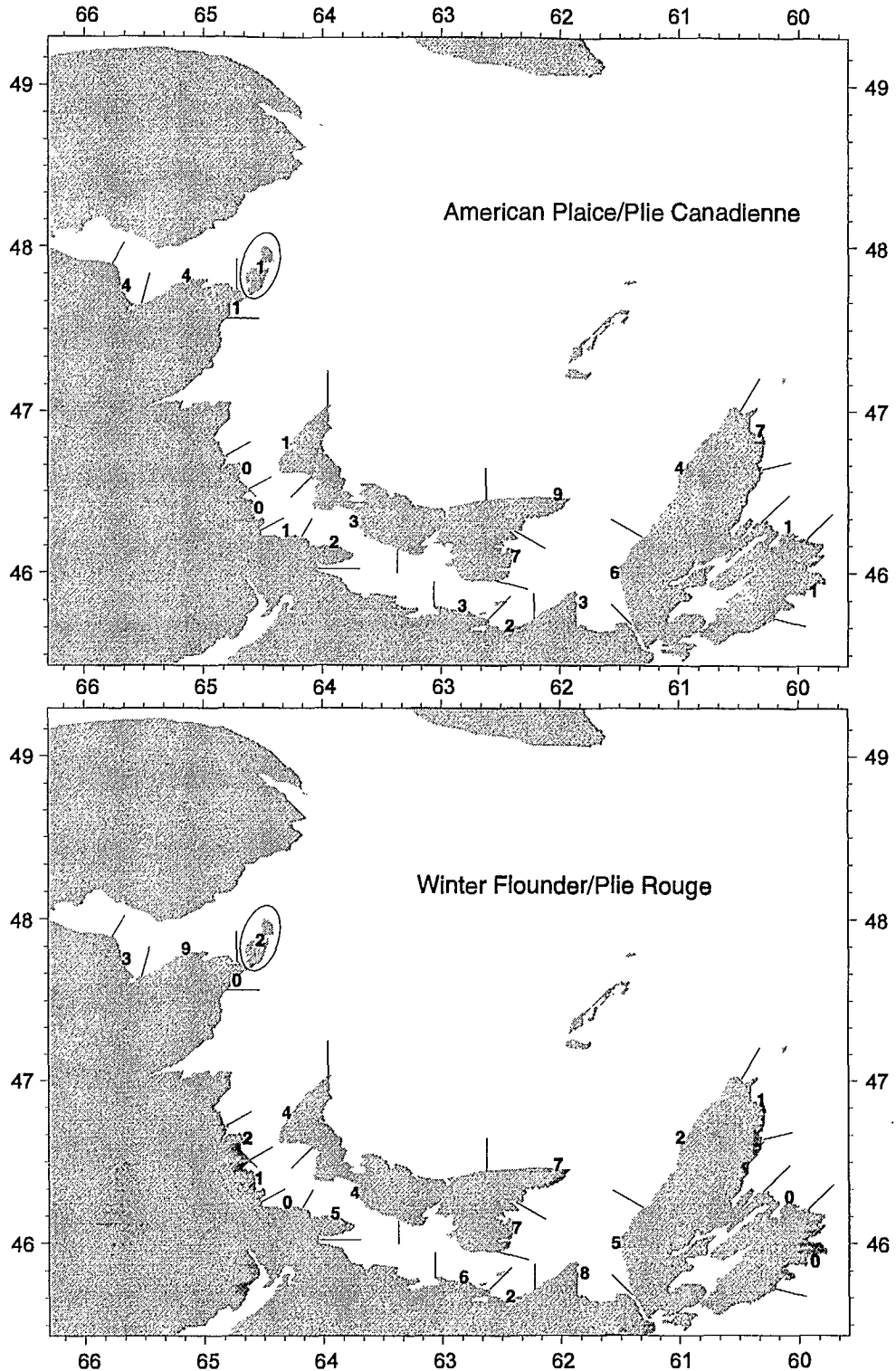


Figure 1. The geographical distribution of all respondents (138) to the 1995 groundfish questionnaire (The lines delimit the borders of statistical districts occupied by respondents).



Figures 2 and 3. The geographical distribution of respondents that fished for cod (44) and white hake (39) 'most of the time' in 1995 (These species were either the first, second or third priority of respondents that fished for more than one species of groundfish in 1995). The lines delimit the borders of statistical districts occupied by the respondents.



Figures 4 and 5.

The geographical distribution of respondents that fished for American plaice (60) and winter flounder (68) 'most of the time' in 1995 (These species were either the first, second or third priority of respondents that fished for more than one species of groundfish in 1995). The lines delimit the borders of statistical districts occupied by the respondents.

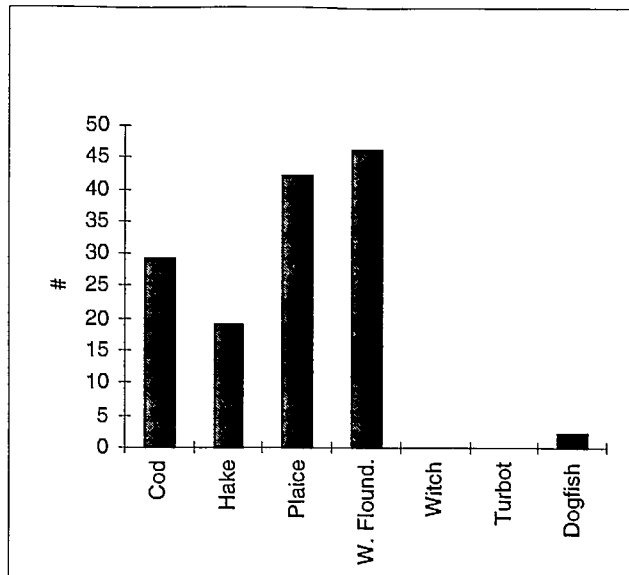


Figure 6. The species of groundfish that respondents fished for 'most of the time' before the fisheries for cod and hake were closed (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

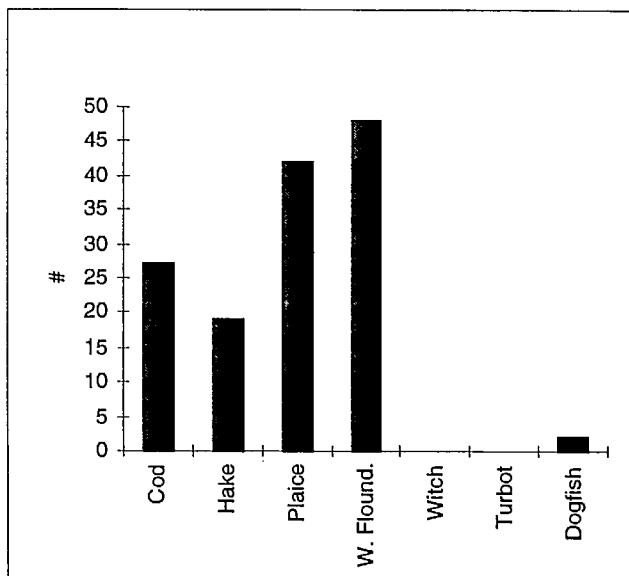


Figure 7. The species of groundfish that respondents fished for 'most of the time' in 1995. (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

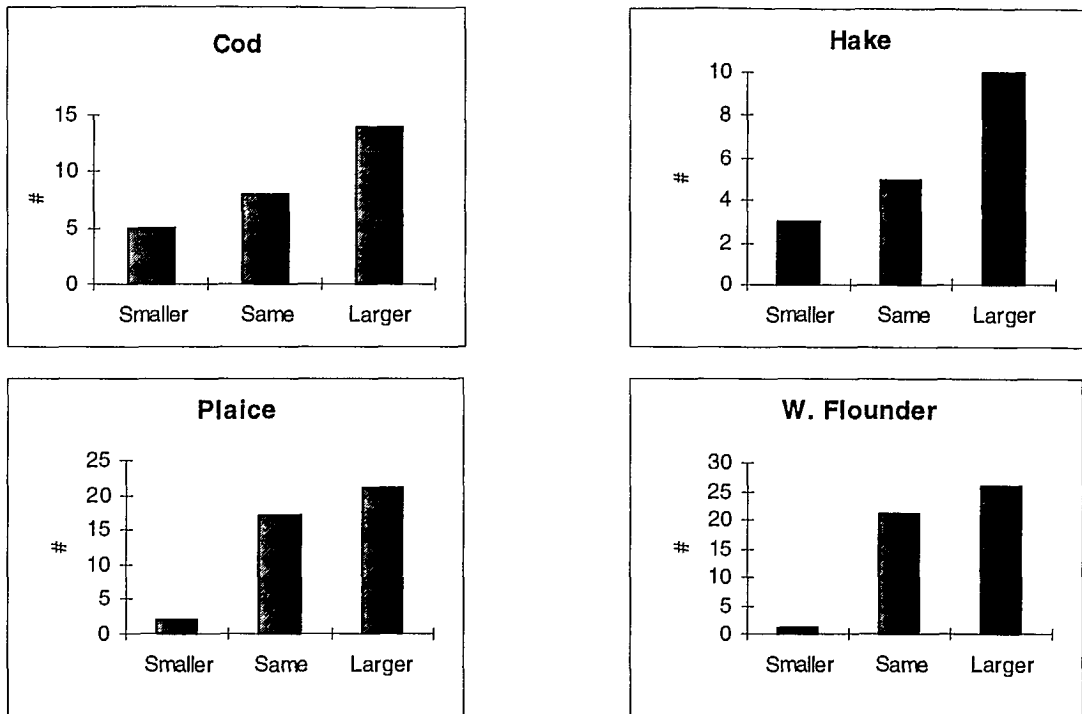


Figure 8. Comparison to previous years of the average size of the species of groundfish fished for 'most of the time' in 1995 (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

