



Manaaki Whenua
Landcare Research

Survey of recreational fishers of the Fiordland Marine Area: short report

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Survey of recreational fishers of the Fiordland Marine Area: short report

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Pamela L Booth

Manaaki Whenua – Landcare Research

Reviewed by:

Peter Edwards
Senior Research – Environmental Social Science
Manaaki Whenua – Landcare Research

Approved for release by:

Suzie Greenhalgh
Portfolio Leader – Society, Culture & Policy
Manaaki Whenua – Landcare Research

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Summary

The Fiordland Marine Guardians (Guardians) contracted Manaaki Whenua – Landcare Research (MWLR) at the end of 2020 to conduct a survey of recreational fishers in the Fiordland Marine Area (FMA). The questionnaire covered:

- 1 ways of using and accessing the FMA, including how long fishers have been visiting the FMA, areas and frequency of visits, methods of accessing the FMA, regularity of fishing in the FMA, and accommodation while on fishing trips
- 2 perceptions of fishing quality at present
- 3 statements to understand changes and perceptions of changes over time to fishing in the FMA
- 4 perceptions of the future of fishing in the FMA
- 5 openness to changes to the recreational fishing rules
- 6 likelihood of using an app to report fishing data for management activities.

The questionnaire was developed by the Guardians and MWLR from October 2020 to January 2021 and was live for 4 weeks from 20 January to 17 February 2021. Distribution of the questionnaire was highly targeted at those who fish in the FMA: among the 214 responses received, 190 respondents (89%) fish in the FMA.

The characteristics of respondents, however, varied:

- 56% have been visiting the FMA for more than 15 years
- 29% visit the FMA once a year, while 29% visit every 3 to 6 months
- 61% regularly visit at least two locations in the FMA
- 81% get onto the water using a private powerboat
- 87% stay onboard their vessel while on their fishing trips, 20% stay at Department of Conservation huts, 12% stay in Milford township, and/or 11% stay at the Deep Cove Hostel. Respondents could choose multiple places where they stay while on fishing trips.

Respondents' attitudes towards the current state of the fishing the FMA are relatively positive:

- 43% believe there are plenty of fish that are easy or relatively easy to catch
- 45% believe that it is sometimes easy and sometimes difficult to catch fish
- 12% believe that it has been relatively difficult or impossible to catch fish.

Perceptions of changes to fishing in the FMA over time are varied.

- Respondents seem to agree that while it may be taking them longer to fish in general, they have not necessarily had to spend more time in the outer fiords or change how they fish to catch fish of legal size. This could be due to some respondents switching the species of fish they catch to ones that are more plentiful.

- Most respondents have not noticed any changes in the ease of catching fish of legal size but are split on whether there are fewer fish of legal size or it has become easier to catch fish in general. However, more respondents disagree than agree that it has become easier to catch fish inside the habitat lines in the fiords.
- Respondents also agree more than disagree that there seems to be an increasing demand on the fisheries over time with more recreational boats out fishing than there used to be.

Respondents are relatively positive about the future of recreational fishing in the short to medium term but are more uncertain about the long-term future of fishing.

- Most respondents are very or somewhat positive about fishing in the FMA within the next 5 years and in the next 5 to 10 years.
- An increasing proportion of respondents are unsure about the future of fishing: 1% are unsure within the next 5 years versus 14% who are unsure within the next 20 to 50 years.

Most respondents support at least minor changes to the current recreational fishing rules: 32% support substantial changes, 12% support minor changes to some rules and substantial changes to other rules, and 47% support minor changes to the current recreational fishing rules.

Most respondents (81%) said they are very likely or somewhat likely to use an app that would allow them to report their fishing data for management activities. A small proportion of respondents said they are somewhat or very unlikely to use such an app.

1 Project and client

The Fiordland Marine Guardians (Guardians) contracted Manaaki Whenua – Landcare Research (MWLR) at the end of 2020 to conduct a survey of recreational fishers in the Fiordland Marine Area (FMA). MWLR's remit covered:

- survey design: identify objectives, target segments, questions etc. by 20 December 2020
- survey programming: program the survey into the Qualtrics platform by 15 January 2021
- providing URLs and QR codes to the Guardians by 20 January 2021, to be distributed by the Guardians.
- providing updates to the Guardians while the survey was active from 20 January 2021 to 10 February 2021
- survey analysis: provide a summary of results via table and figures, with a video call to facilitate interpretation of results by 31 March 2021.

2 Objectives

The objectives of the survey were to:

- test the assumptions of two focus groups (amateur fishing vessel operators and independent recreational fishers) conducted by the Guardians by surveying a larger audience
- inform analysis and provide evidence (e.g. support) for recommendations made to the Government by the Guardians.
- conduct broad engagement and consultation to build community support for any future reforms.

3 Methods

3.1 Questionnaire

A questionnaire draft was provided to MWLR by the Guardians in November 2020. The questionnaire was revised through an iterative process by the Guardians and MWLR via email and a video meeting on 17 December 2020. A final draft of the questionnaire was provided by MWLR to the Guardians on 18 December 2020.

The questionnaire covered the following topics:

- 1 Ways of using and accessing the FMA.
 - Respondents were asked about how long they have been visiting the FMA, areas and frequency of visits, methods of accessing the FMA, regularity of fishing in the FMA, and accommodation while on fishing trips.

- 2 Perceptions of fishing quality at present.
 - Respondents were asked to respond, on a 5-point scale, to the question, 'From your experience, how would you rate the overall fishing in the FMA at present?', where 1 = extremely good and 5 = extremely bad.
- 3 Statements to understand changes and perceptions of changes over time to fishing in the FMA.
 - Respondents were asked to respond, on a 5-point scale, how much they agree with nine statements on ease of fishing, ease of finding fish of legal size, and changes in fishing behaviour, where 1 = strongly agree and 5 = strongly disagree.
- 4 Perceptions of the future of fishing in the FMA.
 - Respondents were asked to respond, on a 5-point scale, to the question, 'How do you feel about the future of recreational fishing in the FMA?' 'within the next 5 years', '5 to 10 years from now', and '20 to 50 years from now', where 1 = very positive and 5 = very negative.
- 5 Openness to changes to the recreational fishing rules.
 - Respondents were asked to choose which statement best described, 'How open would you be to a change in the recreational fishing rules?'
- 6 Likelihood of using an app to report fishing data for management activities.
 - Respondents were asked to respond, on a 5-point scale, to the question 'Suppose an app was developed that would allow fishers to report fishing data to inform future management activities. How likely would you be to use such an app?', where 1 = very likely and 5 = very unlikely.
- 7 Demographics

The questionnaire was conducted using the computer-assisted web interviewing programme Qualtrics. It was programmed in December 2020 and revised in January 2021. A link was sent to the Guardians on 18 January 2021 for final approval. A link and QR code to the final questionnaire were sent to the Guardians on 19 January 2021.

The questionnaire is available in Appendix A.

3.2 Sampling

The survey was open from 20 January to 17 February 2021.¹ Respondents could access the survey via an anonymous link or a QR code linking to the anonymous survey. All but one respondent accessed the survey using the anonymous link.

The survey was distributed and promoted by the Guardians. There were 214 responses to the survey, among which 190 were recreational fishers in the FMA (i.e. 89% of responses

¹ The survey was originally open from 20 January to 10 February 2021, but was extended until 17 February 2021.

were from the target group). Respondents who had not visited the FMA and those who do not fish in the FMA were excluded from the analysis.²

3.3 Analysis

The results were processed and analysed using the statistical software Stata. Results are presented descriptively in figures and tables. Response numbers for questions are provided in the notes in each figure.

4 Results

4.1 Demographics and ways of accessing the FMA

Respondents were on average between 40 and 60 years old and live in Fiordland (34%) or Southland (excluding Fiordland, 30%). Respondents are quite familiar with the FMA: 56% of respondents have been visiting the FMA for more than 15 years, respondents regularly visit an average of two locations within the FMA (e.g. 57% visit Milford Sound / Piopiotahi and 53% visit the southern fiords), and 29% visit the FMA once a year and 29% every 3 to 6 months.

When respondents visit the FMA, most get onto the water using a private powerboat (81%) and 97% fish while visiting. Among the 97% of respondents who fish, 41% fish in addition to other activities, 30% fish on most days when they visit, and 29% mainly fish when they visit the FMA. Most of these recreational fishers stay onboard their vessel while on their fishing trips (87%), while 20% stay at Department of Conservation huts, 12% stay in Milford township, and/or 11% stay at the Deep Cove Hostel.³

See Appendix C for figures of these demographics and ways of accessing/using the FMA.

4.2 From your experience, how would you rate the overall fishing in the FMA at present?

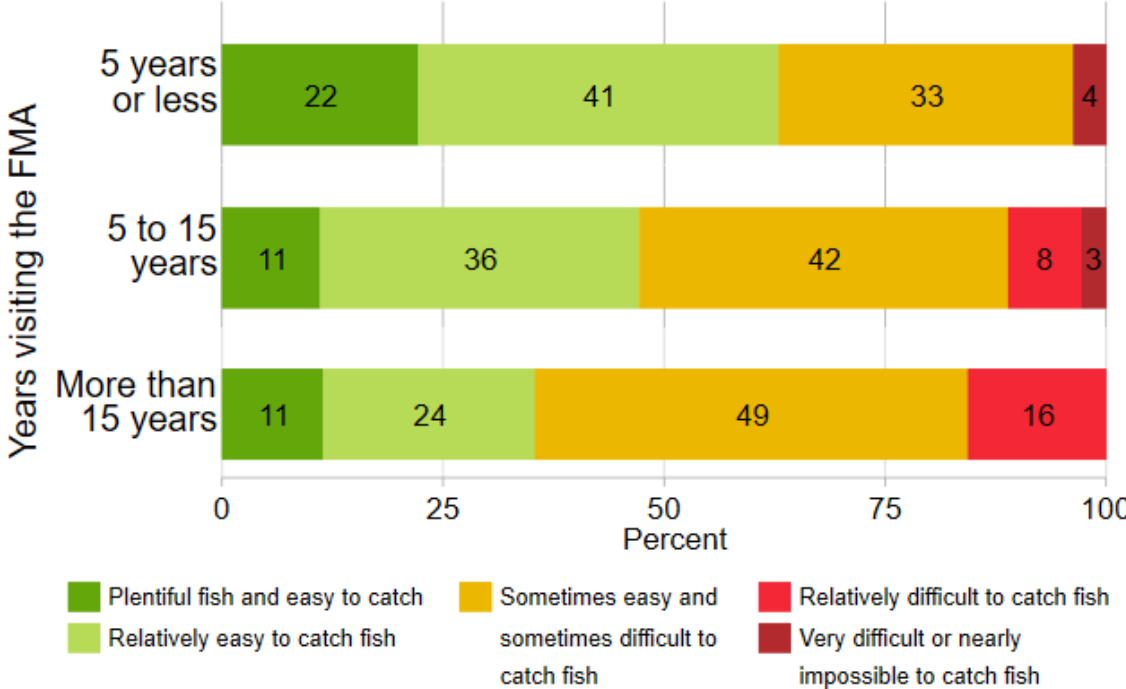
Among respondents who fish in the FMA, 13% believe there are plenty of fish that are easy to catch, 30% believe that it has been relatively easy to catch fish, 45% believe that it is sometimes easy and sometimes difficult to catch fish, 11% believe that it has been relatively difficult to catch fish, and 1% believe that it has been very difficult or impossible to catch fish (Fig. C9, Appendix C). These experiences are segmented by how long

² Respondents who do not visit the FMA were filtered out of the survey. Respondents who visit the FMA but are not recreational fishers were not asked most of the questions in the survey but were asked if they had any comments they would like to provide to the Guardians. These comments are provided in Appendix D.

³ Respondents could choose multiple ways of getting into the water and multiple places where they stay while on fishing trips.

respondents have been visiting the FMA (Figure 1), which fiords in the FMA respondents visit (Figure 2), and how regularly respondents fish while visiting the FMA (Figure 3).

How would you rate the overall fishing in the FMA at present?

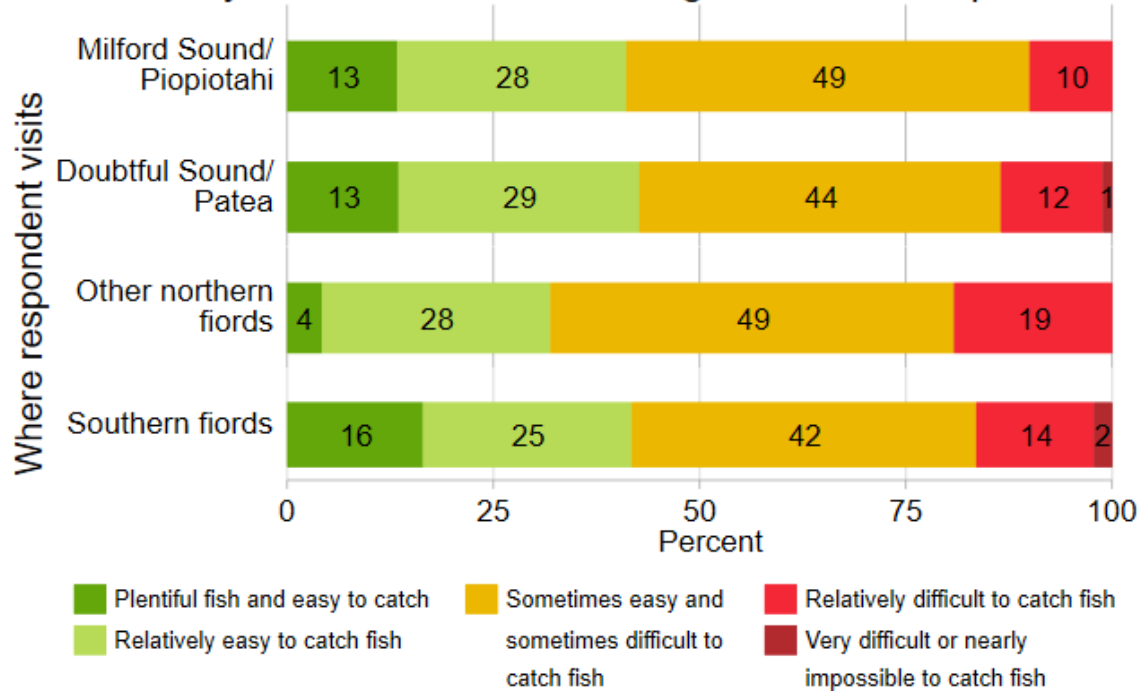


27 respondents have been visiting for 5 years or less, 36 respondents have been visiting for 5 to 15 years, 96 respondents have been visiting for more than 15 years.

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Figure 1. Rating of the overall fishing in the FMA, by how long the respondent has been visiting the FMA.

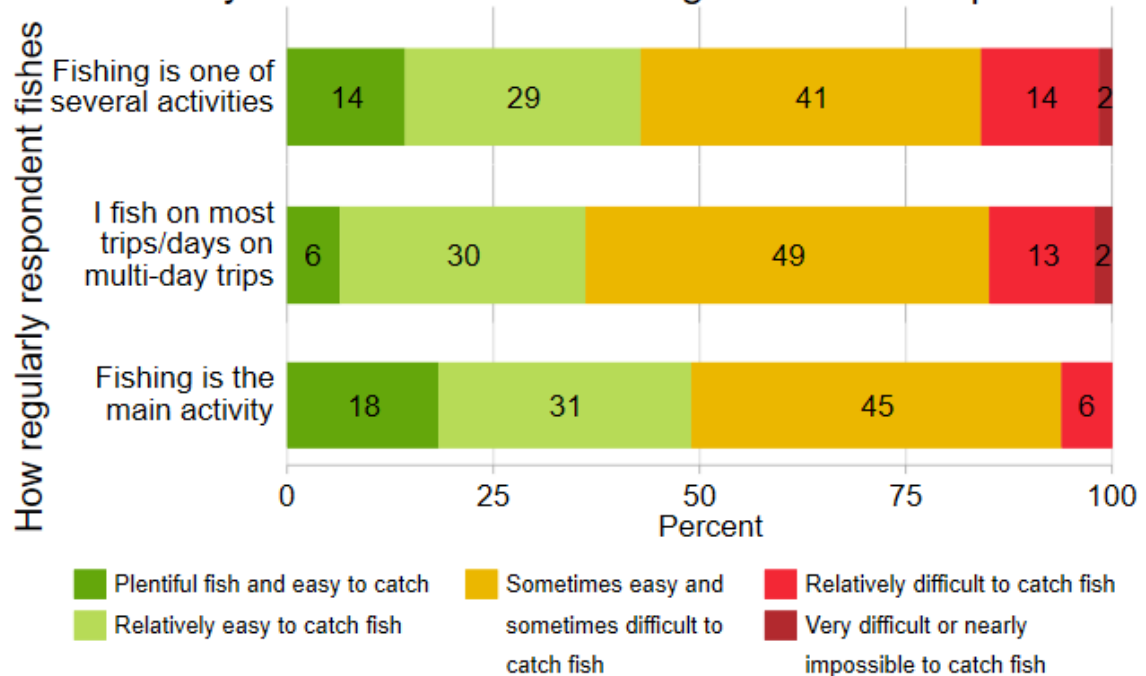
How would you rate the overall fishing in the FMA at present?