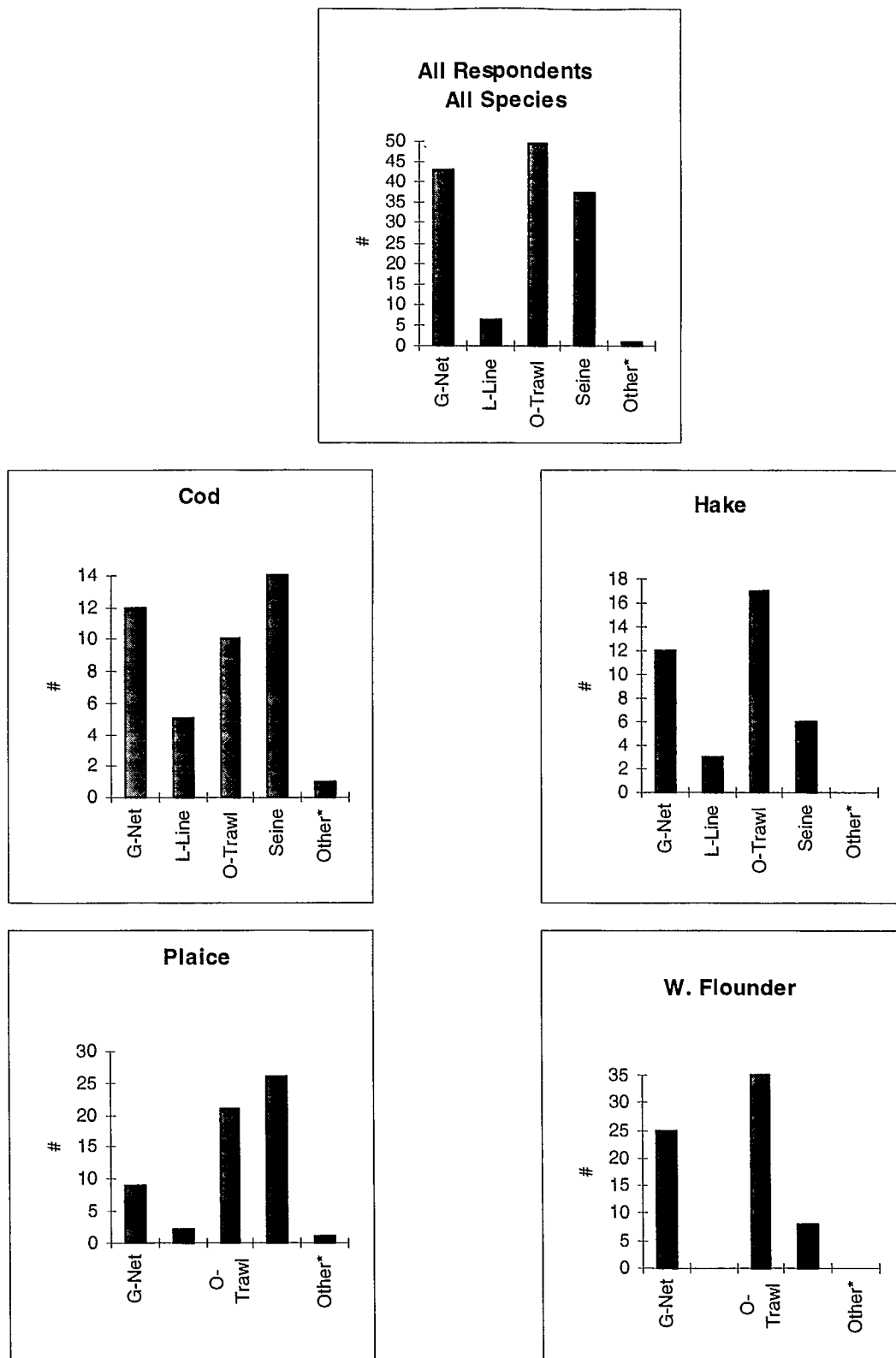


Figure 9. The fishing gear that was used 'most of the time' by respondents. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

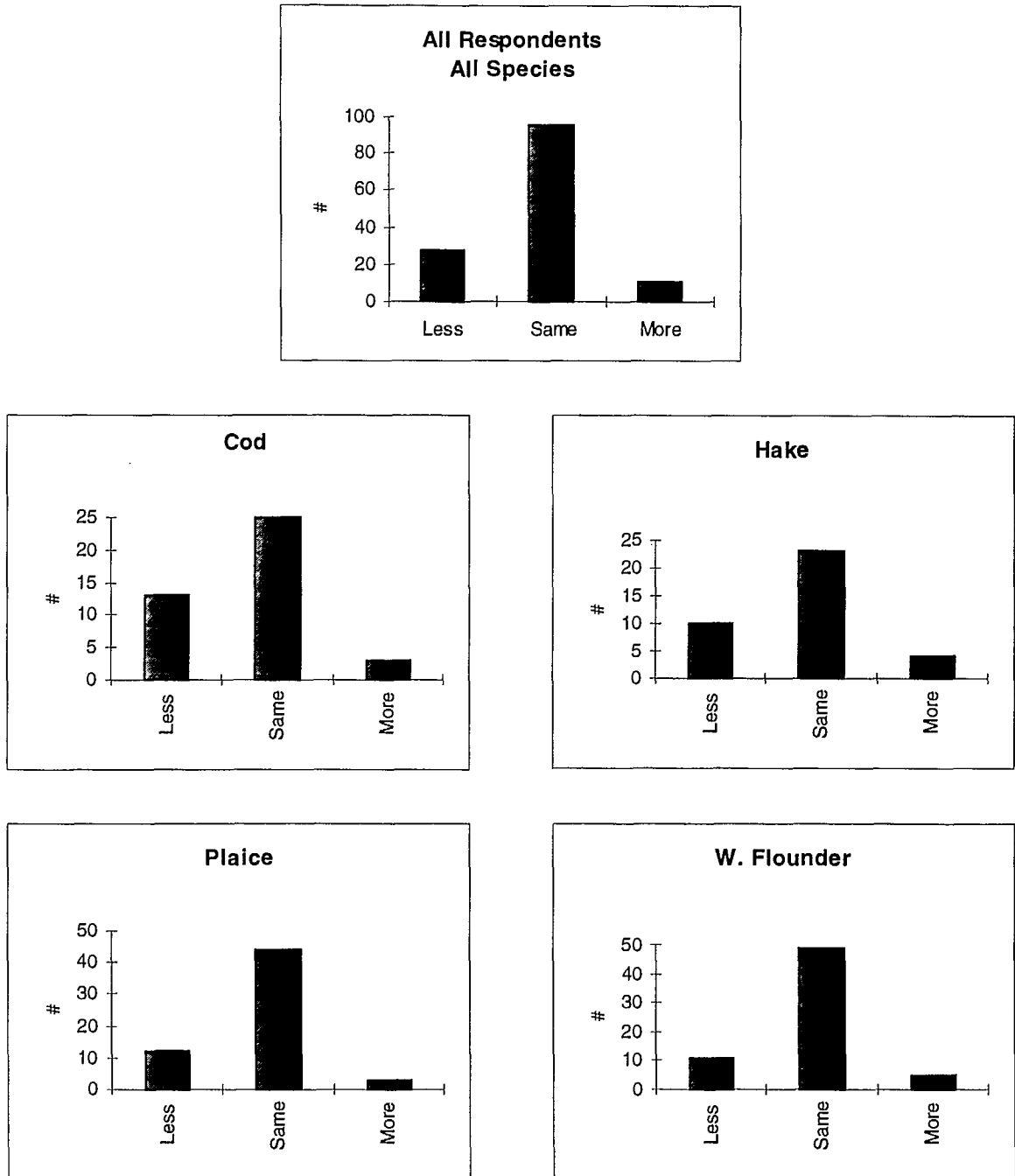


Figure 10. Comparison to previous years of the amount of fishing gear used in 1995. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

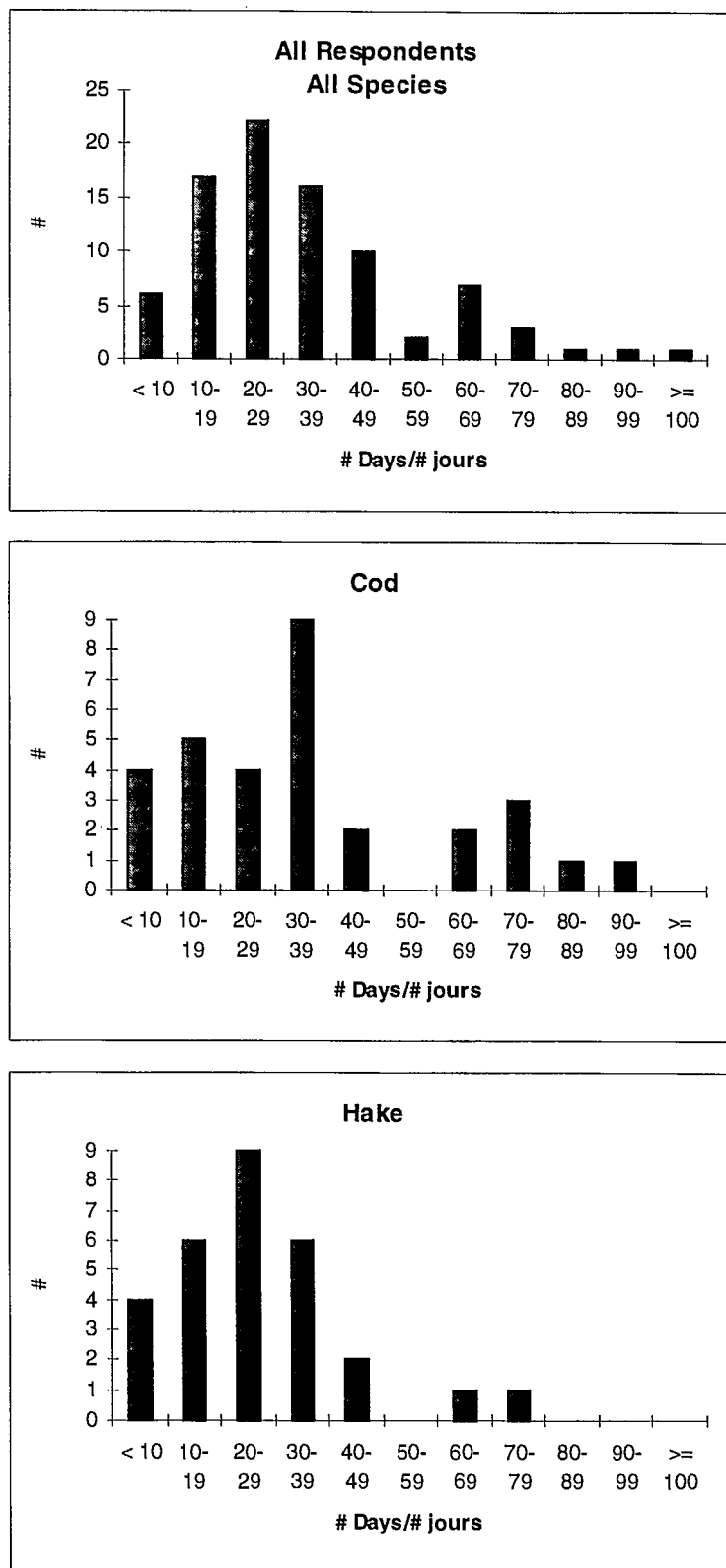


Figure 11. Estimates of the number of days spent fishing for groundfish in 1995 made by respondents that could not recall the exact number (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

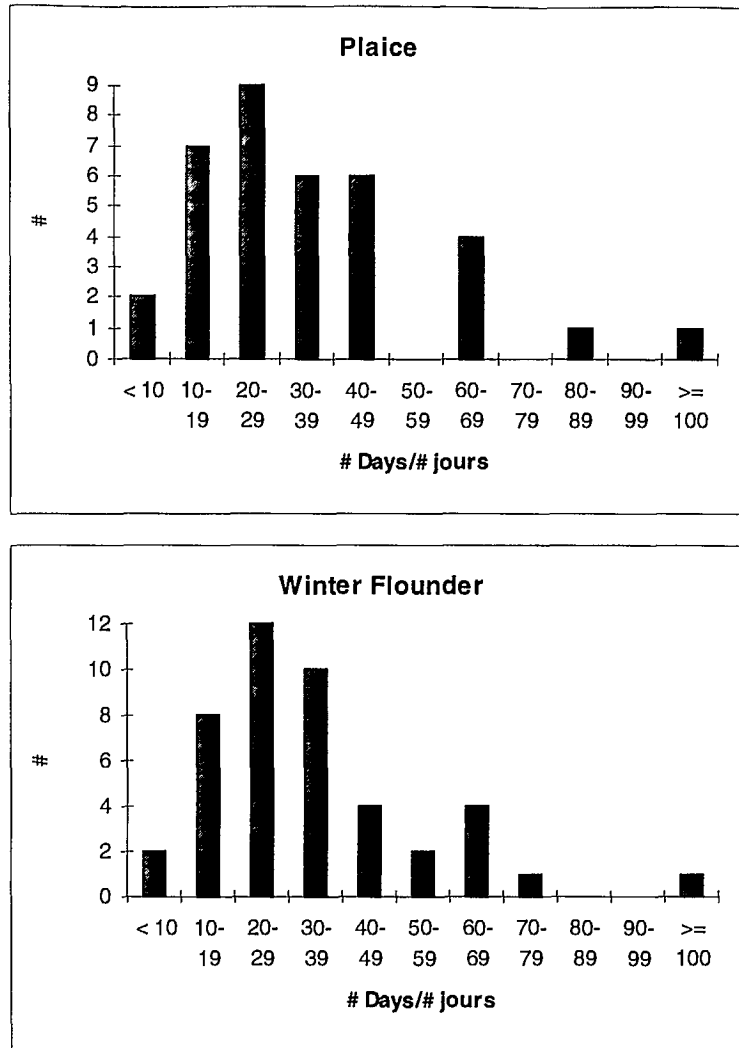


Figure 11.

Continued.

Estimates of the number of days spent fishing for groundfish in 1995 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').

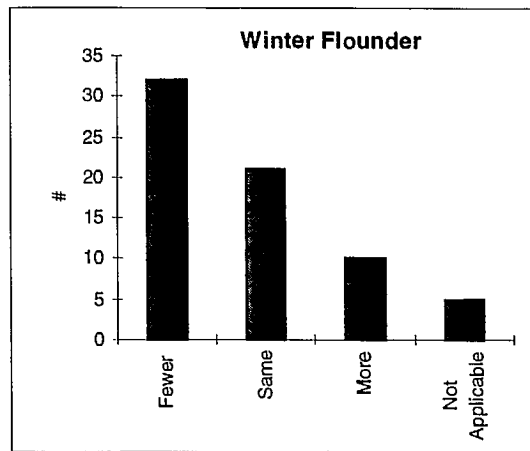
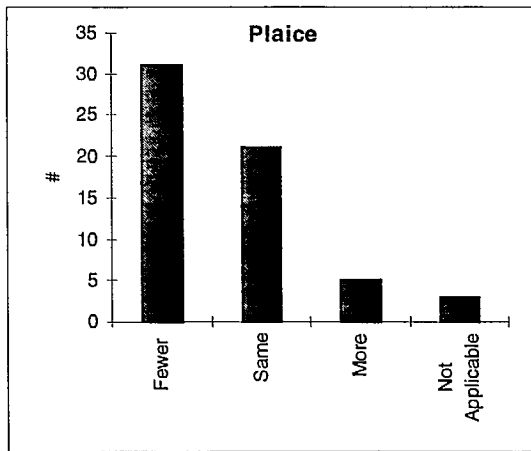
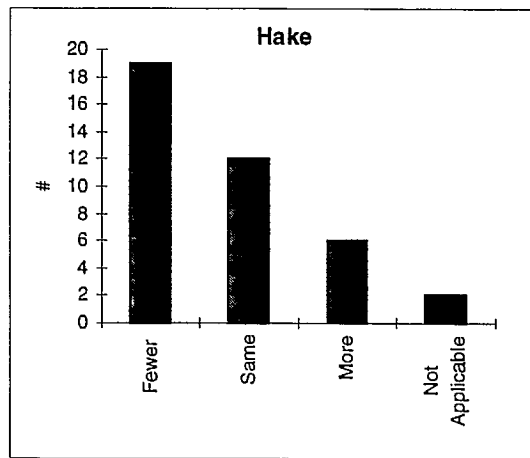
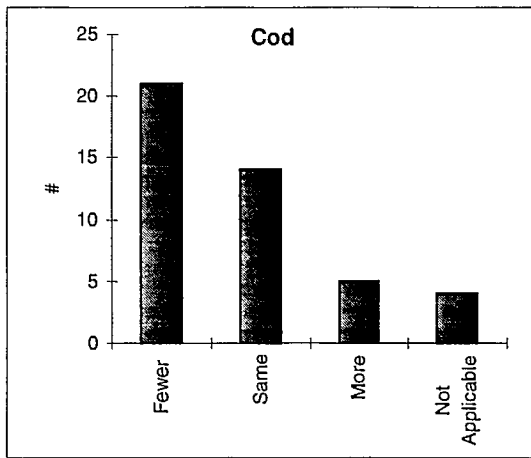
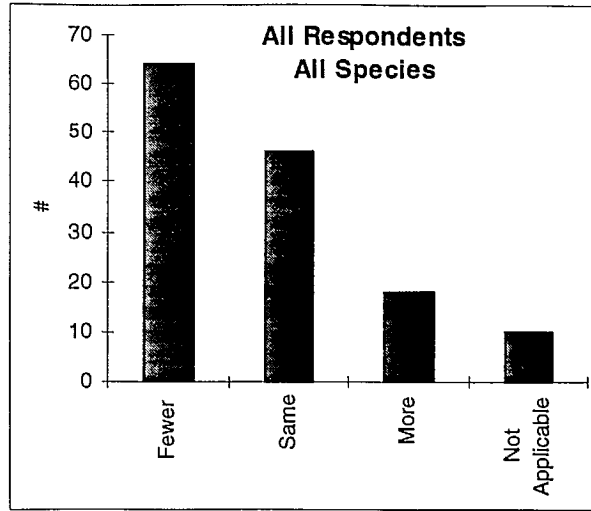


Figure 12. Comparison to 1994 of the number of days spent fishing for groundfish in 1995. (Note: 1. These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time'. Note: 2. "Not Applicable" category represents fishers that did not fish for groundfish in 1994).