Among 90 respondents who visit Milford Sound/Piopiotaahi, 89 respondents who visit Doubtful Sound/Patea, 47 respondents who visit other northern fiords and 91 respondents who visit southern fiords.
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Figure 2. Rating of the overall fishing in the FMA, by where in the FMA the respondent visits.

How would you rate the overall fishing in the FMA at present?



Fishing is one of several activities when 63 respondents visit the FMA. 47 respondents fish on most trips/days on multi-day trips to the FMA. Fishing is the main activity when 49 respondents visit the FMA.
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Figure 3. Rating of the overall fishing in the FMA, by how regularly the respondent fishes on their visits to the FMA.

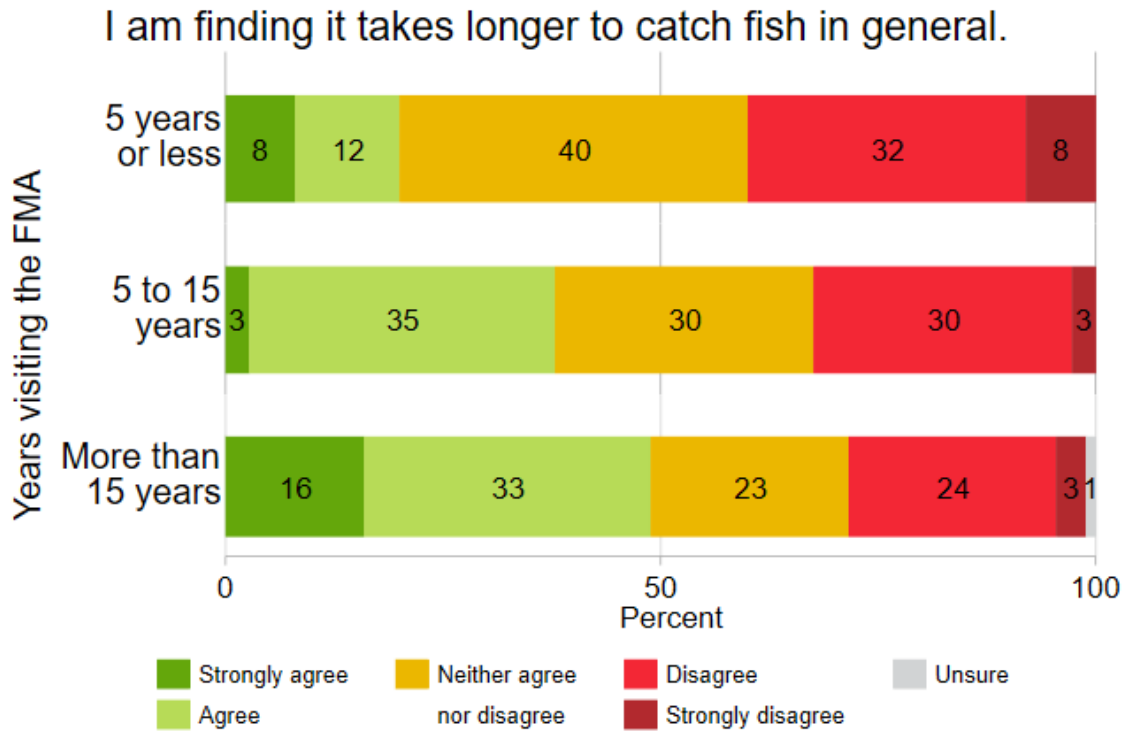
4.3 Agreement statements on, 'How has the fishing in the FMA changed since you started visiting?'

For each of the nine statements on ease of fishing, ease of finding fish of legal size, and changes in fishing behaviour, the aggregated responses are described first and then responses are segmented by how long the respondent has been visiting the FMA, where in the FMA the respondent visits, and where the respondent lives. The figures relating to each statement are as follows.

- 'I am finding it takes longer to catch fish in general.' Figures 4 to 6.
- 'There are fewer fish of legal size.' Figures 7 to 9.
- 'It has become easier to catch fish inside the habitat lines (in the fiords).' Figures 10 to 12.
- 'Some species are more plentiful while other are scarcer.' Figures 13 to 15.
- 'I have had to change how I fish because it takes longer to catch fish of legal size.' Figures 16 to 18.
- 'I have had to spend more time in the outer fiords/open coast to catch fish of legal size.' Figures 19 to 21.
- 'Overall, it has become easier to catch fish.' Figures 22 to 24.
- 'There are more recreational boats out fishing than there used to be.' Figures 25 to 27.
- 'I have not noticed any change in the ease of catching fish (of legal size).' Figures 28 to 30.

4.3.1 I am finding it takes longer to catch fish in general.

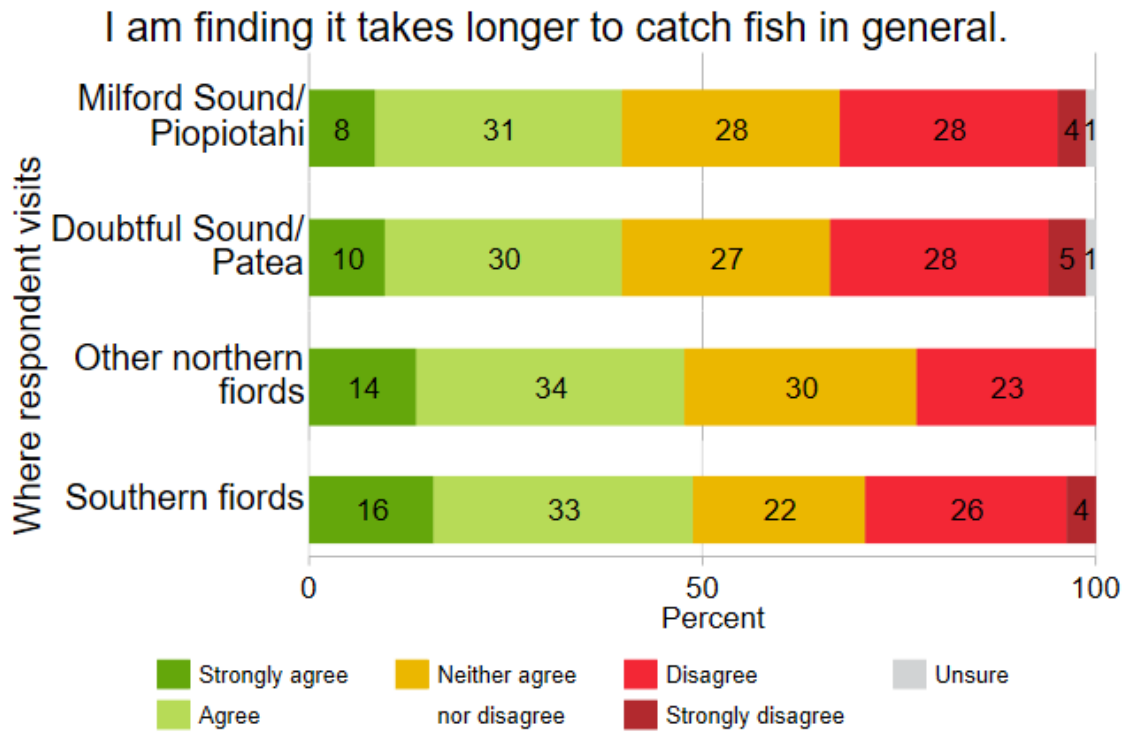
More respondents feel that it is taking them longer to catch fish in general (41% strongly agree or agree) than who do not think it is taking them longer (31% strongly disagree or disagree; Fig. C10, Appendix C) to catch fish in general.



Among 25 respondents who have been visiting for 5 years or less, 37 respondents who have been visiting for 5 to 15 years, and 90 respondents who have been visiting for more than 15 years.

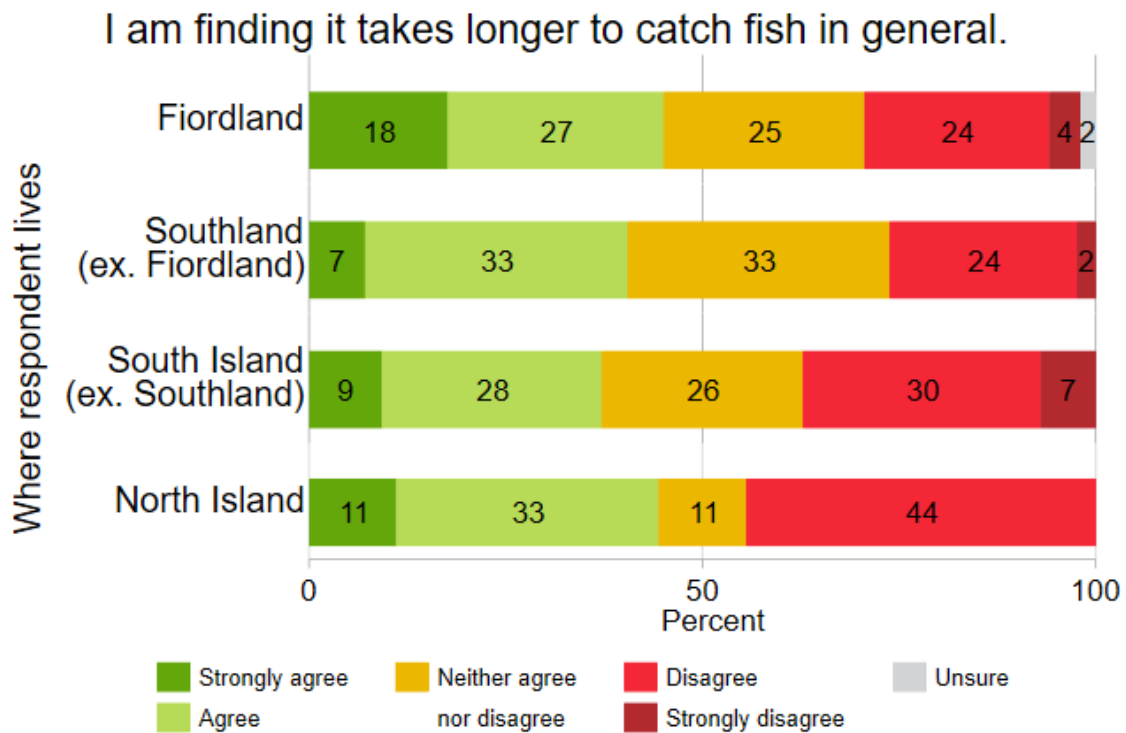
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Figure 4. Level of agreement to the statement, 'I am finding it takes longer to catch fish in general.' by how long respondents has been visiting the FMA.



Among 84 respondents who visit Milford Sound/Piopiotaahi, 86 respondents who visit Doubtful Sound/Patea, 45 respondents who visit other northern fiords and 83 respondents who visit southern fiords.
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Figure 5. Level of agreement to the statement, 'I am finding it takes longer to catch fish in general.' by where in the FMA respondents visit.

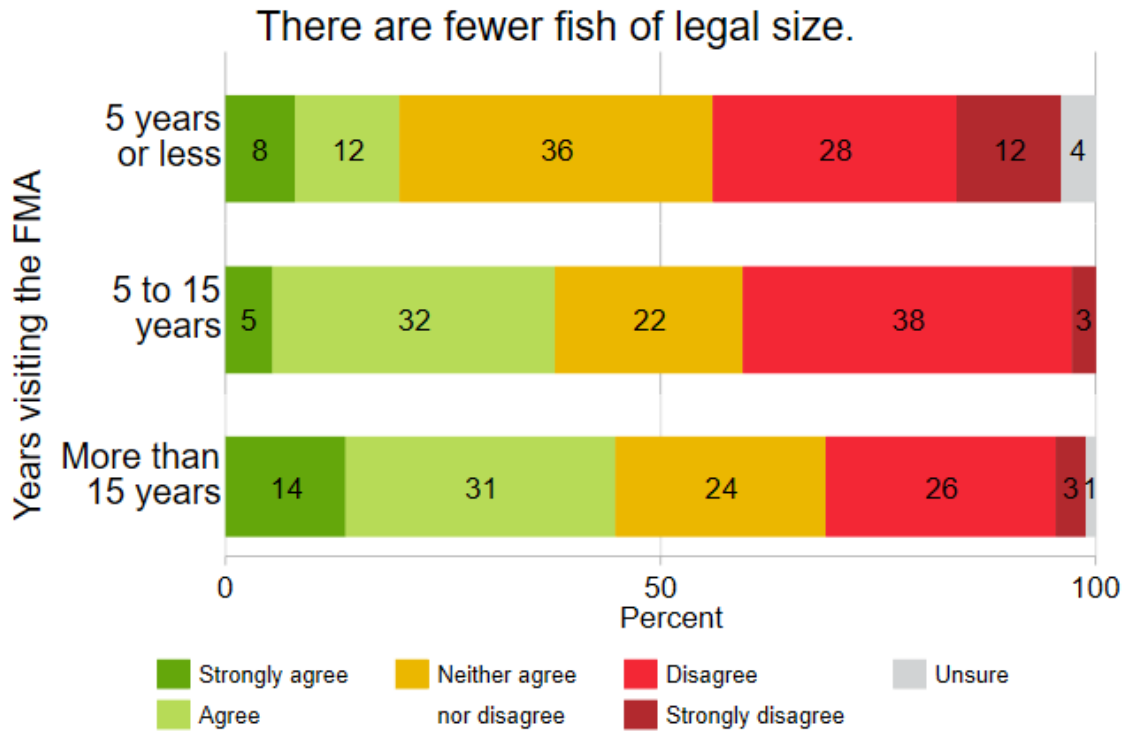


Among 51 respondents from Fiordland, 42 respondents from Southland, excl. Fiordland, 43 respondents from the South Island, excl. Southland, and 9 respondents from the North Island.
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Figure 6. Level of agreement to the statement, 'I am finding it takes longer to catch fish in general.' by where respondents live.

4.3.2 There are fewer fish of legal size.

A similar proportion of respondents think there are fewer fish of legal size (39% strongly agree or agree) than who do not think there are fewer fish of legal size (35% strongly disagree or disagree; Fig. C10, Appendix C).



Among 25 respondents who have been visiting for 5 years or less, 37 respondents who have been visiting for 5 to 15 years, and 90 respondents who have been visiting for more than 15 years.

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Figure 7. Level of agreement to the statement, 'There are fewer fish of legal size.' by how long respondents has been visiting the FMA.

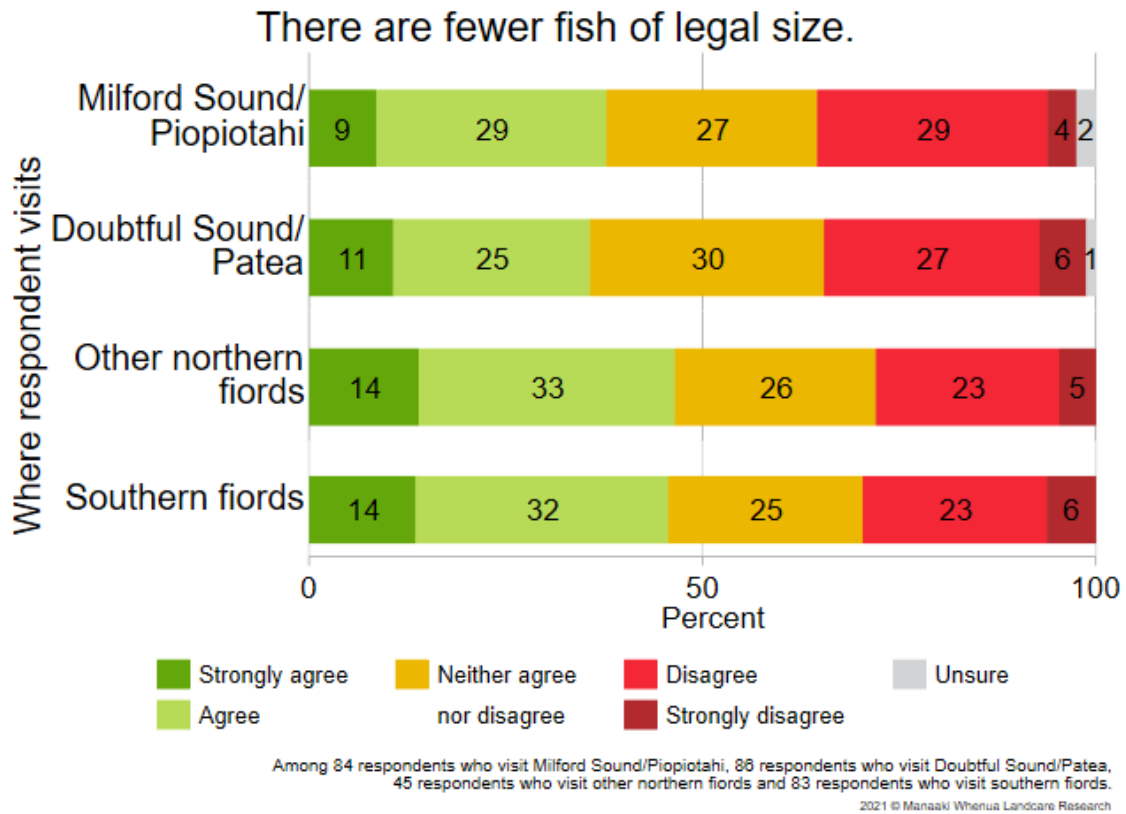


Figure 8. Level of agreement to the statement, 'There are fewer fish of legal size.' by where in the FMA respondents visit.