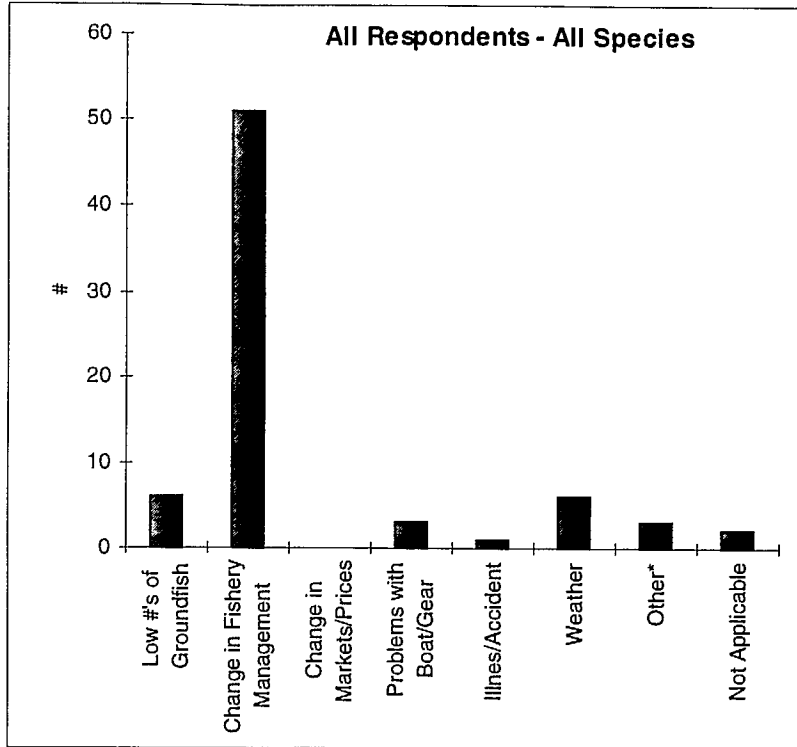


Figure 13. Main reasons given by respondents for spending less or more time fishing for groundfish in 1995 than in 1994. (Note: 1. "Not Applicable" category represents fishers that did not fish for groundfish in 1994).

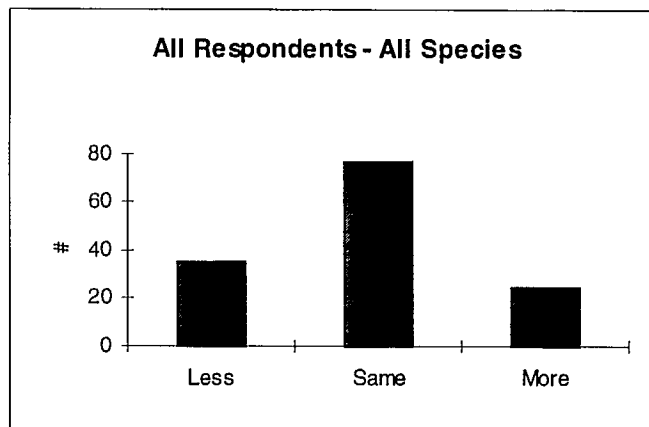


Figure 14. Comparison to previous years of the number of days when the weather was too bad to fish for groundfish in 1995.

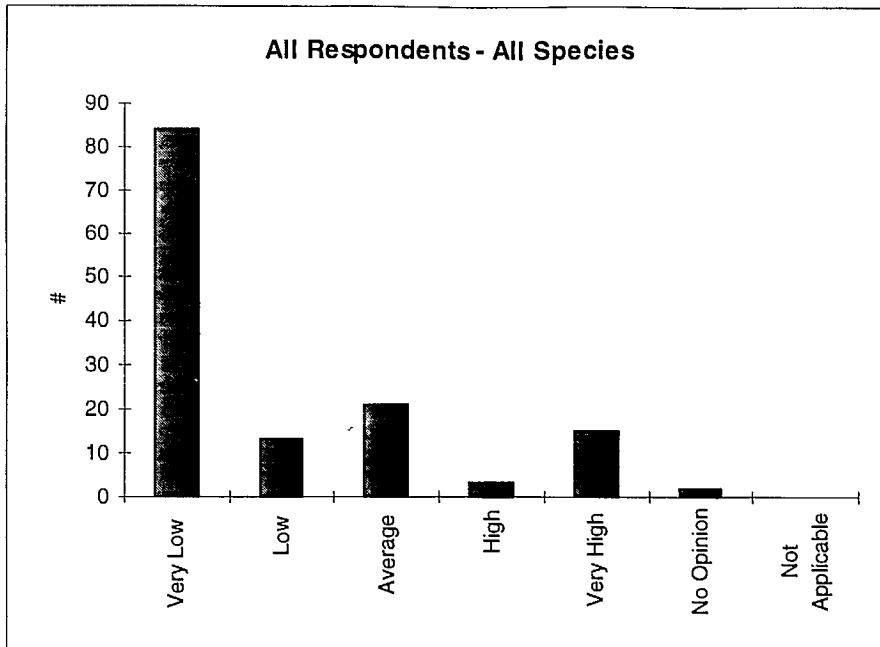


Figure 15. Opinions of respondents concerning the abundance of dogfish in 1995.

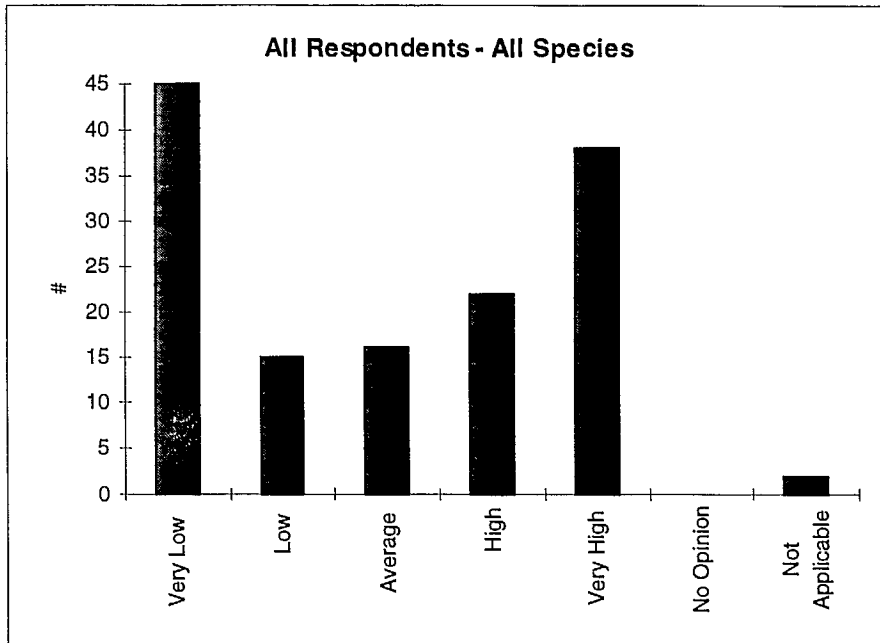


Figure 16. Opinions of respondents concerning the abundance of seals in 1995.

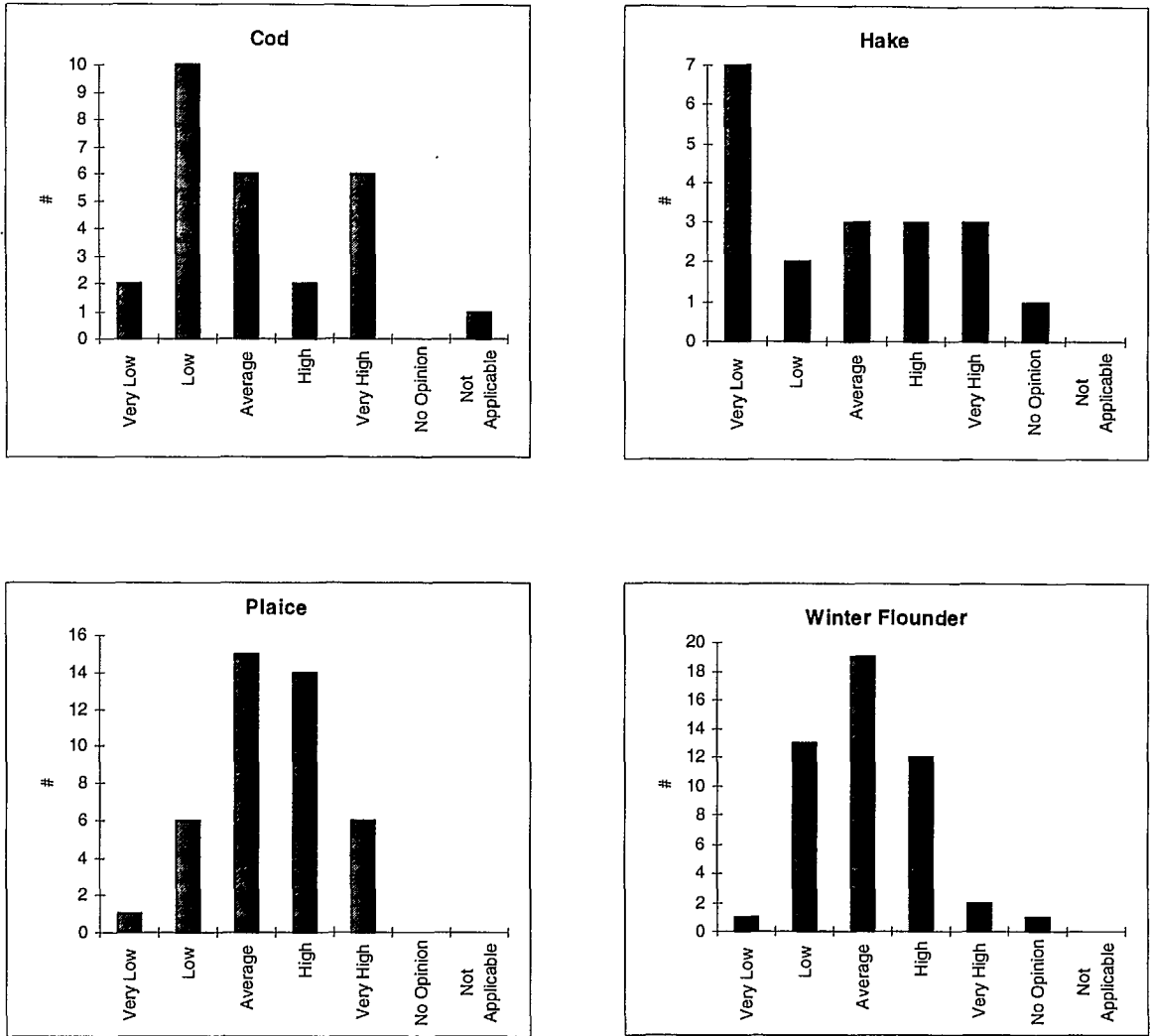


Figure 17. Opinions of respondents concerning the abundance of cod, hake, plaice and winter flounder in 1995 (Note: These species represent the 'first priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

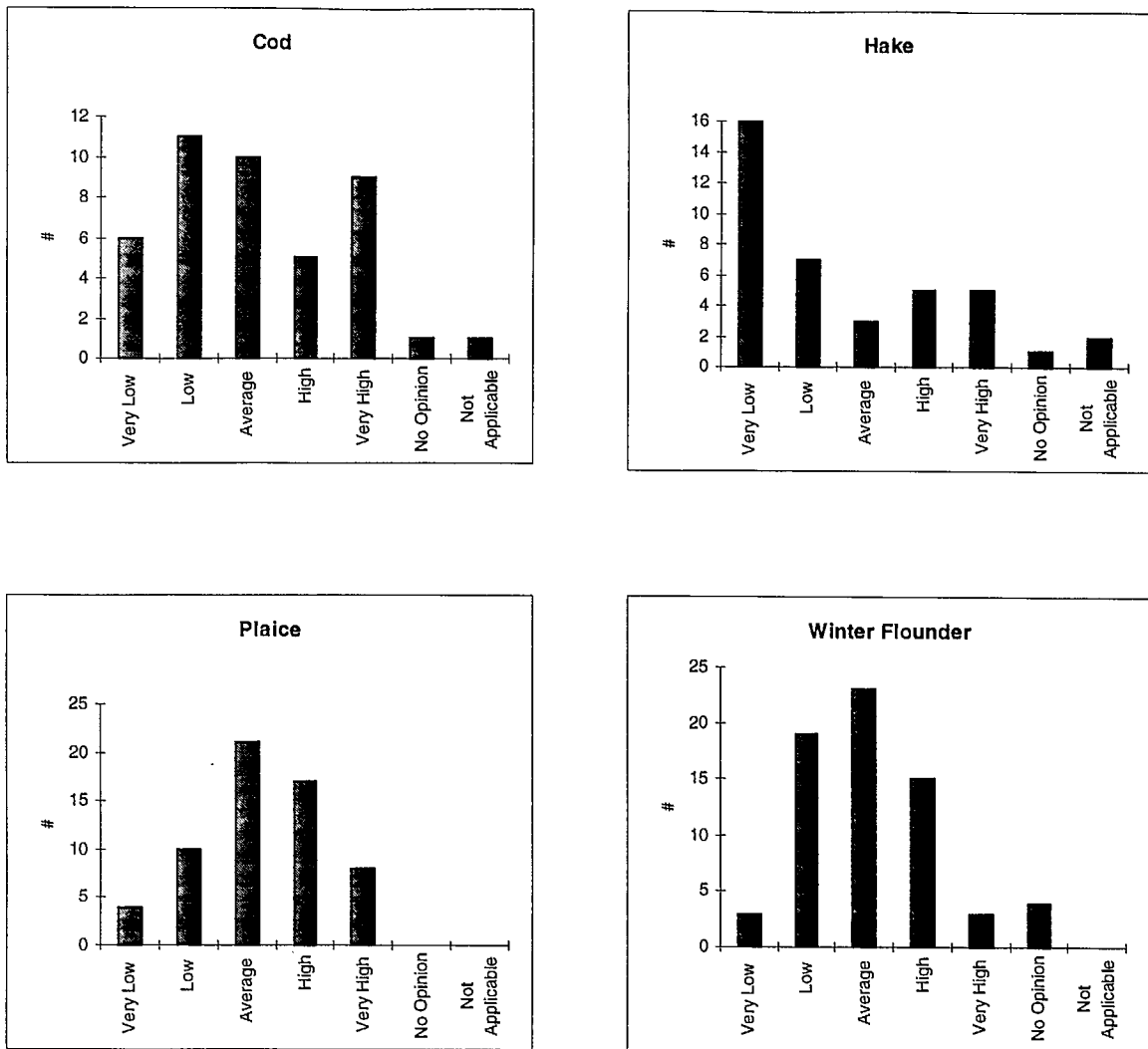


Figure 18. Opinions of respondents concerning the abundance of cod, hake, plaice and winter flounder in 1995 (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

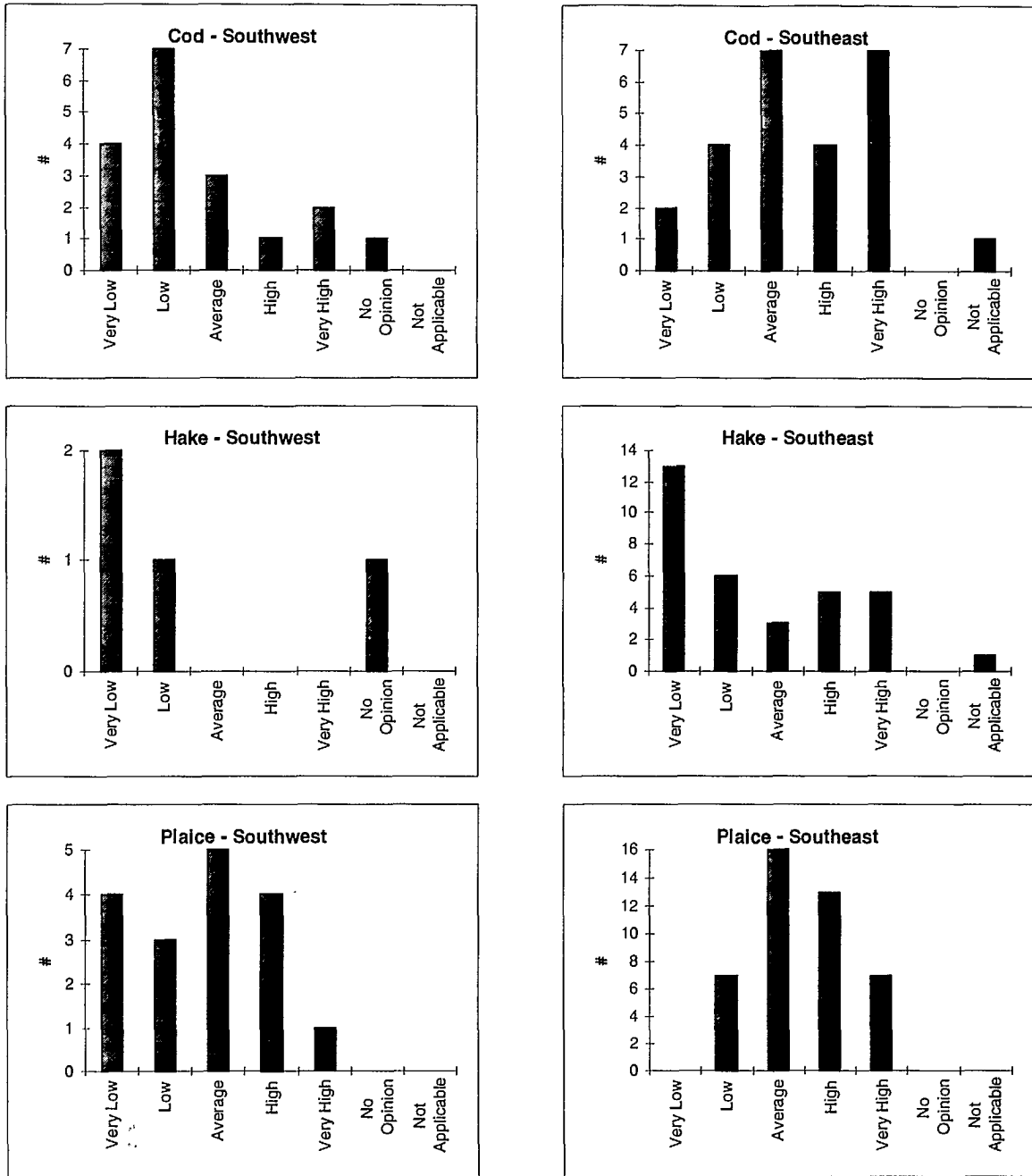


Figure 19. Opinions of respondents from the southeastern and southwestern Gulf concerning the abundance of cod, hake, plaice and winter flounder in 1995. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