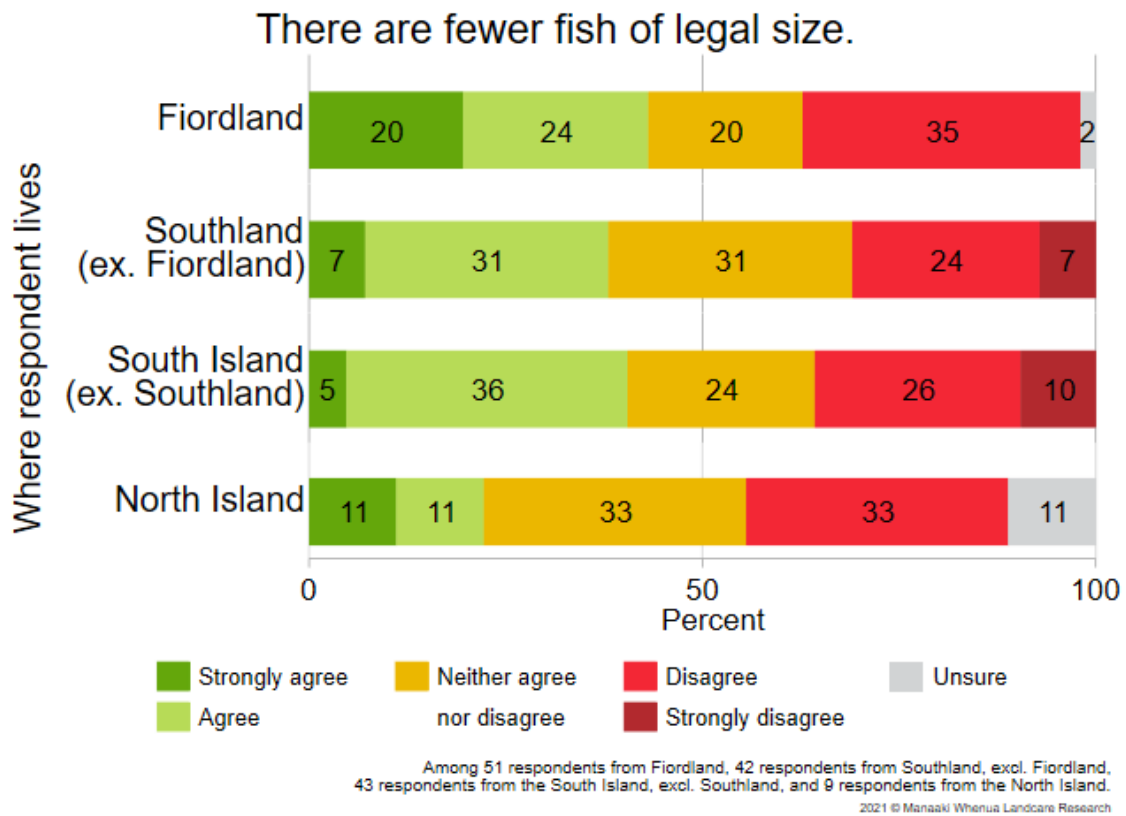


Figure 9. Level of agreement to the statement, 'There are fewer fish of legal size.' by where respondents live.

4.3.3 It has become easier to catch fish inside the habitat lines (in the fiords).

Half of the respondents (50%) do not think it has become easier to catch fish inside the habitat lines, while 34% neither agree nor disagree that it has become easier, 8% think it has become easier to catch fish inside the habitat lines and 7% are unsure (Fig. C10, Appendix C).

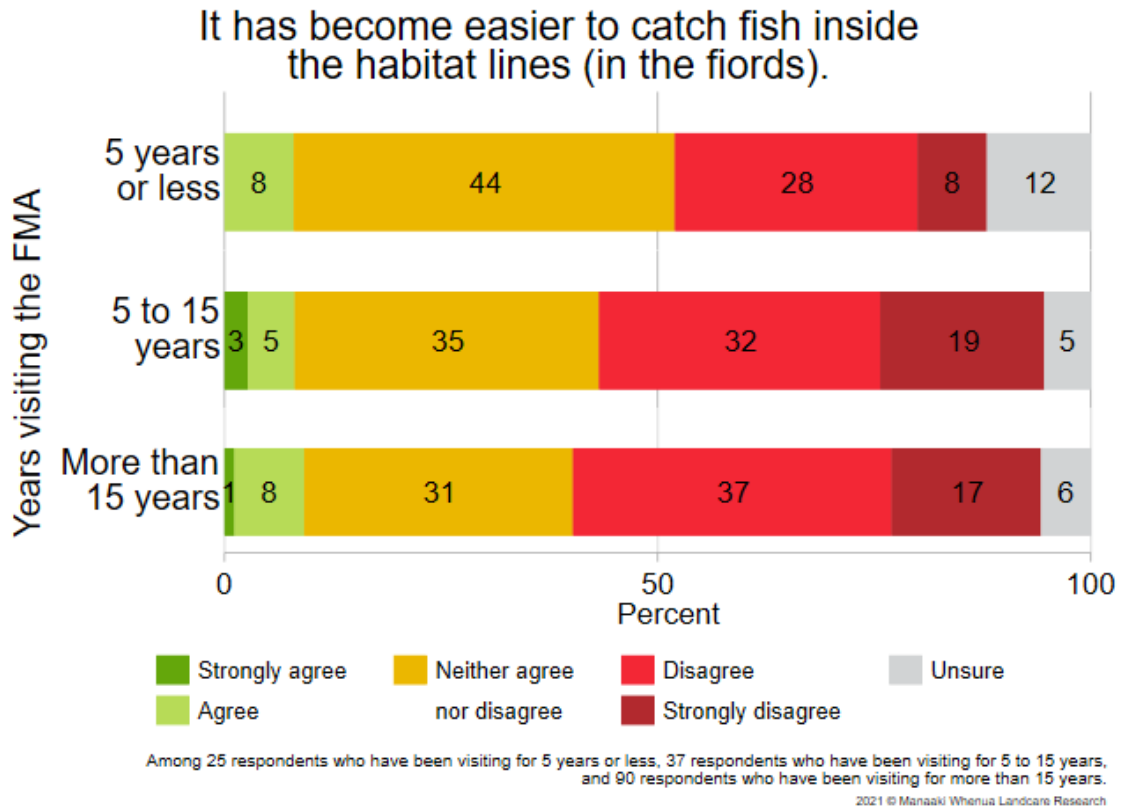
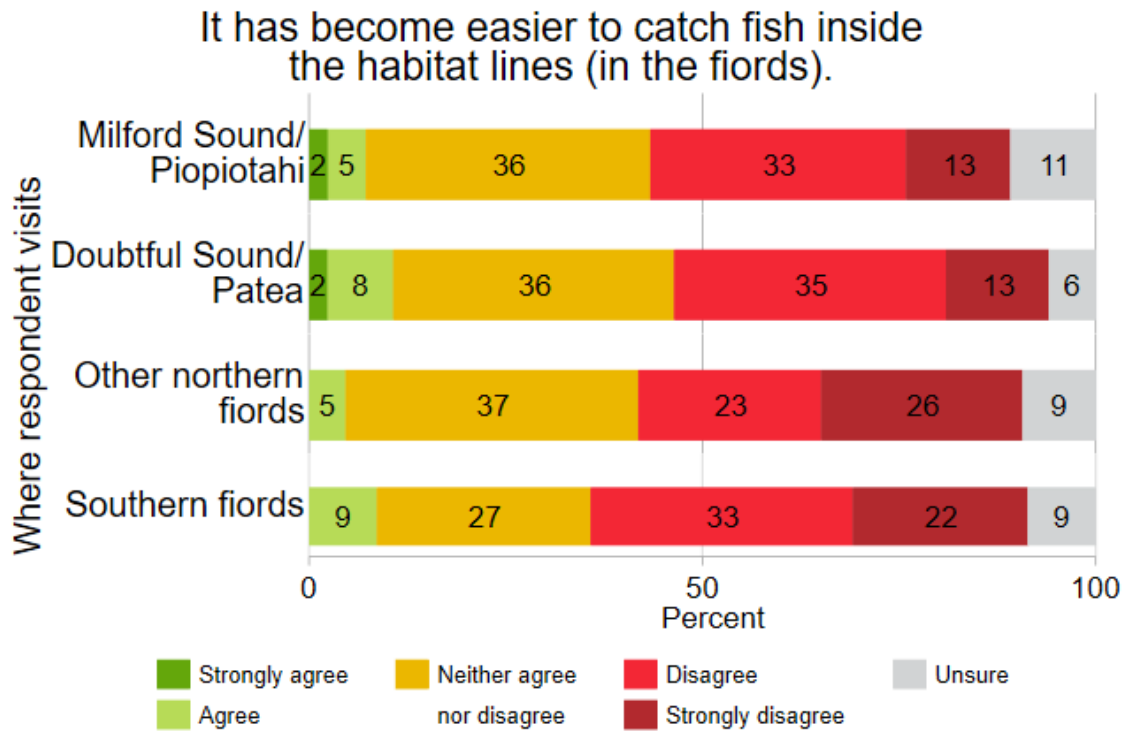
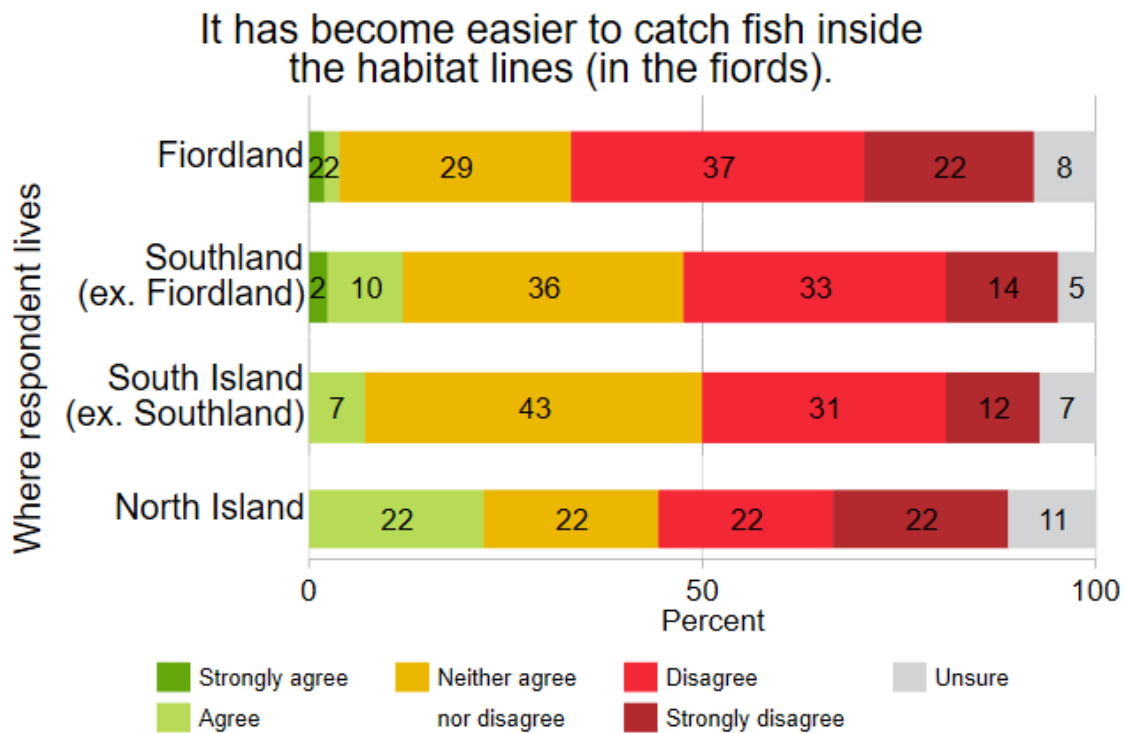


Figure 10. Level of agreement to the statement, 'It has become easier to catch fish inside the habitat lines (in the fiords).' by how long respondents has been visiting the FMA.



Among 84 respondents who visit Milford Sound/Piopiotaahi, 86 respondents who visit Doubtful Sound/Patea, 45 respondents who visit other northern fiords and 83 respondents who visit southern fiords.

Figure 11. Level of agreement to the statement, 'It has become easier to catch fish inside the habitat lines (in the fiords).' by where in the FMA respondents visit.

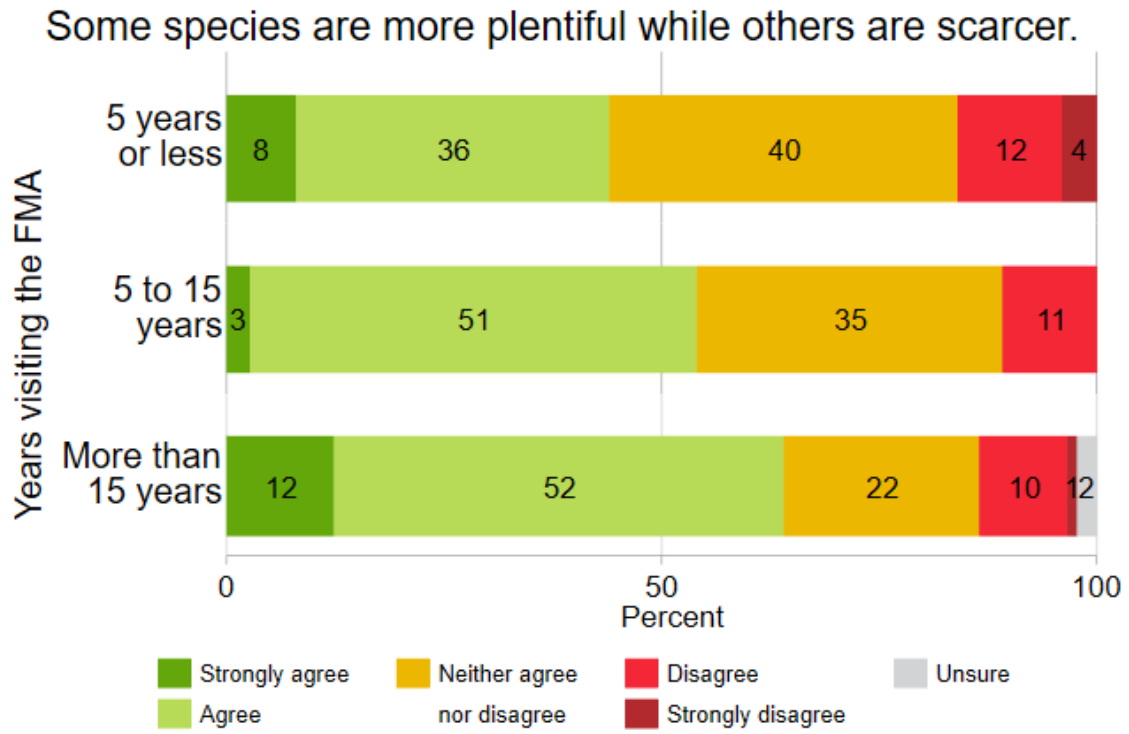


Among 51 respondents from Fiordland, 42 respondents from Southland, excl. Fiordland, 43 respondents from the South Island, excl. Southland, and 9 respondents from the North Island.

Figure 12. Level of agreement to the statement, 'It has become easier to catch fish inside the habitat lines (in the fiords).' by where respondents live.

4.3.4 Some species are more plentiful while other are scarcer.

Over half the respondents agree that some species are more plentiful while others are scarcer (9% strongly agree and 49% agree; Fig. C10, Appendix C). A small proportion (12%) of respondents disagree or strongly disagree with this statement, and 28% neither agree nor disagree that some species are more plentiful while others are scarcer.



Among 25 respondents who have been visiting for 5 years or less, 37 respondents who have been visiting for 5 to 15 years, and 90 respondents who have been visiting for more than 15 years.
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Figure 13. Level of agreement to the statement, ‘Some species are more plentiful while other are scarcer.’ by how long respondents has been visiting the FMA.