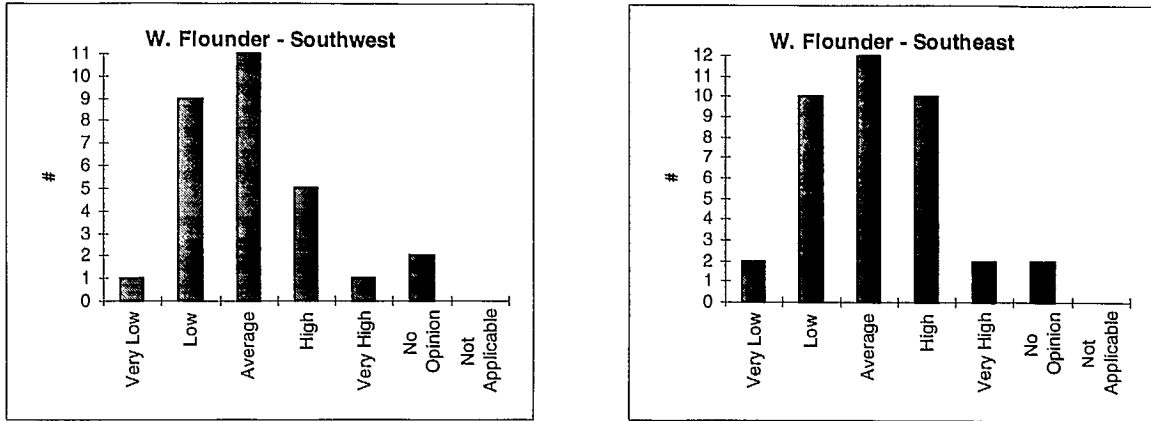


Figure 19. Continued. Opinions of respondents from the southeastern and southwestern Gulf concerning the abundance of cod, hake, plaice and winter flounder in 1995. (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

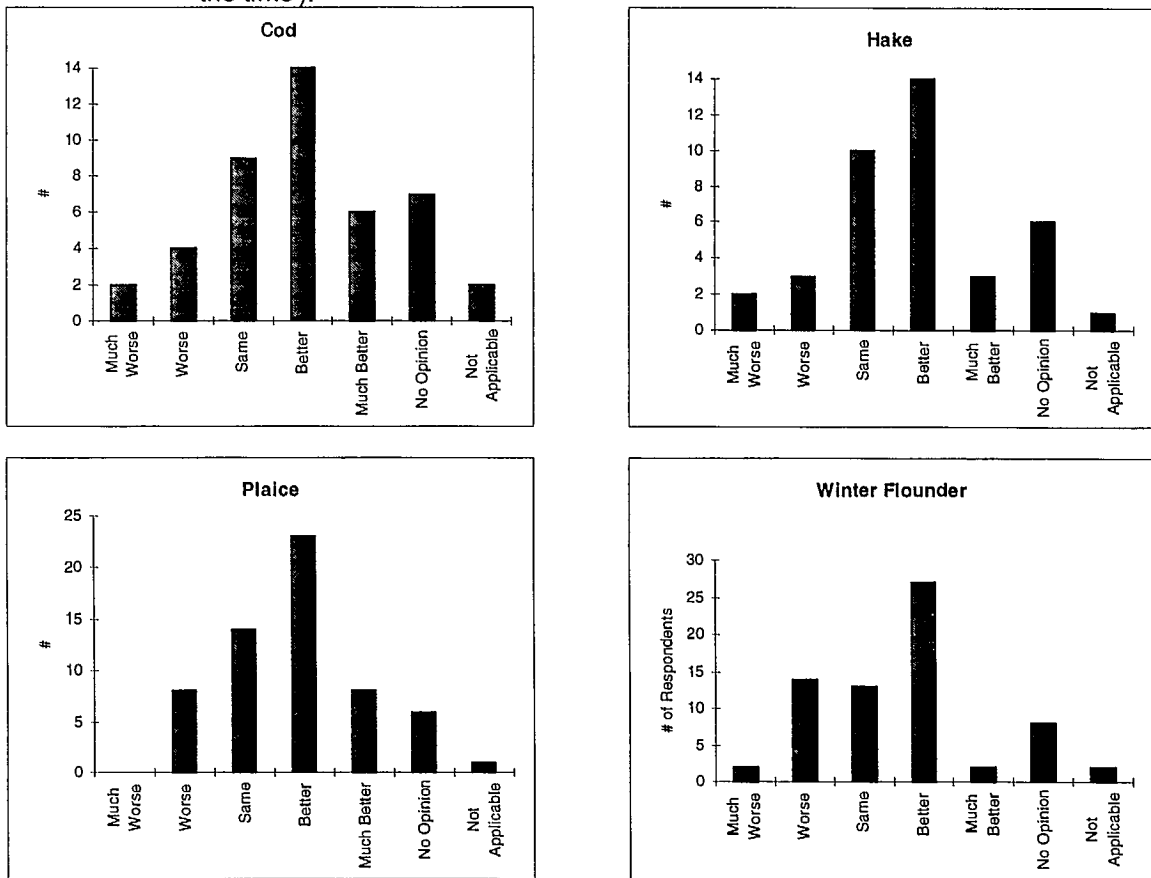


Figure 20. Opinions of respondents asked to compare the 1995 groundfish fishery with the fishery in 1994 (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

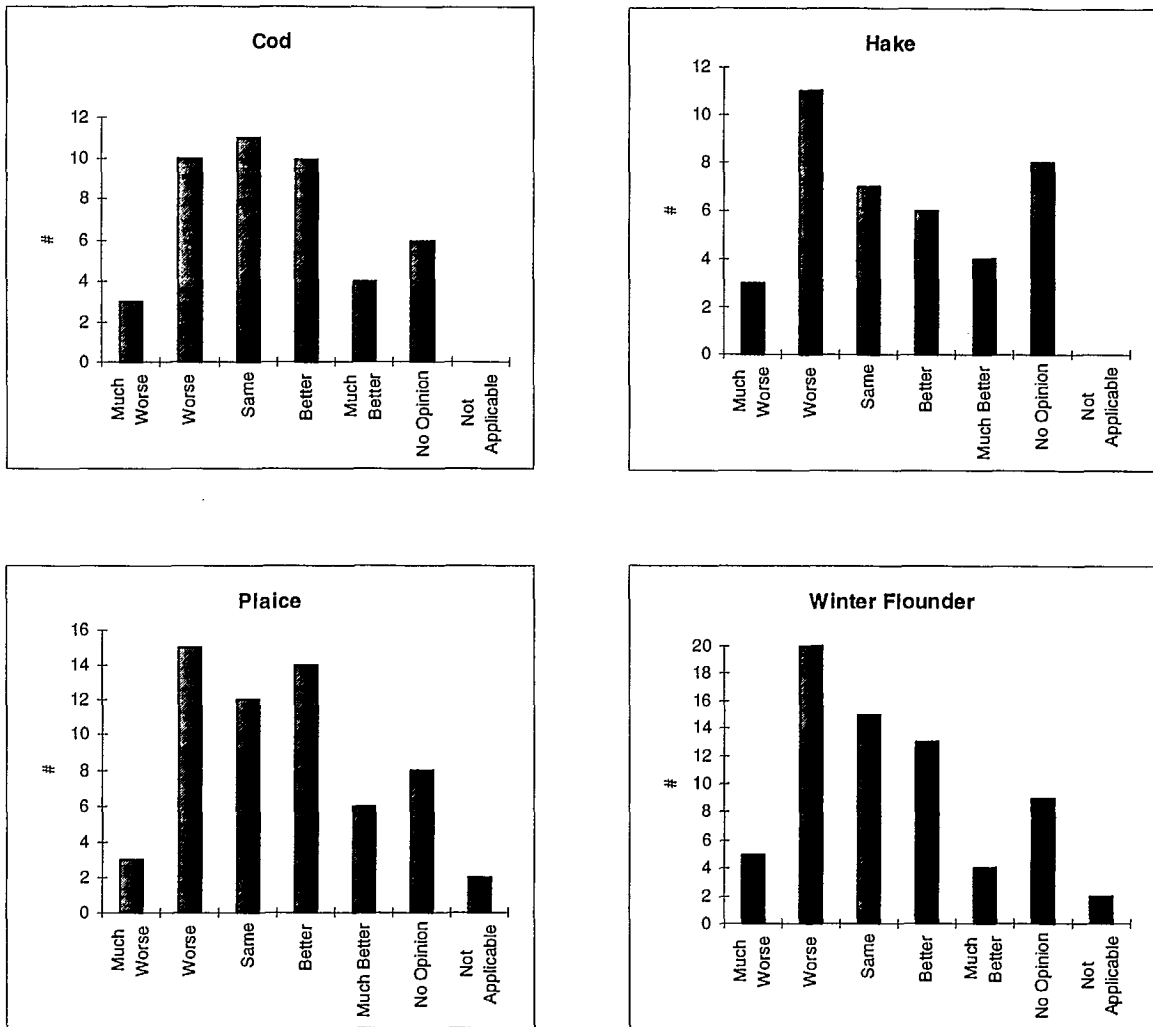


Figure 21. Opinions of respondents asked to compare the 1995 groundfish fishery with the fishery during the period from 1990-1994 (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

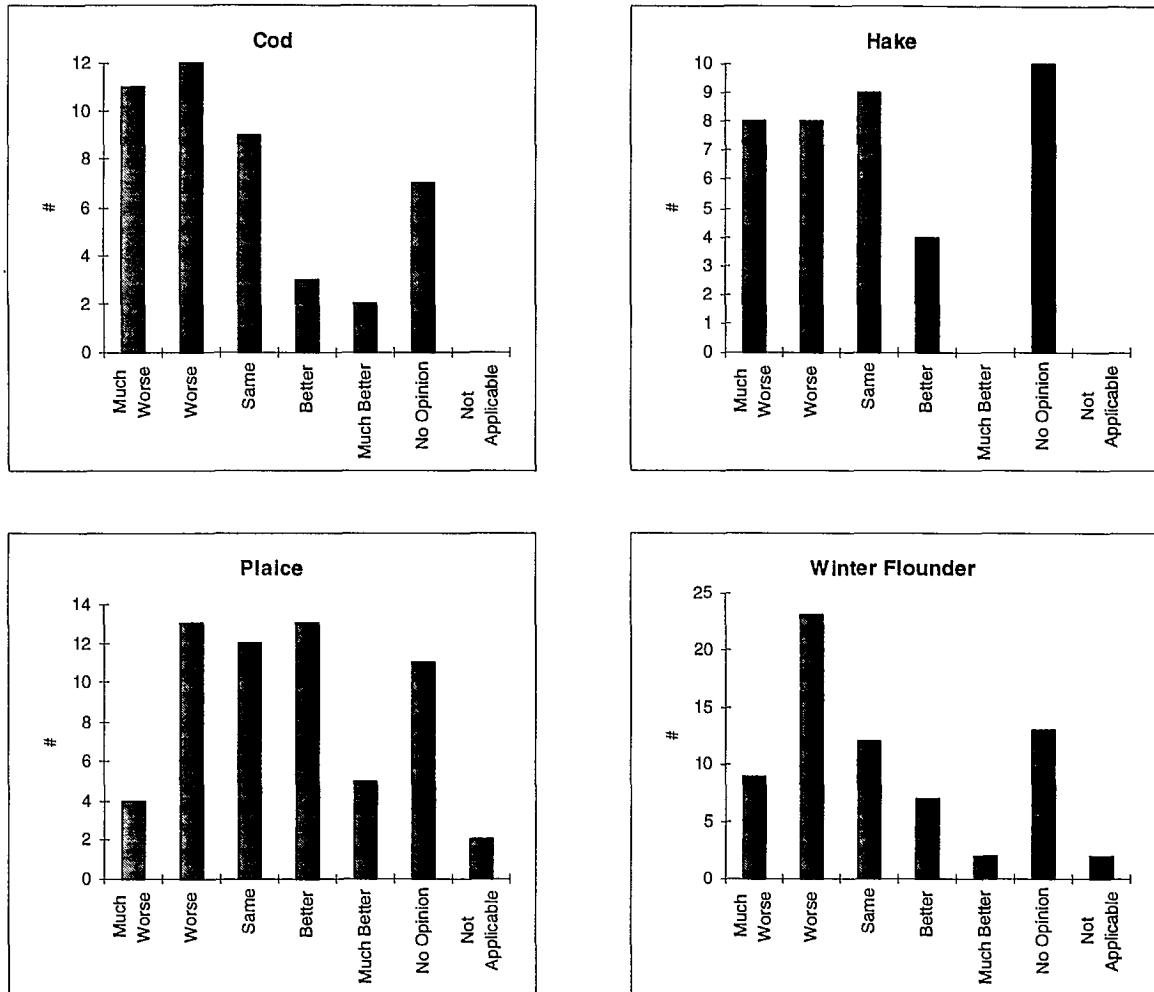


Figure 22. Opinions of respondents asked to compare the 1995 groundfish fishery with the fishery during all their years fishing for groundfish (Note: These species represent the 'first, second or third priority' of respondents who indicated that they fished for more than one species of groundfish, 'most of the time').

10 - Appendices

Appendix 1

Locations Where Respondents Reported They Observed Seals While Fishing for Groundfish in 1995

Area 4T8.	Cape George, N.S.
Pleasant Bay, N.S.	St Paul's Island, N.S.
Richibucto Cape, N.B.	East Point, P.E.I.
Salmon Beach, N.B.	Cape George, N.S.
Cape North, N.S.	Northumberland Strait
Henry Is./Port Hood, N.S.	Cape George to Pictou Island, N.S.
Bay St. Lawrence/Cape North, N.S.	St. Georges Bay, N.S.
Pleasant Bay, N.S.	Off Cheticamp, N.S.
Salmon Beach, N.B.	St. Georges Bay, N.S.
Gulf, (East Point P.E.I.), all over.	St Paul's Island, N.S.
Northumberland Strait.	Northumberland Strait.
Port Hood, N.S.	Northumberland Strait.
Bay St. Lawrence, N.S.	Cap Pele, N.B.
Anse Blue, Caraquet, N.B.	Northumberland Strait.
Mabou, Cape Breton, N.S.	All around the eastern shore of P.E.I. (i.e., Cardigan).
Canal (Sud), N.B.	Cape George, N.S.
Victoria, West Point, N.B.	Northumberland Strait.
Northumberland Strait.	Off Cape George & Arisaig, N.S.
Murray Corner, Petit Cap, N.B.	Bathurst Harbour, N.B.
Cape North, Cape St. Lawrence, N.S.	Along the shore of Inverness County N.S.
Cape Tormentine, Murray Corner, N.B.	Off coast of St. Anne, N.B.
Fisherman's Bank, P.E.I.	Stonehaven, N.B.
Cape St. Lawrence, N.S.	Stonehaven, N.B.
Skinner's Pond, P.E.I.	Bay of Chaleur, N.B.
Cheticamp, N.S.	Lat. 47'10" x Long. 60'35"
Richibucto, N.B. area	Cape Bald, N.B.
Pleasant Bay, N.S.	Murray Harbour, P.E.I.
Baie de Chaleur, N.B.	Inverness, N.S.
Cape George N.S.	Pictou Island, N.S.
Summerside, P.E.I.	Off Pictou Island & Arisaig, N.S.
Northumberland Strait	Off Henry Island & Port Hood, N.S.
Lameque, N.B.	Off Cape St. Lawrence, N.S. (4T9B).
Acadian coast, N.B.	In harbour off Cardigan, P.E.I.
Beach Point, P.E.I.	Off Miminegash, P.E.I.
East Point, P.E.I.	Off Stonehaven, N.B.
Off Pointe Verte, N.B.	St Georges Bay, N.S.
Cote de Saint Anne et au large de l'île du P.E.	Off Port Hood, N.S.
East Northumberland Strait.	Off Cape North, N.S.
Arichat Harbour, N.S.	Fisherman's Bank, P.E.I.
East Pictou Island, N.S.	Off Port Hood, N.S.
Gulf Area off Cape Breton, N.S.	Off Arisaig, N.S.
Around Petit Rocher, Caraquet, and Shippagan, N.B.	Northumberland Strait.
Near MacKenzie, St Paul's Is. and off Cheticamp, N.S.	Area 4T8.
Caraquet, N.B.	Bay of Chaleur, N.B.
Fisherman's Bank, P.E.I.	Off Miminegash, P.E.I.
	Cape George, N.S.
	North Lake, P.E.I.

Appendix 2
Final Comments and Opinions Made by Respondents on the 1995 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

<p>Something must be done about the seals. Do something about the seals . Take care of the seals . Something needs to be done with the seal problem. Too many seals, eating the fish & destroying the fishery. Get rid of the seals; Let them fish cod or they will die of old age. Agree with the closures but thinks there are too many seals. The seals are getting to be a problem.</p>	<p>Seals have a lot to do with the low numbers of cod. 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. Seals are a big problem. Do something about the seals. Get rid of cormorants and seals. Clean up the seals. Should be a seal cull; Cormorant predation is significant locally.</p>
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Comments and Opinions Regarding Dogfish

<p>Something should be done about dogfish. Like to see a market for dogfish.</p>	<p>Clean up the dogfish.</p>
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Comments and Opinions Regarding Mesh Sizes

<p>Stay on track with mesh sizes. Could leave 10% by-catch, mesh size won't come down. Suggests using larger nets (catch less small fish (hake)) and catch larger fish (Flounder). The changes in mesh size that occurred makes it difficult to answer some of these questions.</p>	<p>Bigger mesh makes a difference, not damaging small fish; catch larger flounders. The increased mesh size makes a positive difference; need bigger mesh size for American plaice.</p>
--	--

Comments and Opinions Regarding Gear Conflicts

<p>Take all draggers out. Draggers hard on fishery. Draggers take the small fish but the fixed gear fishers are not allowed to fish. Draggers should be out, longline should be in. Too much dragging.</p>	<p>Remove the draggers. Dragging should be stopped. Don't reduce the number of gillnet fishers. Fishing for cod with handline was not permitted for very long.</p>
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Comments and Opinions Regarding Licenses and Quotas

<p>Like to see a bigger quota. Problem with quota. Not enough restrictions to control the by-catch of small fish. Not happy because of lowered flounder quota. Higher by-catch. Thinks licenses are not being used. Too strict with licensees and permits. Don't think the American Plaice (TAC) should have been cut. Why are there problems with the flounder quota? Need more quota and more of everything.</p>	<p>Should be able to fish both nets and otter trawl if you have both licenses. Like to see an increase from 10% to at least 20% in the allowable cod by-catch. Need better control on overall quota; no selling of quota to other fishermen unless family member or if the whole deal is bought. Over last few years there has been an increase in flounder; too many cod (they're hard to avoid); quota is way too low. Those fishers with crab and lobster licenses are best off! Don't agree with the quota reductions.</p>
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Comments and Opinions Regarding Fisheries Management

<p>Groundfish fishery should be open. Like to see the cod fishery stay like the previous years. Open groundfish season earlier in spring, (e.g. May). Should not shut fishery for everybody. Season should open earlier. Don't open the fishery too early. As long as we can fish again next summer. Would like to see cod & hake and winter flounder separated in separate fisheries, due to the nets. Wants perpetrators charged instead of all fishers. Should be a Sentinel Fishery this summer. Some fishers must be punished in order to manage the fishery. Must open a fishery for the cod fishers. Season should start same time as gillnet fisherman.</p>	<p>Monitoring Program (i.e., Dockside Monitoring) is a waste of time and money. Sentinel fishery should be expanded to this area. (Locally) the fishery was closed at the wrong time; just when the flounder catch rates were improving. The groundfish fishery should be open in St. Georges Bay. Try to keep the fishery going. Like to see more fishermen take part in the sentinel fishery; at least one in every port. Hire a scientist to go on the boat while we fish and do a survey at the same time. Like to see the fishery (i.e., cod/hake) re-opened. Do not understand closure of hake fishery - it will only destroy lobster fishery. The cod fishery should be open for at least a month or two because there's lots of cod. Give license conditions earlier.</p>
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Other/Miscellaneous Comments and Opinions

<p>High increase in American Plaice in 49A, 49B, and 42. Didn't fish in 1994, so unable to comment on some of the questions. Better flatfish fishing. There are cod out there and they can be fished. Plenty of cod and hake out there for the inshore fishery. Seems to be more American plaice & less winter flounder: Very little hake and cod showing up in the fall. Hope that groundfish hook & line fishery will be open in 1996.</p>	<p>Don't know why winter flounder couldn't be fished with cod nets without floats. American plaice seem to be larger and more abundant. There are lots of cod too. Its difficult to say if there are more or less cod or hake because we can't fish for them. Hope they don't close up forever; Hopefully come up with cod fish. Would like to have better information on government side. Like to see fishery conserved, and coming back.</p>
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Other/Miscellaneous Comments and Opinions

Require more discipline among the fishers.
Thinks there is a good future in the fishery.
This survey will suggest low #'s of cod but fishers find it otherwise. Fishers find an abundance of cod in inshore waters between East Point and North Cape, P.E.I.
There are lots of cod.
Should not fish winter flounder after July 15 - it's not good for lobster.