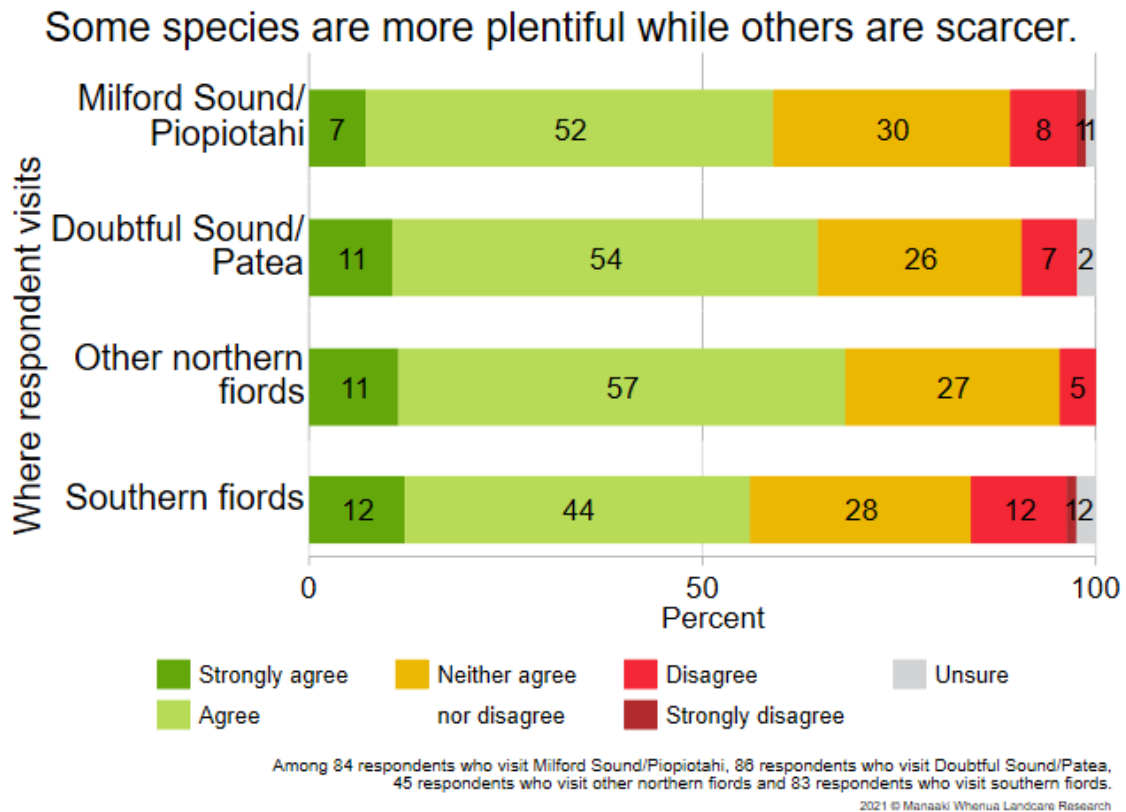


Figure 14. Level of agreement to the statement, 'Some species are more plentiful while other are scarcer.' by where in the FMA respondents visit.

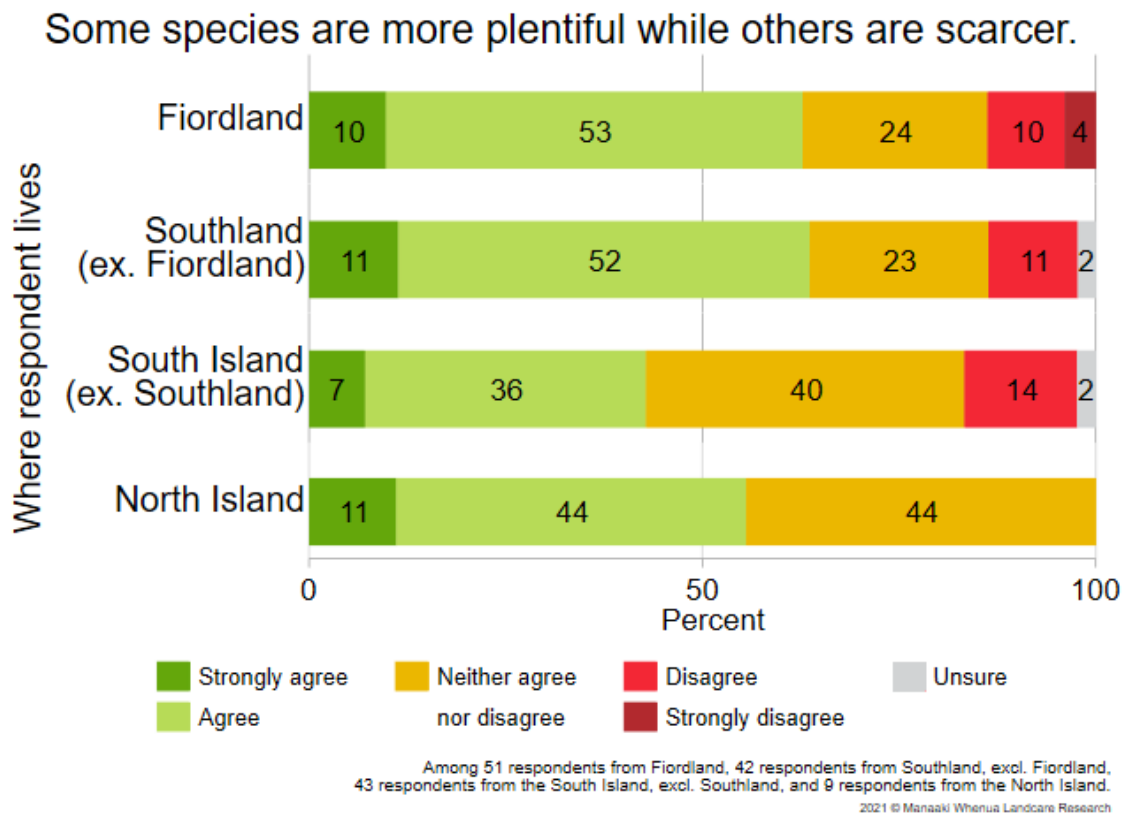
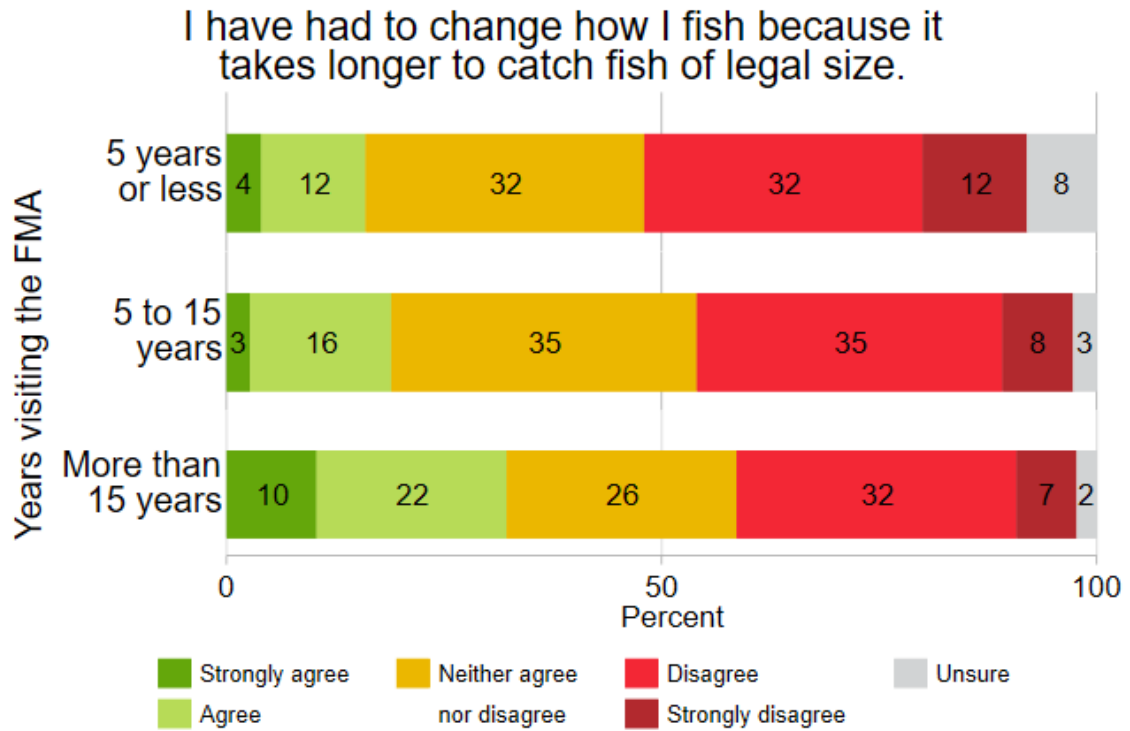


Figure 15. Level of agreement to the statement, 'Some species are more plentiful while other are scarcer.' by where respondents live.

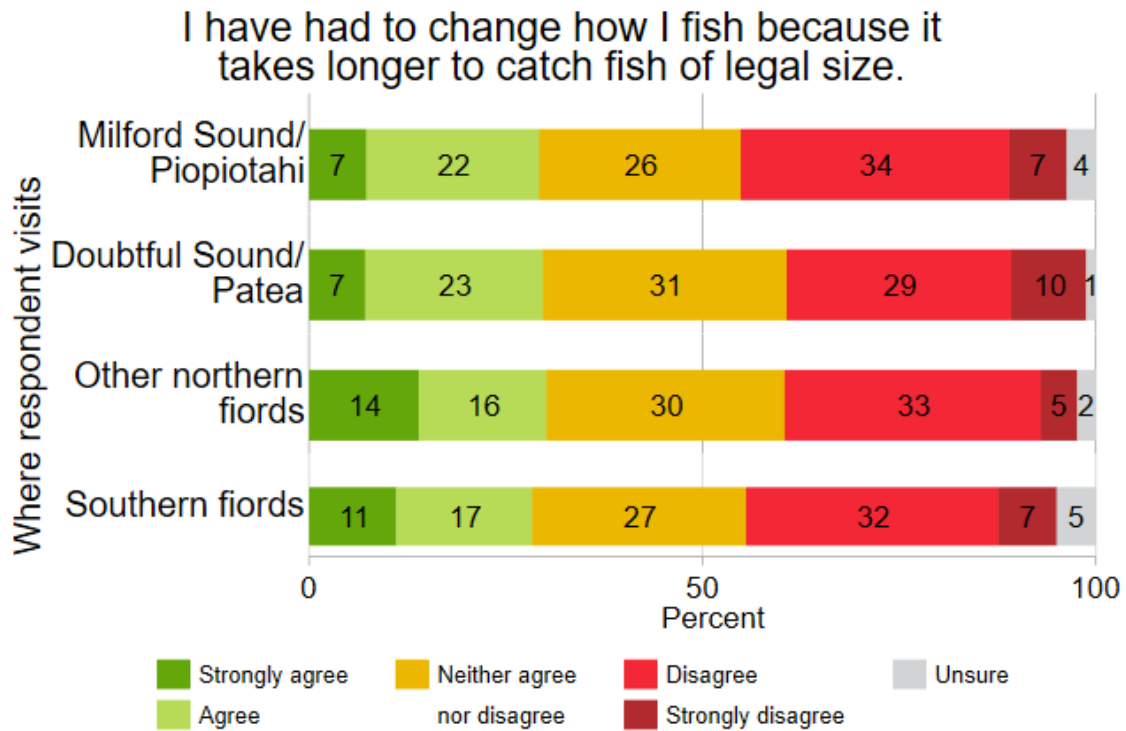
4.3.5 I have had to change how I fish because it takes longer to catch fish of legal size.

More respondents (41%) said they have not had to change how they fish than said they have had to change (26%) because it takes longer to catch fish of legal size (Fig. C10, Appendix C). An additional 30% neither agree nor disagree they have had to change how they fish.



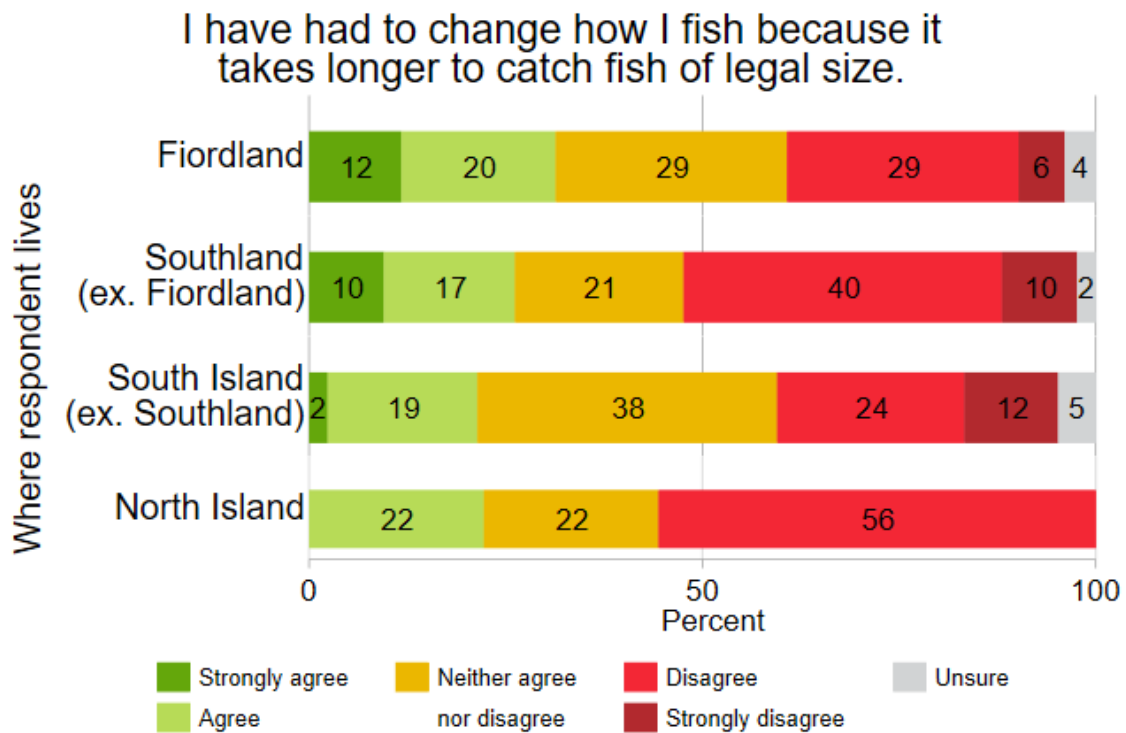
Among 25 respondents who have been visiting for 5 years or less, 37 respondents who have been visiting for 5 to 15 years, and 90 respondents who have been visiting for more than 15 years.

Figure 16. Level of agreement to the statement, 'I have had to change how I fish because it takes longer to catch fish of legal size.' by how long respondents has been visiting the FMA.



Among 84 respondents who visit Milford Sound/Piopiotaahi, 86 respondents who visit Doubtful Sound/Patea, 45 respondents who visit other northern fiords and 83 respondents who visit southern fiords.
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Figure 17. Level of agreement to the statement, 'I have had to change how I fish because it takes longer to catch fish of legal size.' by where in the FMA respondents visit.

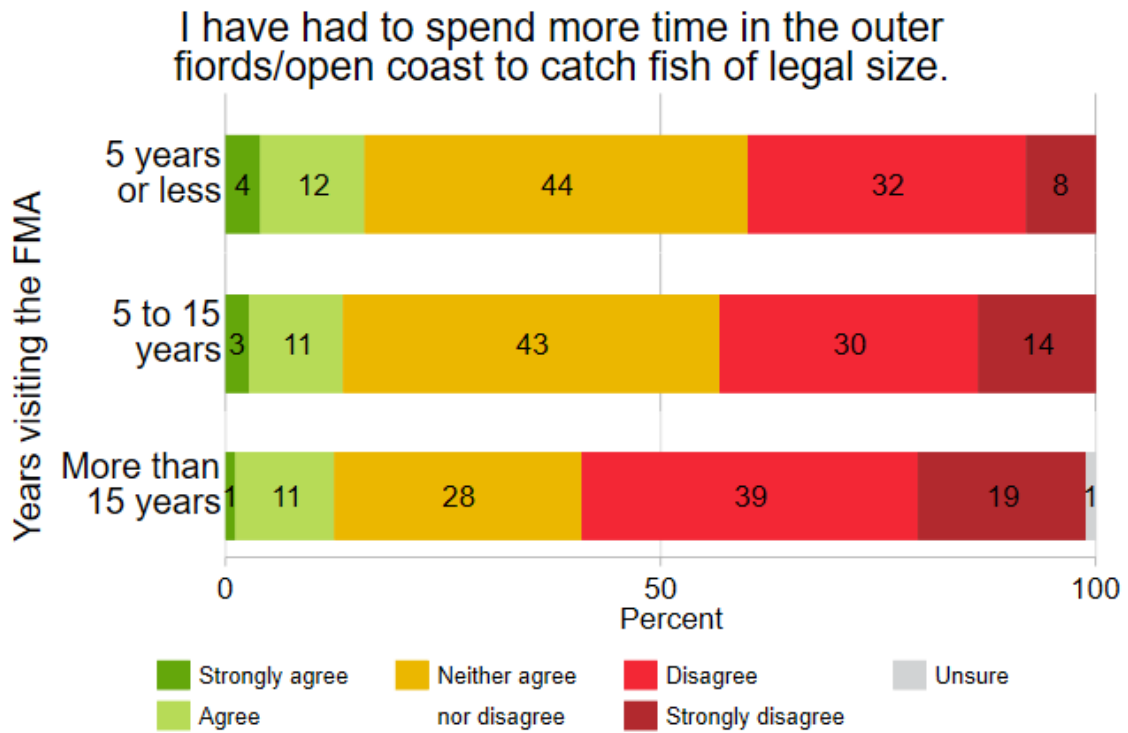


Among 51 respondents from Fiordland, 42 respondents from Southland, excl. Fiordland, 43 respondents from the South Island, excl. Southland, and 9 respondents from the North Island.
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Figure 18. Level of agreement to the statement, 'I have had to change how I fish because it takes longer to catch fish of legal size.' by where respondents live.