Feel the groundfish fishery needs a rest; It should be closed for first 2 weeks of July to allow the fish to spawn.
There are lots of hake in this area (St. Georges Bay).
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.

Appendix 3

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

The following questions deal with your fishing activities during 1995.

1. In 1995, did you fish for groundfish?

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

Yes ¹ (GO TO QUESTION 4)

No ²

2. What was your main reason for NOT fishing groundfish in 1995?

(Check one only)

(a) Low numbers of groundfish ¹

(b) No quota ²

(c) Fishery closed ³

(c) Problems with markets or prices ⁴

(d) Problems with boat or gear ⁵

(e) Illness or accident ⁶

(f) Other:

3(a) In 1995, did you fish for anything else?

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

Yes ¹

No ²

3(b) If YES, what other type(s) of fish did you fish for in 1995?

NOTE TO INTERVIEWER:

**END INTERVIEW FOR RESPONDENTS WHO DID NOT
FISH FOR GROUND FISH IN 1995**

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 1995, 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 1995?

¹ Feet
 ² Meters

6. 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 preferred to catch.

- | | | | |
|---------------------|------------------------------------|-------------|---|
| (a) Cod | <input type="radio"/> ¹ | (e) Witch | <input type="radio"/> ⁵ |
| (b) White hake | <input type="radio"/> ² | (f) Turbot | <input type="radio"/> ⁶ |
| (c) American plaice | <input type="radio"/> ³ | (g) Dogfish | <input type="radio"/> ⁷ |
| (d) Winter flounder | <input type="radio"/> ⁴ | (h) Other: | <input type="radio"/> <input type="text" value="11"/> |

NOTE TO INTERVIEWER

(For Q. 6 & 7: 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)

7. In 1995, 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 preferred to catch.

- | | | | |
|---------------------|------------------------------------|-------------|---|
| (a) Cod | <input type="radio"/> ¹ | (e) Witch | <input type="radio"/> ⁵ |
| (b) White hake | <input type="radio"/> ² | (f) Turbot | <input type="radio"/> ⁶ |
| (c) American plaice | <input type="radio"/> ³ | (g) Dogfish | <input type="radio"/> ⁷ |
| (d) Winter flounder | <input type="radio"/> ⁴ | (h) Other: | <input type="radio"/> <input type="text" value="11"/> |

8. Of the ... name of Main Species #1 stated in Q.7 ... that you caught in 1995, how would you describe the average size of the fish?

Would you say they were ...

- | | |
|---|------------------------------------|
| (a) about the same size as previous years | <input type="radio"/> ¹ |
| (b) smaller than previous years | <input type="radio"/> ² |
| (c) larger than previous years | <input type="radio"/> ³ |

9 (a) In 1995, what was the main type of fishing gear that you used most of the time to fish for groundfish?

(Check one only)

- (a) Gillnet ¹ →
- (b) Longline ² →
- (c) Otter trawl ³ →
- (d) Seine ⁴ →
- (e) Other:

(b) For the fishing gear that you used most often in 1995, what was the usual amount of fishing gear that you used during a typical day of fishing?

N/A

- _____ # of gillnets ⁹⁹
- _____ # of hooks ⁹⁹
- _____ # of sets or tows ⁹⁹
- _____ # of sets or tows ⁹⁹
- _____ (other, specify) ⁹⁹

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

- (a) about the same amount of fishing gear in 1995 ¹
- (b) less fishing gear in 1995 ²
- (c) more fishing gear in 1995 ³

11. During 1995, did you fish for groundfish for the entire season?

- Yes ¹ (GO TO Question 16)
- No ²

12. In 1995, did you switch to another fishery such as tuna, herring, scallops, etc. during the groundfish season?

- Yes ¹
- No ² (GO TO Question 16)

13. To what fishery did you switch in 1995?

(Check one only)

- (a) Tuna ¹
- (b) Herring ²
- (c) Scallops ³
- (d) Other:

14. What was your main reason for switching from fishing groundfish in 1995?

(Check one only)

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

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

- Yes ¹
- No ²

16. Can you tell me the exact number of days you spent fishing for groundfish in 1995?

 days fishing this year (GO TO Question 18)

Don't know ³ (GO TO Question 17)

17. Could you give me your best estimate of how many days you spent fishing for groundfish in 1995?

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

18. Compared to 1994, would you say that you fished:

- (a) about the same number of days in 1995 ¹ (GO TO Question 20)
- (b) fewer days in 1995 ²
- (c) more days in 1995 ³

19. What was your main reason for spending (LESS or MORE) time fishing for groundfish in 1995?

(Check one only)

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

20. Thinking of those days in 1995 when the weather was too bad to fish groundfish, would you say there were LESS, the SAME, or MORE bad weather days in 1995 than usual?

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

21. In 1995, did dogfish interfere with your efforts to fish for groundfish?

- Yes ¹
- No ²

Additional comments:

22. In 1995, did you see any seals while fishing for groundfish?

- Yes ¹
- No ²

If YES, where did you see seals in 1995?

The following questions ask you to compare or describe the OVERALL conditions in the groundfish fishery in 1995, using a scale which goes from VERY LOW to LOW to AVERAGE to HIGH to VERY HIGH:

23. 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 1995 was | <input type="radio"/> ¹ | <input type="radio"/> ² | <input type="radio"/> ³ | <input type="radio"/> ⁴ | <input type="radio"/> ⁵ | <input type="radio"/> ⁷ | <input type="radio"/> ⁹ |
| (b) seals in your fishing area in 1995 was | <input type="radio"/> ¹ | <input type="radio"/> ² | <input type="radio"/> ³ | <input type="radio"/> ⁴ | <input type="radio"/> ⁵ | <input type="radio"/> ⁷ | <input type="radio"/> ⁹ |
| (c) the <u>... name of Main Species #1 stated in Q.7 (_____) ...</u> that you fished for in 1995 was | <input type="radio"/> ¹ | <input type="radio"/> ² | <input type="radio"/> ³ | <input type="radio"/> ⁴ | <input type="radio"/> ⁵ | <input type="radio"/> ⁷ | <input type="radio"/> ⁹ |
| (d) the <u>... name of Main Species #2 stated in Q.7 (_____) ...</u> that you fished for in 1995 was | <input type="radio"/> ¹ | <input type="radio"/> ² | <input type="radio"/> ³ | <input type="radio"/> ⁴ | <input type="radio"/> ⁵ | <input type="radio"/> ⁷ | <input type="radio"/> ⁹ |
| (e) the <u>... name of Main Species #3 stated in Q.7 (_____) ...</u> that you fished for in 1995 was | <input type="radio"/> ¹ | <input type="radio"/> ² | <input type="radio"/> ³ | <input type="radio"/> ⁴ | <input type="radio"/> ⁵ | <input type="radio"/> ⁷ | <input type="radio"/> ⁹ |

NOTE TO INTERVIEWER

(For Q. 23 & 24: "Main species" of groundfish that you fished for in 1995=... name of main species stated in Q.7 ...)
(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 groundfish fishery in 1995 with previous years, using a scale which goes from MUCH WORSE to WORSE to SAME to BETTER to MUCH BETTER:

24. For the "main species" of groundfish that you fished for in 1995:
- | | Much
Worse | Worse | Same | Better | Much
Better | N/O | N/A |
|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| (a) how would you compare the 1995 fishery to the 1994 fishery | <input type="radio"/> ¹ | <input type="radio"/> ² | <input type="radio"/> ³ | <input type="radio"/> ⁴ | <input type="radio"/> ⁵ | <input type="radio"/> ⁷ | <input type="radio"/> ⁹ |
| (b) how would you compare the 1995 fishery to the fishery from 1990 -1994 | <input type="radio"/> ¹ | <input type="radio"/> ² | <input type="radio"/> ³ | <input type="radio"/> ⁴ | <input type="radio"/> ⁵ | <input type="radio"/> ⁷ | <input type="radio"/> ⁹ |
| (c) how would you compare the 1995 fishery to all the years you have fished for this species | <input type="radio"/> ¹ | <input type="radio"/> ² | <input type="radio"/> ³ | <input type="radio"/> ⁴ | <input type="radio"/> ⁵ | <input type="radio"/> ⁷ | <input type="radio"/> ⁹ |

25. The results of this survey will be available in the spring of 1996. Would you like to receive a copy?

- Yes ¹ **CONFIRM COMPLETE MAILING ADDRESS ON COVER PAGE**
 No ²

Do you have any additional comments or suggestions
that you would like to make on the 1995 groundfish fishery?

[Empty response box]

THANK YOU FOR YOUR ASSISTANCE.