4.3.6 I have had to spend more time in the outer fiords / open coast to catch fish of legal size.

About half the respondents (51%) do not think they have had to spend more time in the outer fiords / open coast to catch fish of legal size than they used to (Fig. C10, Appendix C). An additional 35% of respondents neither agree nor disagree, and 13% of respondents said they have had to spend more time fishing in the outer fiords than they used to catch fish of legal size.



Among 25 respondents who have been visiting for 5 years or less, 37 respondents who have been visiting for 5 to 15 years, and 90 respondents who have been visiting for more than 15 years.

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Figure 19. Level of agreement to the statement, 'I have had to spend more time in the outer fiords/open coast to catch fish of legal size.' by how long respondents has been visiting the FMA.

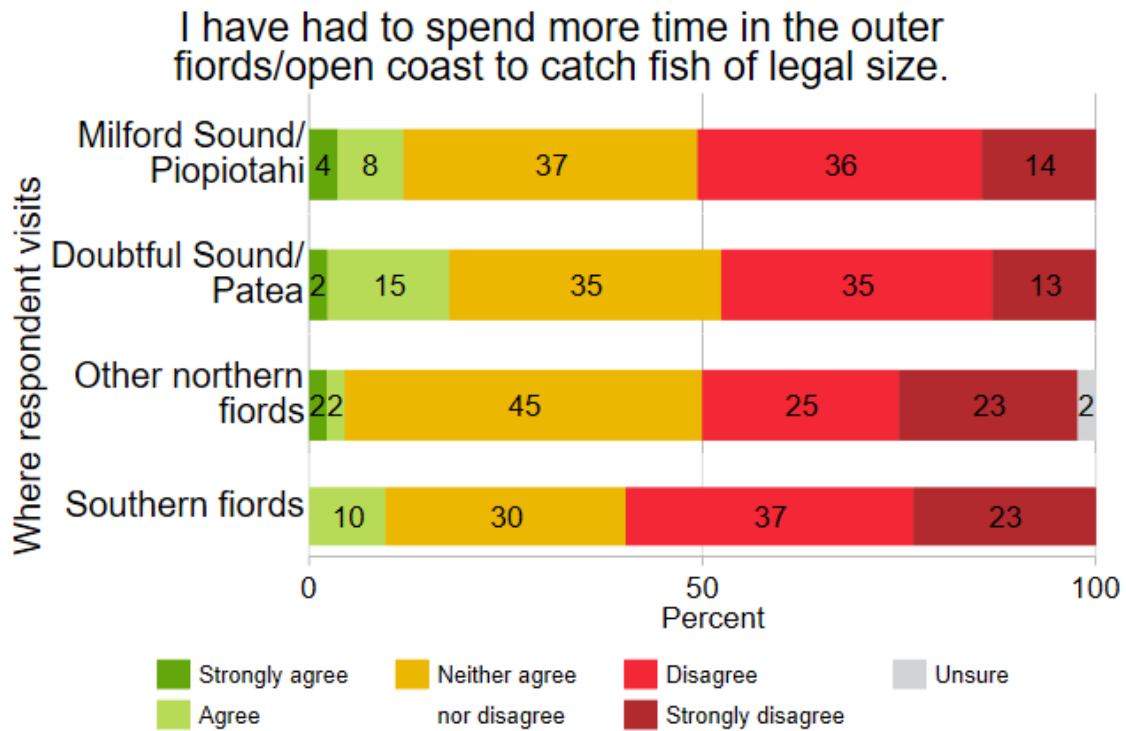


Figure 20. Level of agreement to the statement, 'I have had to spend more time in the outer fiords/open coast to catch fish of legal size.' by where in the FMA respondents visit.

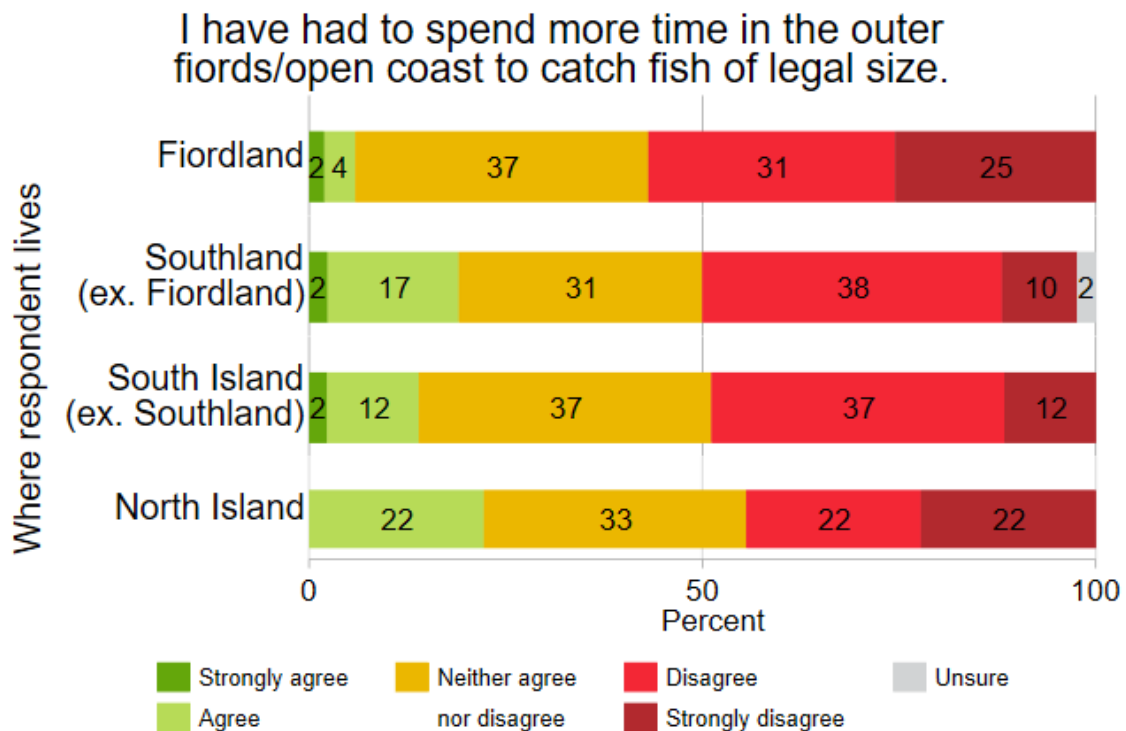
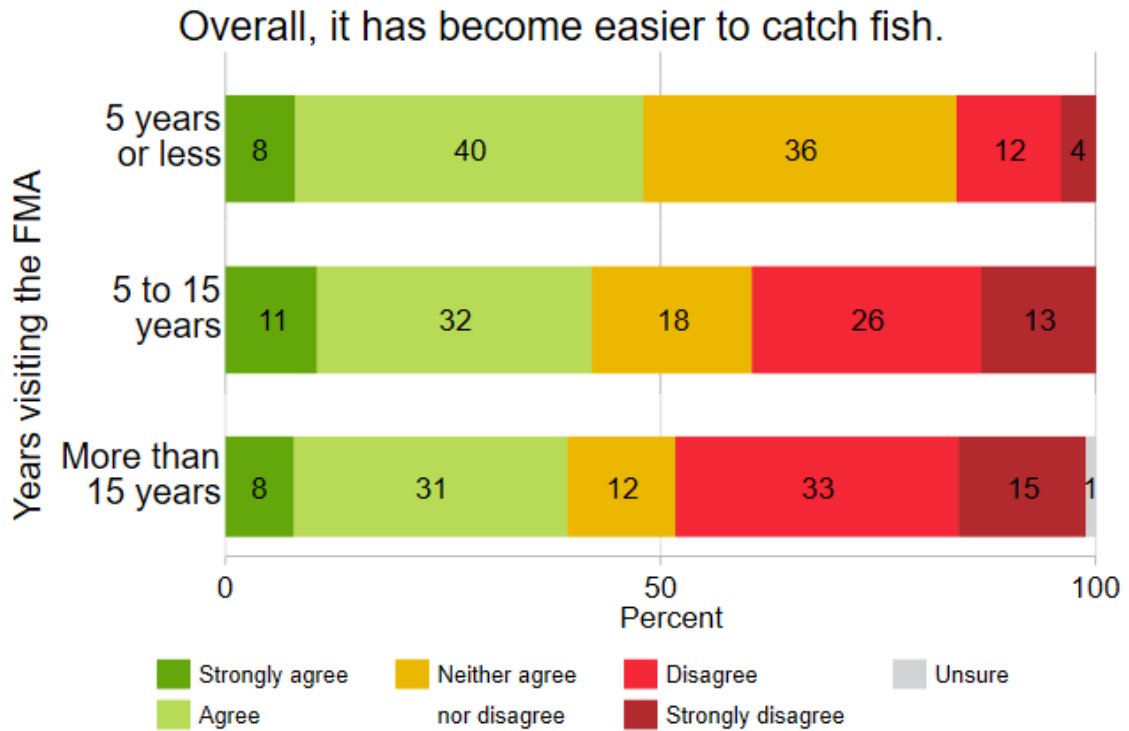


Figure 21. Level of agreement to the statement, 'I have had to spend more time in the outer fiords/open coast to catch fish of legal size.' by where respondents live.

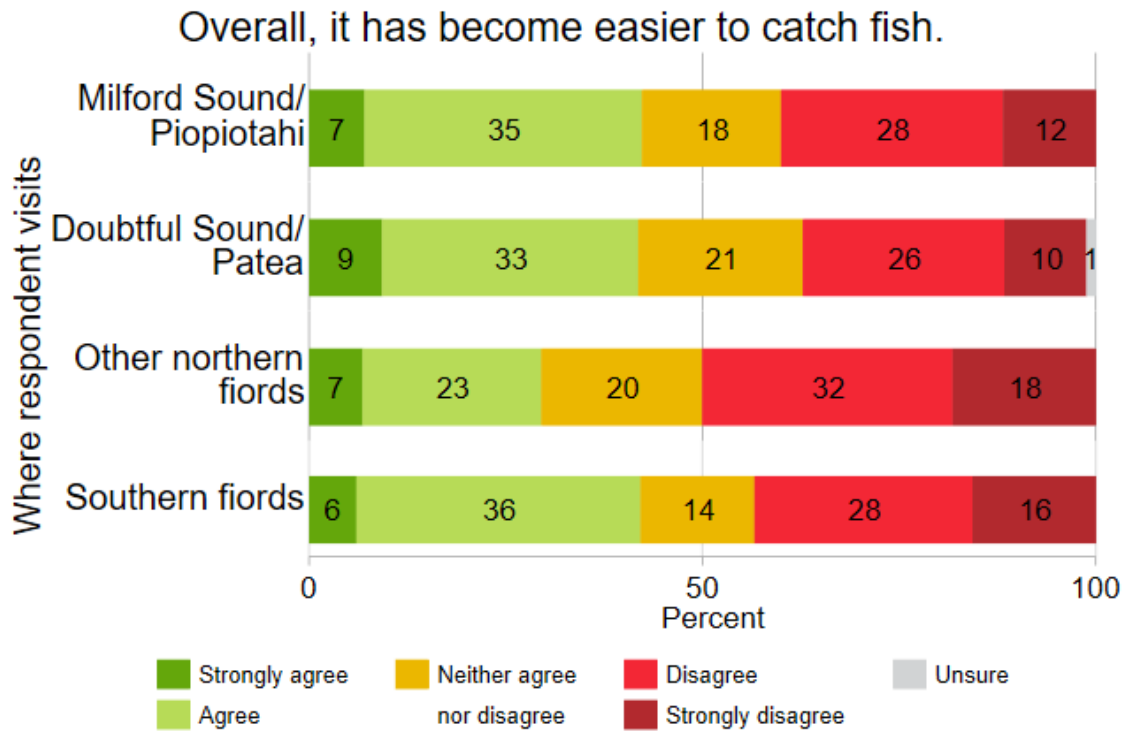
4.3.7 Overall, it has become easier to catch fish.

Respondents are split on whether it has become easier to catch fish over time: 42% strongly agree or agree, while 41% strongly disagree or disagree with this statement (Fig. C10, Appendix C) and the rest are unsure or neither agree nor disagree.



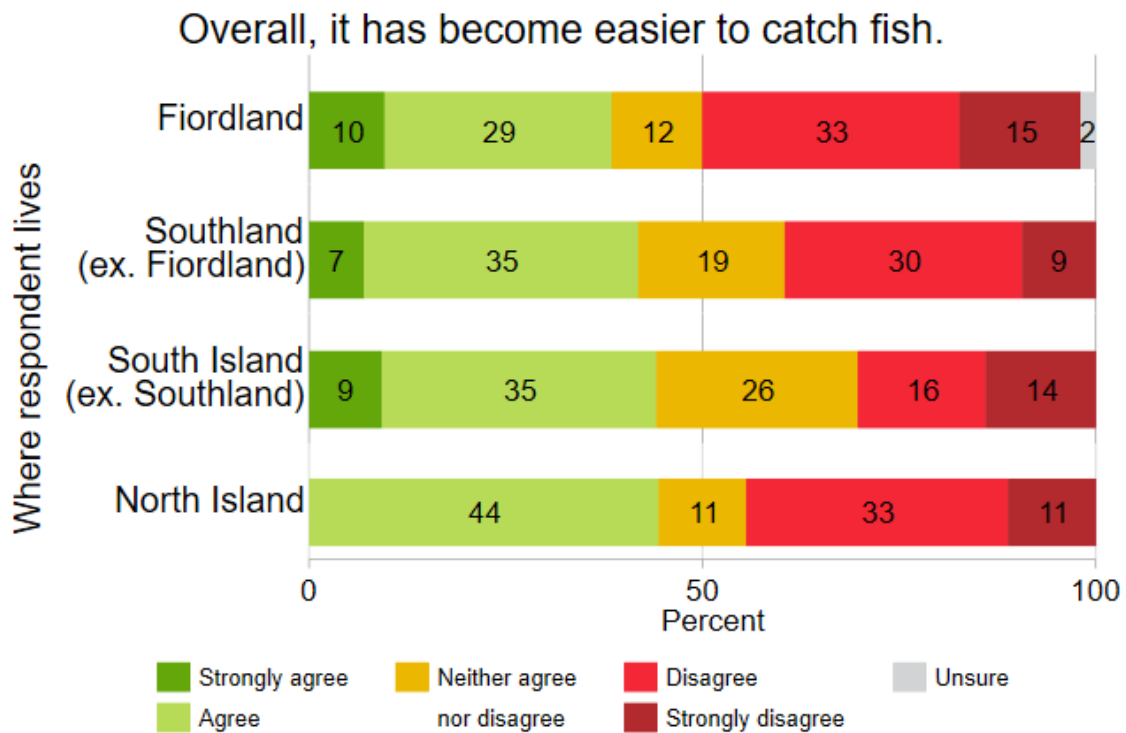
Among 25 respondents who have been visiting for 5 years or less, 37 respondents who have been visiting for 5 to 15 years, and 90 respondents who have been visiting for more than 15 years.
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Figure 22. Level of agreement to the statement, 'Overall, it has become easier to catch fish.' by how long respondents has been visiting the FMA.



Among 84 respondents who visit Milford Sound/Piopiotaahi, 86 respondents who visit Doubtful Sound/Patea, 45 respondents who visit other northern fiords and 83 respondents who visit southern fiords.
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Figure 23. Level of agreement to the statement, 'Overall, it has become easier to catch fish.' by where in the FMA respondents visit.



Among 51 respondents from Fiordland, 42 respondents from Southland, excl. Fiordland, 43 respondents from the South Island, excl. Southland, and 9 respondents from the North Island.
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Figure 24. Level of agreement to the statement, 'Overall, it has become easier to catch fish.' by where respondents live.

4.3.8 There are more recreational boats out fishing than there used to be.

Over half the respondents agree that there are more recreational boats fishing than there used to be (15% strongly agree and 36% agree; Fig. C10, Appendix C). One-quarter of respondents neither agree nor disagree with this statement, and 22% strongly disagree or disagree that there are more recreational fishing boats than there used to be.

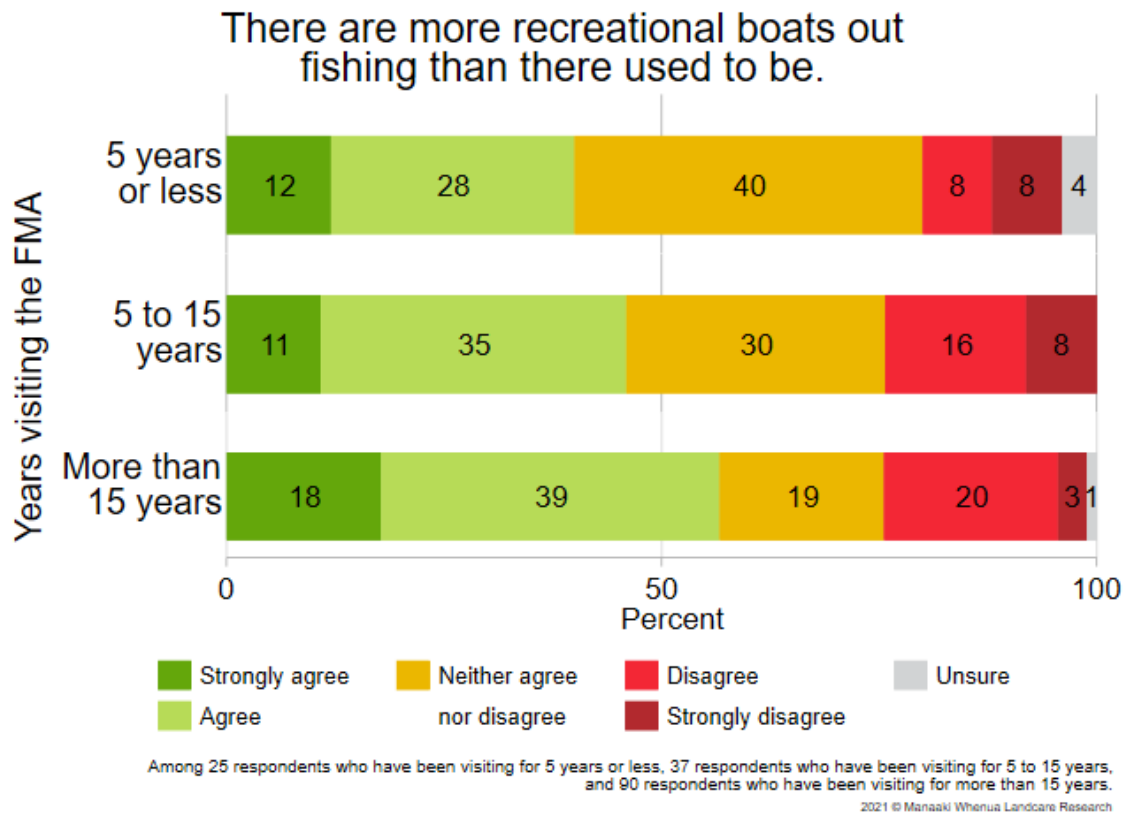


Figure 25. Level of agreement to the statement, 'There are more recreational boats out fishing than there used to be.' by how long respondents has been visiting the FMA.

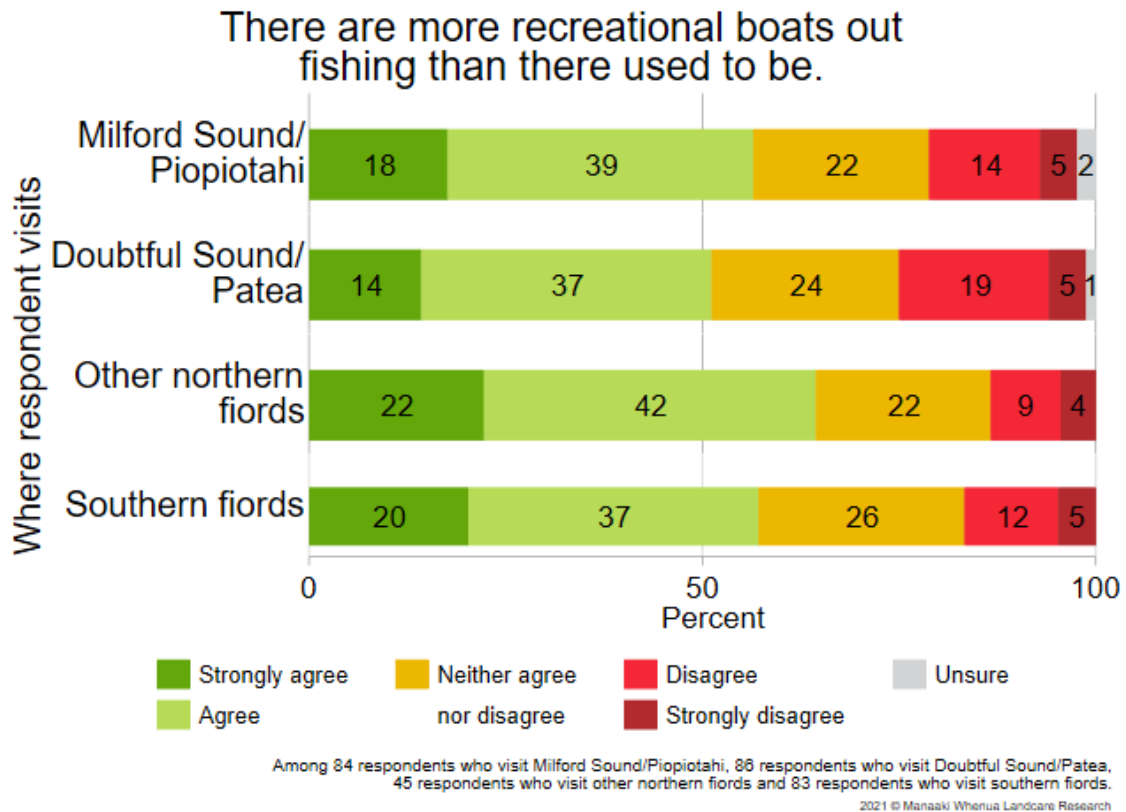


Figure 26. Level of agreement to the statement, 'There are more recreational boats out fishing than there used to be.' by where in the FMA respondents visit.

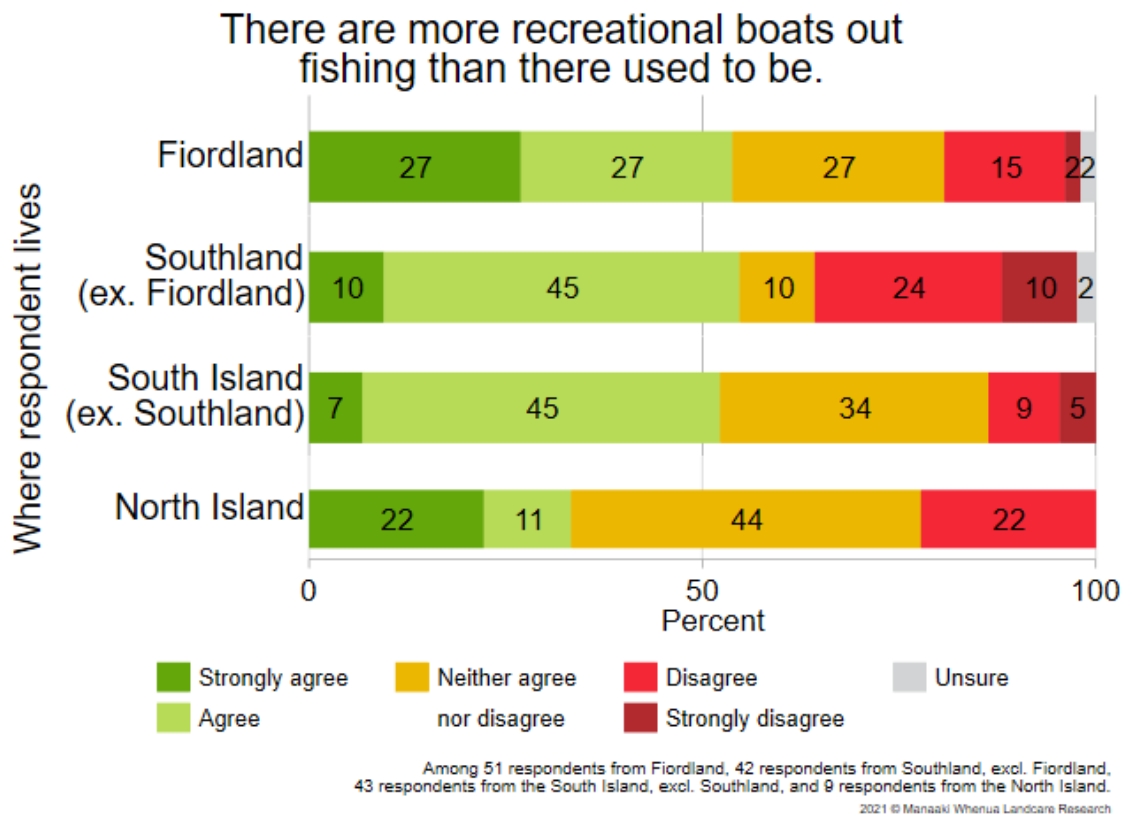
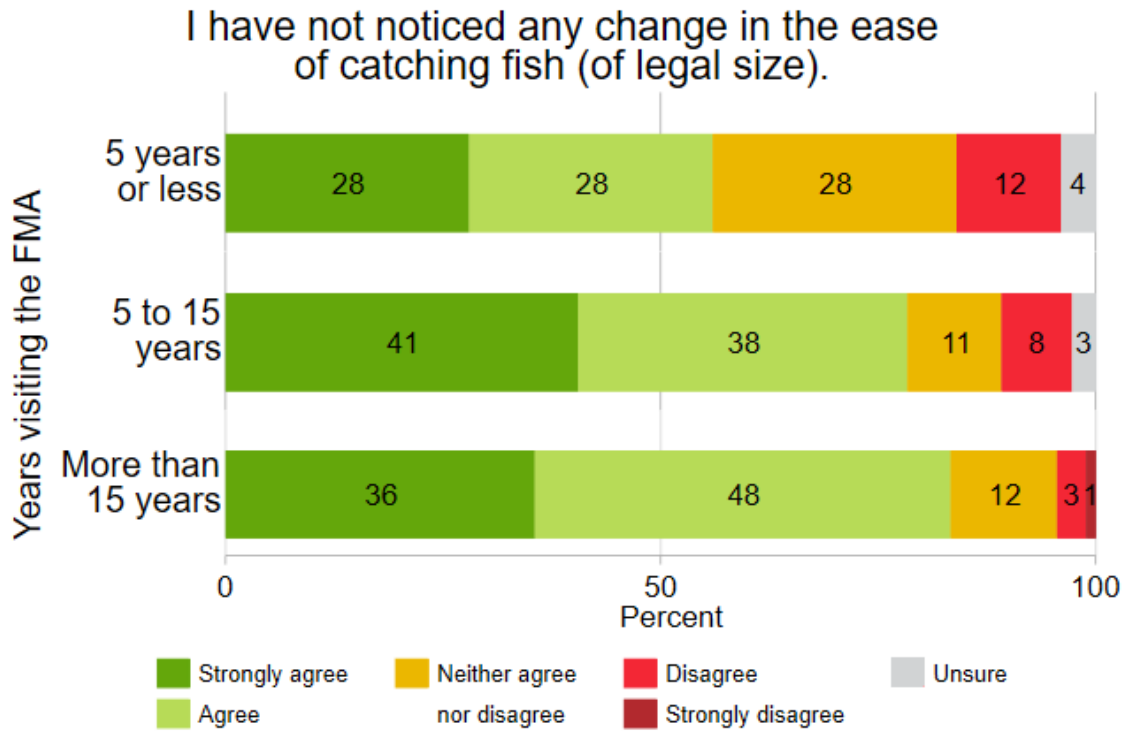


Figure 27. Level of agreement to the statement, 'There are more recreational boats out fishing than there used to be.' by where respondents live.

4.3.9 I have not noticed any change in the ease of catching fish (of legal size).

Respondents overwhelmingly agree that they have not noticed any change in the ease of catching fish of legal size: 36% strongly agree and 42% agree with this statement (Fig. C10, Appendix C). Less than 7% of respondents strongly disagree or disagree with this statement.



Among 25 respondents who have been visiting for 5 years or less, 37 respondents who have been visiting for 5 to 15 years, and 90 respondents who have been visiting for more than 15 years.
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Figure 28. Level of agreement to the statement, 'I have not noticed any change in the ease of catching fish (of legal size).' by how long respondents has been visiting the FMA.

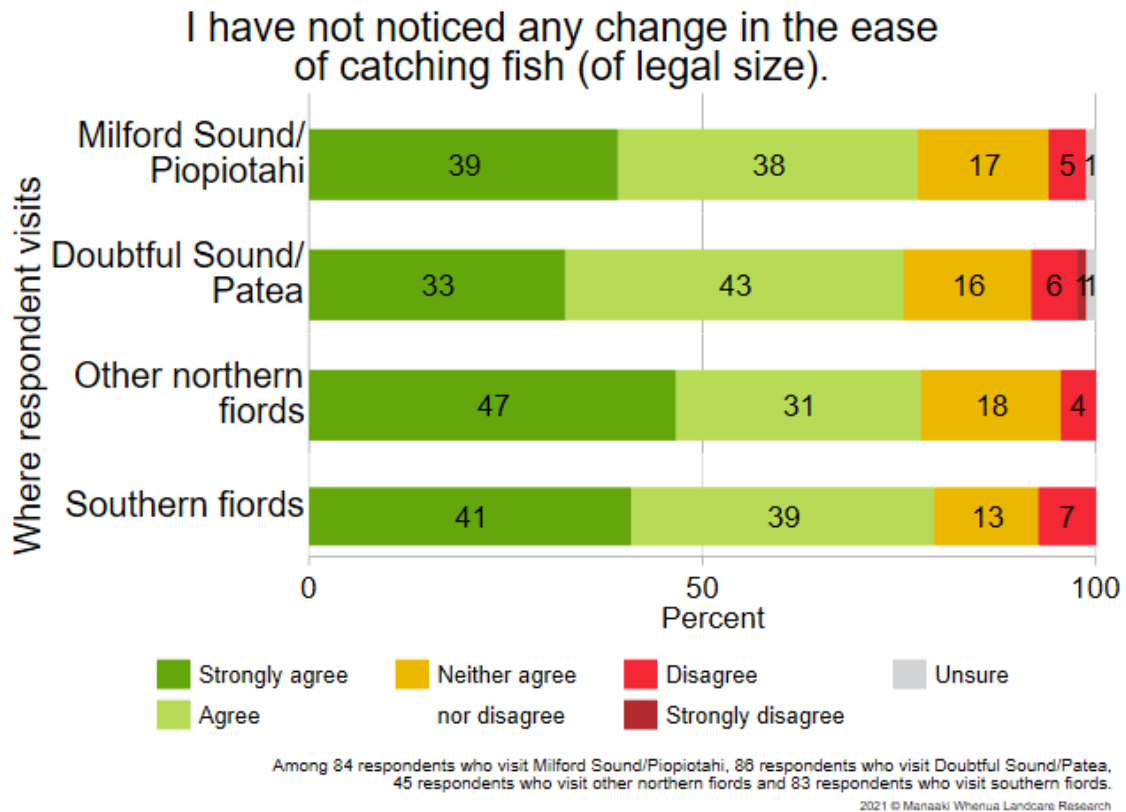


Figure 29. Level of agreement to the statement, 'I have not noticed any change in the ease of catching fish (of legal size),' by where in the FMA respondents visit.

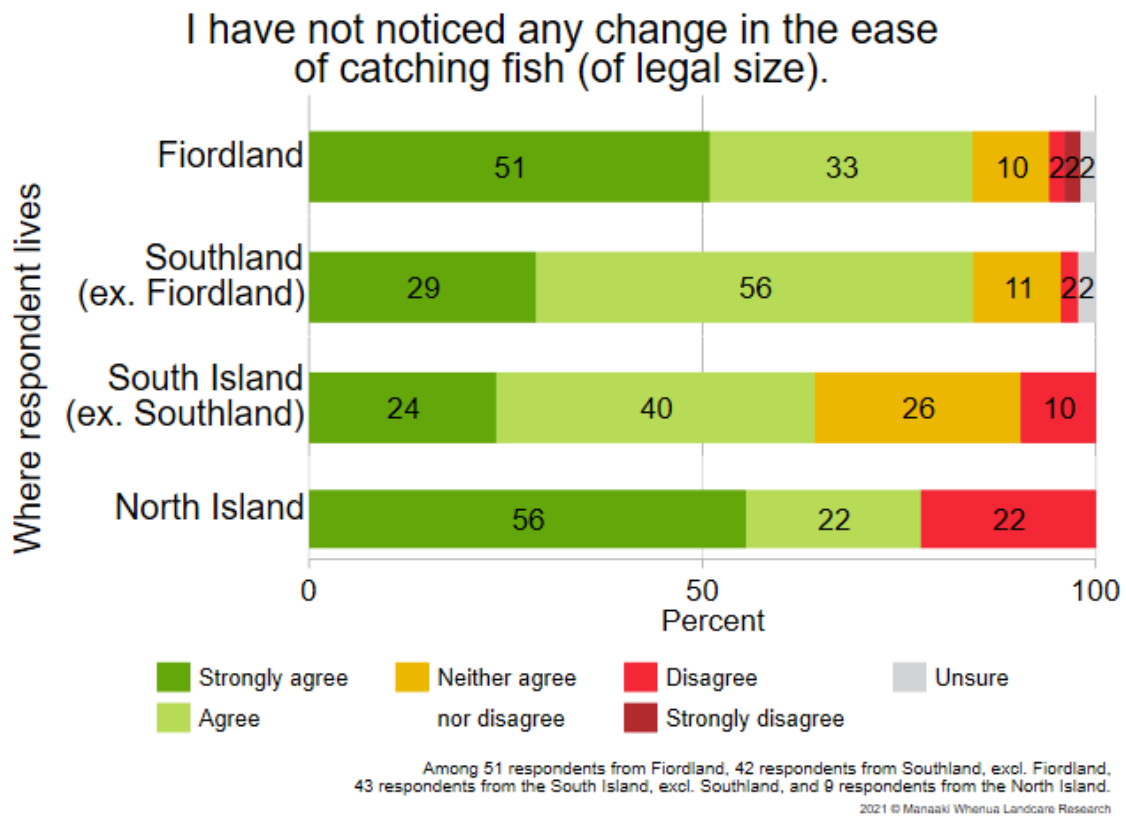


Figure 30. Level of agreement to the statement, 'I have not noticed any change in the ease of catching fish (of legal size),' by where respondents live.

4.4 How do you feel about the future of recreational fishing in the FMA?

Respondents are relatively positive about the future of recreational fishing in the short to medium term but are more uncertain about the long-term future of fishing (Fig. C11, Appendix C). Over half the respondents are very or somewhat positive about fishing in the FMA within the next 5 years (59%) and in the next 5 to 10 years (52%). While the overall proportion of respondents who are very or somewhat negative about fishing the FMA is consistent in the short (22%), medium (26%) and long term (24%), an increasing proportion of respondents are unsure about the future (e.g. 1% are unsure within the next 5 years and 14% are unsure within the next 20 to 50 years). These perceptions are segmented by age of respondents (Figure 31), where respondents live (Figure 32), and which fiords in the FMA respondents visit (Figure 33).

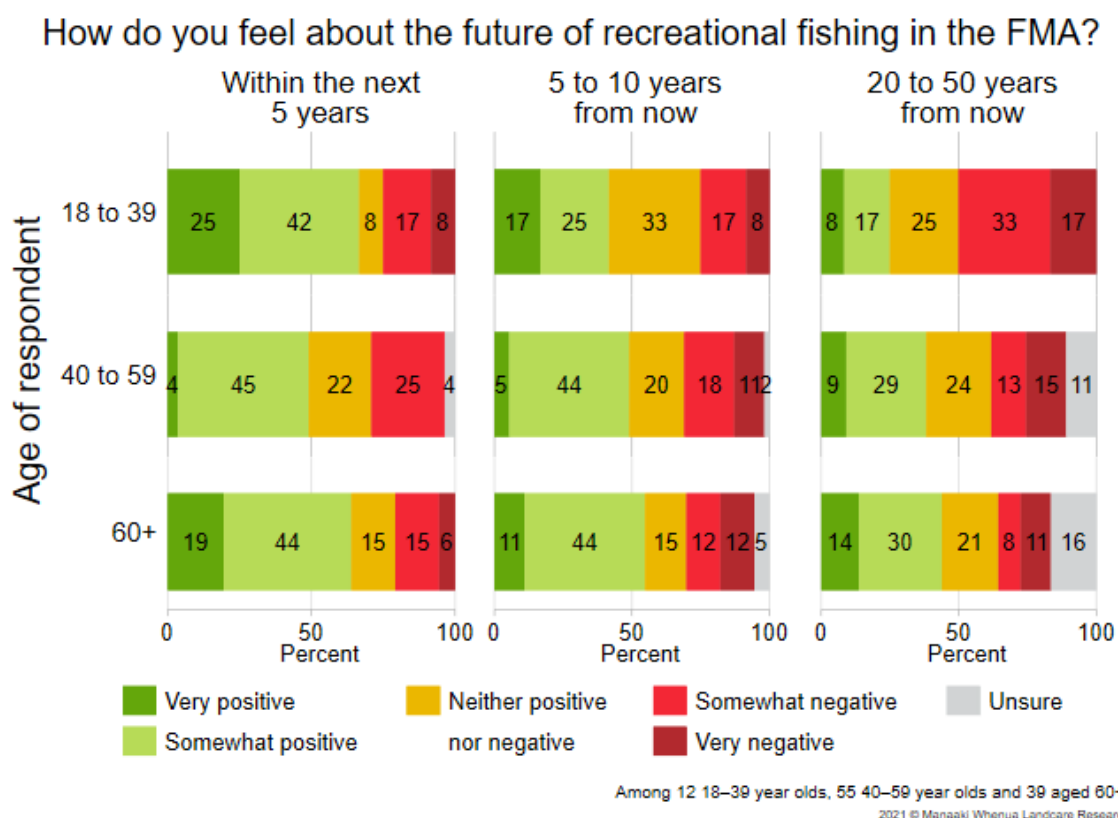


Figure 31. How respondents feel about the future of fishing in the FMA, by age of respondent.

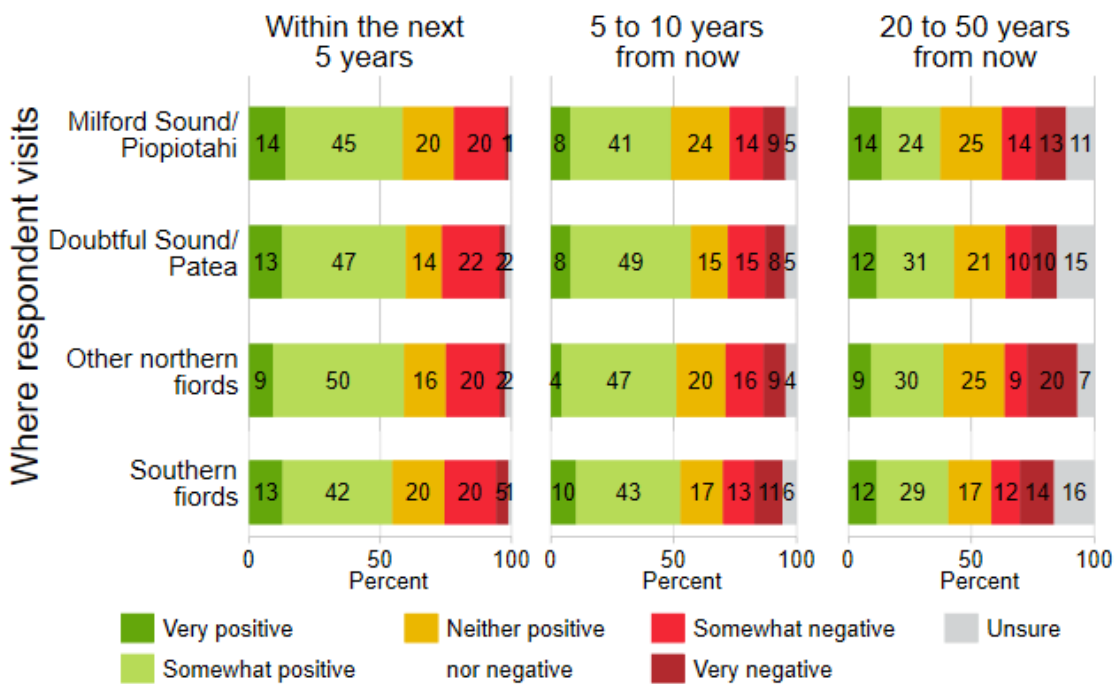
How do you feel about the future of recreational fishing in the FMA?



Among 55 respondents from Fiordland, 48 respondents from Southland, excl. Fiordland, 48 respondents from the South Island, excl. Southland, and 10 respondents from the North Island.
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Figure 32. How respondents feel about the future of fishing in the FMA, by where respondents live.

How do you feel about the future of recreational fishing in the FMA?



Among 88 respondents who visit Milford Sound/Piopirotahi, 86 respondents who visit Doubtful Sound/Patea, 44 respondents who visit other northern fiords, and 86 respondents who visit southern fiords.
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Figure 33. How respondents feel about the future of fishing in the FMA, by where in the FMA respondents visit.

4.5 How open would you be to a change in the recreational fishing rules?

Most respondents (92%) support at least minor changes to the current recreational fishing rules, while 8% of respondents would not support any changes (Figure 34).

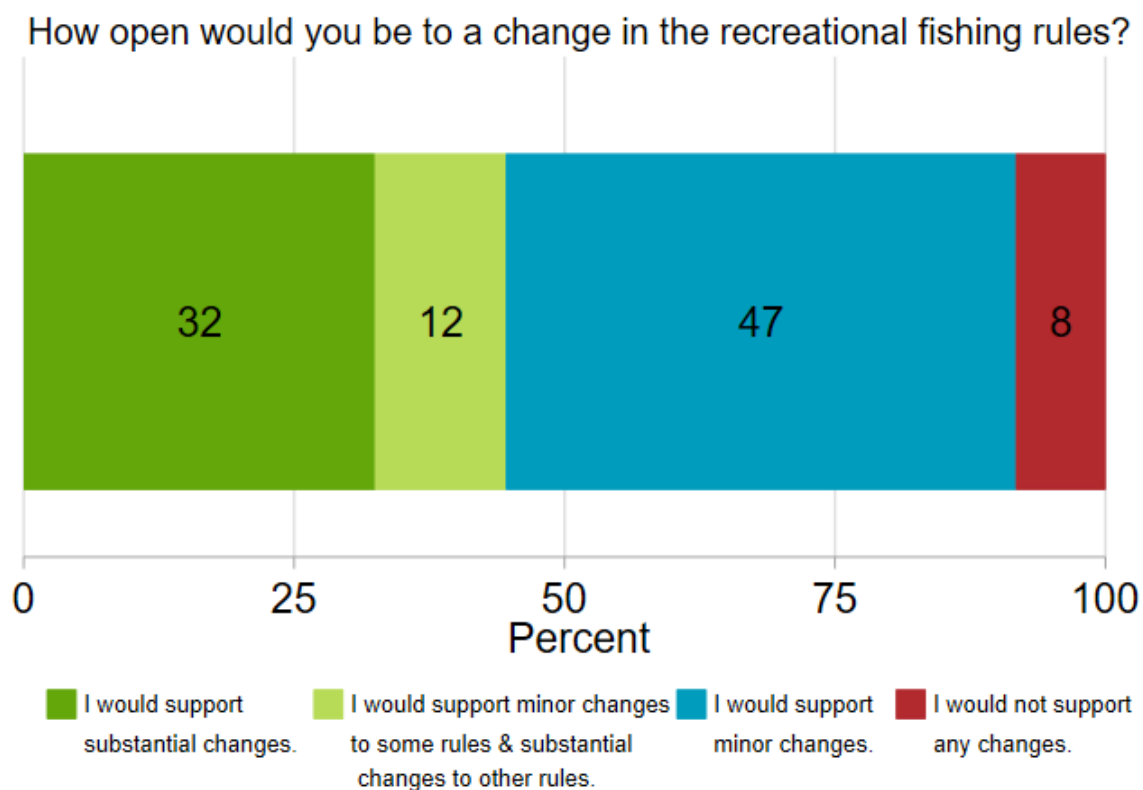


Figure 34. How open would respondent be to changes in the recreational fishing rules?

Table 1. Characteristics of respondents who said they would be open to substantial changes (column 1), minor and substantial changes (column 2), minor changes (column 3) or no changes (column 4) to the FMA recreational fishing rules.

	Substantial changes	Minor and substantial changes	Minor changes	No change
Age (years)	40 to 49	70 or older	50 to 59	50 to 59
Where do you live?	Fiordland	Fiordland or Southland	South Island	South Island
Where do you visit while in the FMA?	Southern fiords	Doubtful Sound/ Patea or Southern fiords	Milford Sound/ Piopiotahi	Milford Sound/ Piopiotahi
How regularly do you fish when you visit the FMA?	Fishing is one of several activities	Fishing is one of several activities	Fish on most trips	Fishing is one of several activities
How often do you visit the FMA?	3 to 6 months	3 to 6 months	Once a year	3 to 6 months

Note: Characteristics are the highest proportion of responses by age, where respondent lives, where in the FMA the respondent visits, how regularly respondent fishes when visiting the FMA, and how often respondent visits the FMA. Full table in Appendix B.

4.6 Suppose an app was developed that would allow fishers to report fishing data to inform future management activities. How likely would you be to use such an app?

Most respondents said they are very likely (51%) or somewhat likely (30%) to use an app to report their fishing data for management activities (Figure 35). A small proportion of respondents said they are somewhat or very unlikely (6% and 7%, respectively) to use such an app, while 3% are neither likely nor unlikely and 4% are unsure if they would use an app.

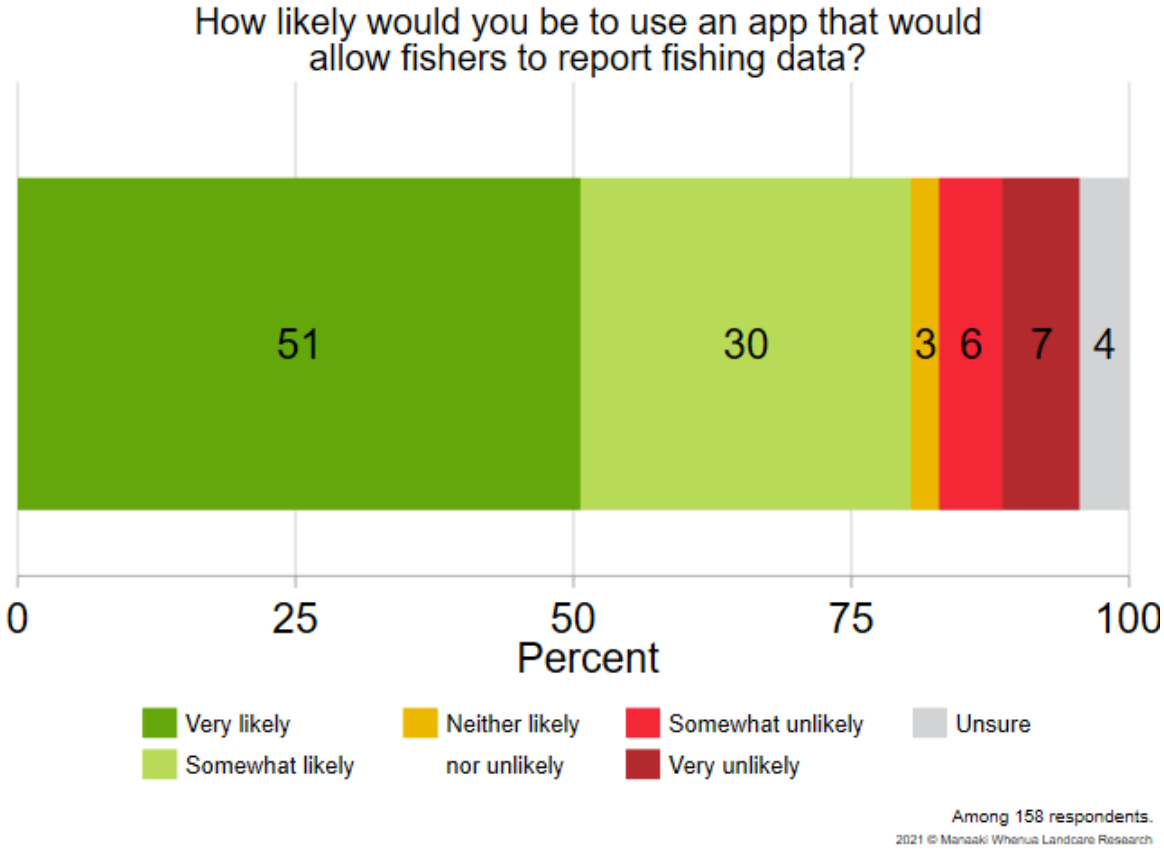


Figure 35. Stated likelihood of respondents using an app to report fishing experience and data.

5 Conclusion

The Guardians contracted MWLR at the end of 2020 to conduct a survey of recreational fishers in the FMA. A questionnaire draft was provided to MWLR by the Guardians in November 2020. The questionnaire was revised, and a final draft of the questionnaire was provided by MWLR to the Guardians on 18 December 2020 for approval. The questionnaire was programmed using Qualtrics and a link and QR code to the final questionnaire were sent to the Guardians on 19 January 2021. The survey was live for 4 weeks from 20 January to 17 February 2021 and received 214 responses, 190 of which were from those who fish in the FMA.

This short report serves as a summary of the survey results and includes figures for survey questions and figures for some questions segmented by respondent characteristics. In consultation with the Guardians, survey questions on perceptions of fishing quality at present, changes over time to fishing in the FMA, and of the future of fishing in the FMA and level of openness to changes to the recreational fishing rules were segmented by respondent characteristics.

Overall, we find that respondents' attitudes towards the current state of the fishing the FMA are relatively positive, perceptions of changes to fishing in the FMA over time are varied and respondents are relatively positive about the future of recreational fishing in the short to medium term but are more uncertain about the long-term future of fishing.

We find that most respondents support at least minor changes to the current recreational fishing rules: 32% support substantial changes, 12% support minor changes to some rules and substantial changes to other rules, and 47% support minor changes to the current recreational fishing rules.

We also find that most respondents said they are very likely or somewhat likely to use an app that would allow them to report their fishing data for management activities.

Appendix A – Questionnaire

Intro

Manaaki Whenua – Landcare Research is conducting this survey on behalf of the Fiordland Marine Guardians (the Guardians). The Guardians are responsible for managing and caring for Fiordland’s precious marine environment and are formally recognised under the Fiordland (Te Moana o Atawhenua) Marine Management Act 2005.

The purpose of this survey is to help build a broader picture of the experiences and concerns of those who fish in the Fiordland Marine Area (FMA). The Guardians want to understand fishers’ concerns about fisheries sustainability, the current health of recreational fish stocks and overall fishing experience in the FMA as they develop recommendations to the Minister of Oceans and Fisheries.

The survey should take less than 15 minutes. Participation in the survey is voluntary. The results are anonymous. [Click here to read MWLRs statement on survey privacy and ethics.](#)

The Guardians will consider the results from this survey alongside input from two focus group hui before making recommendations to the Minister of Oceans and Fisheries, Hon. David Parker, in mid-2021. The results from this survey will also be made available online on the Guardian’s website: fmg.org.nz. If you have questions regarding the survey or the work of the Guardians, please contact them at info@fmg.org.nz. The survey is live until 17th February 2021.

A few things about taking the survey:

- The survey can be taken on a computer, a tablet or a smart phone.
- Click the right arrow to move forward and the left arrow to move backward. If you do not see the arrows, please scroll down.

Q1 Please select YES and then click the right arrow to participate in the survey.

- YES, take me to the survey (1)
- No, I do not want to take the survey (2)

Questions

What is the Fiordland Marine Area?

The Fiordland (Te Moana o Atawhenua) Marine Area (FMA) encompasses the Fiordland coastal marine area waters, commencing from Awarua Point on the West Coast of the South Island and extending 12 nautical miles seaward from the mean high-water springs mark along the Fiordland coast to its South-Eastern boundary point at Sand Hill Point, but excluding the coastal marine area around the Solander Islands. (Source: Ministry for Primary Industries)

[Click here to view the Department of Conservation's interactive map of the FMA.](#)

Q4 How long have you been visiting the FMA?

- Less than 1 year (1)
- 1 to 5 years (2)
- 5 to 10 years (3)
- 10 to 15 years (4)
- More than 15 years (5)
- I have never visited the FMA (6)

Skip To: End of Survey If Q4 = 6

Q5 Which areas do you regularly visit? Choose all that apply.

- Milford Sound/Piopiotaahi (1)
- Doubtful Sound/Patea (2)
- Other northern fiords (3)
- Southern fiords (4)

Q6 In a typical year, how often do you visit the FMA?

- I usually visit once or twice in a year. (1)
- I usually visit every 3 to 6 months. (2)
- I usually visit once a month or so. (3)
- I usually visit a few times a month. (4)
- I usually visit several times a week. (5)
- I usually visit less than once a year/do not visit every year. (6)

Q7 How do you get onto/into the water? Choose all that apply.

- Private power boat (1)
- Charter vessel (2)
- Tourist vessel (3)
- Yacht (4)
- Kayak (5)
- Commercial fishing vessel (6)

- Aircraft to shore (7)
- Diving (8)
- Dock/coastline (9)
- Other (please specify): (10) _____
- I never get into or onto the water when I visit coastal Fiordland including fishing from the shoreline. (11)

Skip To: End of Survey if Q7 = 11

Q8 How regularly do you fish when you visit the FMA?

- I do not fish when I visit the FMA. (1)
- Fishing is one of several activities that I do in the FMA. (2)
- I fish on most trips and/or most days on multi-day trips to the FMA. (3)
- Fishing is the main activity when I visit the FMA. (4)

Skip To: Q16 If Q8 = 1

Q9 Where do you stay while on your fishing trips?

- Onboard (1)
- Private accommodation at Martins Bay (2)
- Milford township (3)
- DOC huts (4)
- Deep Cove Hostel (5)
- Other (please specify): (6) _____

Q10 From your experience, how would you rate the overall fishing in the FMA at present?

- Extremely good/plentiful fish and easy to catch (1)
- Somewhat good/relatively easy to catch fish (2)
- Neither good nor bad/sometimes easy and sometimes difficult to catch fish (3)
- Somewhat bad/relatively difficult to catch fish (4)
- Extremely bad/very difficult or nearly impossible to catch fish (5)

Q11 How has the fishing in the FMA changed since you started visiting?

I am finding it takes longer to catch fish in general. (1)	▼ Strongly agree (1) ... Unsure (6)
There are fewer fish of legal size. (2)	▼ Strongly agree (1) ... Unsure (6)
It has become easier to catch fish inside the habitat lines (in the fiords). (3)	▼ Strongly agree (1) ... Unsure (6)
Some species are more plentiful while others are scarcer. (4)	▼ Strongly agree (1) ... Unsure (6)

I have had to change how I fish because it takes longer to catch fish of legal size. (5)	▼ Strongly agree (1) ... Unsure (6)
I have had to spend more time in the outer fiords/open coast to catch fish of legal size than I used to. (6)	▼ Strongly agree (1) ... Unsure (6)
Overall, it has become easier to catch fish. (7)	▼ Strongly agree (1) ... Unsure (6)
There are more recreational boats out fishing than there used to be. (8)	▼ Strongly agree (1) ... Unsure (6)
I have not noticed any change in the ease of catching fish (of legal size). (9)	▼ Strongly agree (1) ... Unsure (6)

Q12 Any comments about the previous question? e.g., where you have noticed these changes, what species have changed, etc.

- _____

Q13 How do you feel about the future of recreational fishing in the FMA?

Within the next 5 years (1)	▼ Very positive (1) ... Unsure (6)
5 to 10 years from now (2)	▼ Very positive (1) ... Unsure (6)
20 to 50 years from now (3)	▼ Very positive (1) ... Unsure (6)

Q14 How open would you be to a change in the recreational fishing rules?

- I would not support any changes to the current recreational fishing rules and regulations. (1)
- I would support minor changes (e.g., to bag limits for certain species). (2)
- I would support substantial changes (e.g., limits on the total number of fish per boat). (3)
- I would support minor changes to some rules and substantial changes to other rules. (4)

Q15 Suppose an app was developed that would allow fishers to report fishing data to inform future management activities. How likely would you be to use such an app?

- Very likely (1)
- ...
- Unsure (6)

Q16 In which region do you live?

- Northland (1)
- ...
- Southland – Fiordland (16)
- Southland - Outside of Fiordland (17)

Q17 What is your age?

- Younger than 18 (1)
- 18 to 29 (2)
- 30 to 39 (3)
- 40 to 49 (4)
- 50 to 59 (5)
- 60 to 69 (6)
- 70 or older (7)
- Prefer not to answer (8)

Non-users (If do not use the FMA)

Thank you for being willing to participate.

This survey is designed to be taken by those who fish in the Fiordland Marine Area.

If you do fish while visiting the Fiordland Marine Area, please get in touch with the Guardians at info@fmg.org.nz.

Ending

Q17 (Optional) Is there anything else you would like to tell us about the Fiordland Marine Area and fishing in the FMA that will assist the Guardians to make recommendations to Government?

- _____

(If a non-fisher) Q18 (Optional) While this survey is targeting just those who fish, we would still love to hear about your experiences while visiting the FMA. Is there anything else you would like to tell us about the Fiordland Marine Area that will assist the Guardians to make recommendations to Government?

- _____

Q19 (Optional) Results from this survey and two focus group/hui will help enrich the Guardians' understanding of how people are engaging with the FMA and the experiences of people while in the FMA. As the Guardians develop their recommendations to the Minister, they may want to explore responses to this survey through interviews. Would you be willing to be contacted by the Guardians to further discuss your experiences while visiting the FMA?

- Yes, I would be willing to be contacted by the Guardians.
- No, I would not like to be contacted by the Guardians.

(If Q19 = Yes) Q20 Please enter your preferred contact details below.

- Name: _____
- Email (if preferred): _____
- Phone number (if preferred): _____

Q21 (Optional) Lastly, would you like to be added to the Guardian's mailing list to receive information about the marine life in Fiordland and the work by the Guardians?

- Yes (please enter your email address if not entered above): _____
- No

Thank you for taking the survey. If you have any questions, concerns or additional comments please contact the Guardians at info@fmg.org.nz or visit the Guardians' website for more information: <https://fmg.org.nz/>

Click the SUBMIT button at the bottom to record your survey responses.

Appendix B – Characteristics of respondents to, ‘How open would you be to a change in recreational fishing rules?’

Table B1. Proportion of respondents who said they would be open to substantial changes, minor and substantial changes, minor changes, or no changes to the FMA recreational fishing rules, by age, where they live, where in the FMA they visit, how regularly they fish while visiting the FMA, and how often they visit the FMA

	Substantial changes	Minor and substantial changes	Minor changes	No change
Age (years)				
18 to 29 years	13.7	5.3	5.4	0
30 to 39 years	17.7	5.3	13.5	16.7
40 to 49 years	25.5	10.5	21.6	8.3
50 to 59 years	13.7	21.1	32.4	33.3
60 to 69 years	21.6	26.3	21.6	25
70 or older	7.8	31.6	5.4	16.7
Highest proportion	40 to 49	70 or older	50 to 59	50 to 59
Where do you live?				
Fiordland	39.2	27.8	34.3	30.8
Southland	29.4	33.3	27.4	30.8
South Island	19.6	33.3	35.6	38.5
North Island	11.8	5.6	2.7	0
Highest proportion	Fiordland	Fiordland & Southland	South Island	South Island
Where do you visit while in the FMA?				
Milford Sound / Piopiotahi	56.9	42.1	58.1	69.2
Doubtful Sound / Patea	58.8	68.4	50	53.9
Other northern fiords	27.5	36.8	29.7	15.4
Southern fiords	64.7	68.4	48.7	30.8
Highest proportion	Southern fiords	Doubtful Sound / Patea & southern fiords	Milford Sound / Piopiotahi	Milford Sound / Piopiotahi
How regularly do you fish when you visit the FMA?				
Fishing is one of several activities	52.9	42.1	28.4	53.9
Fish on most trips	25.5	31.6	37.8	15.4
Fishing is main activity	21.6	26.3	33.8	30.8
Highest proportion	Several activities	Several activities	Most trips	Several activities

	Substantial changes	Minor and substantial changes	Minor changes	No change
How often do you visit the FMA?				
Less than once a year	5.9	10.5	2.7	7.7
Once a year	21.6	26.3	36.5	15.4
3 to 6 months	29.4	36.8	29.7	46.2
Once a month	21.6	15.8	18.9	23.1
Few times a month	7.8	0	5.4	7.7
Few times a week	13.7	10.5	6.8	0
Highest proportion	3 to 6 months	3 to 6 months	Once a year	3 to 6 months

Notes: Proportions out of respondents who said they would be open to major changes (n = 51), minor and major changes (n = 19), minor changes (n = 74), or no changes (n = 13). Highest proportion for each change level and demographic in bolded italics.

Appendix C – Additional figures

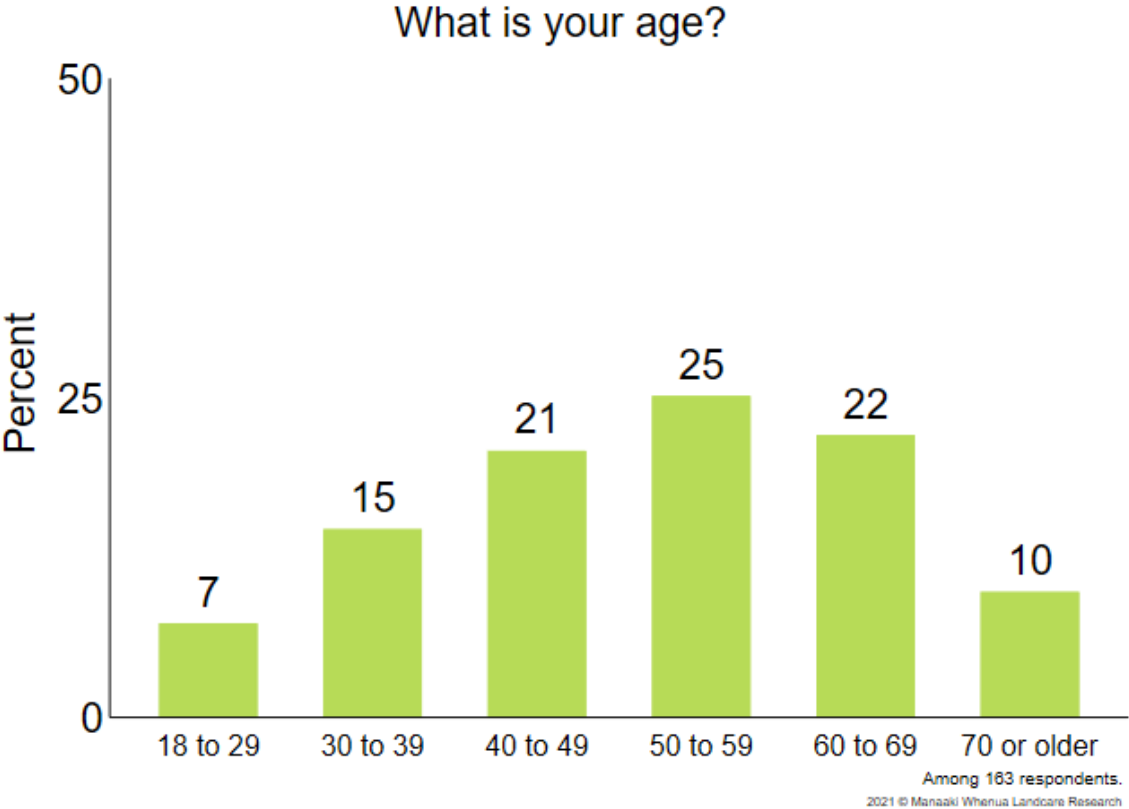


Figure C1. Age of respondent (in years).

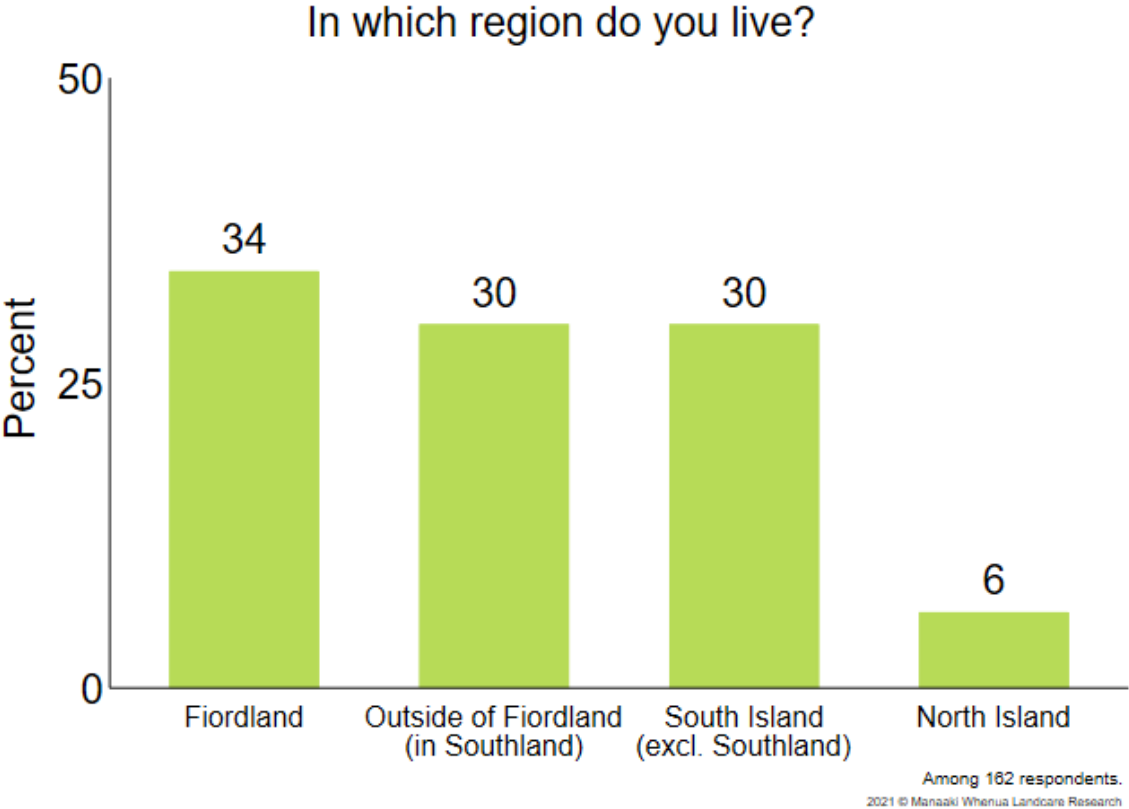


Figure C2. Where respondents live.

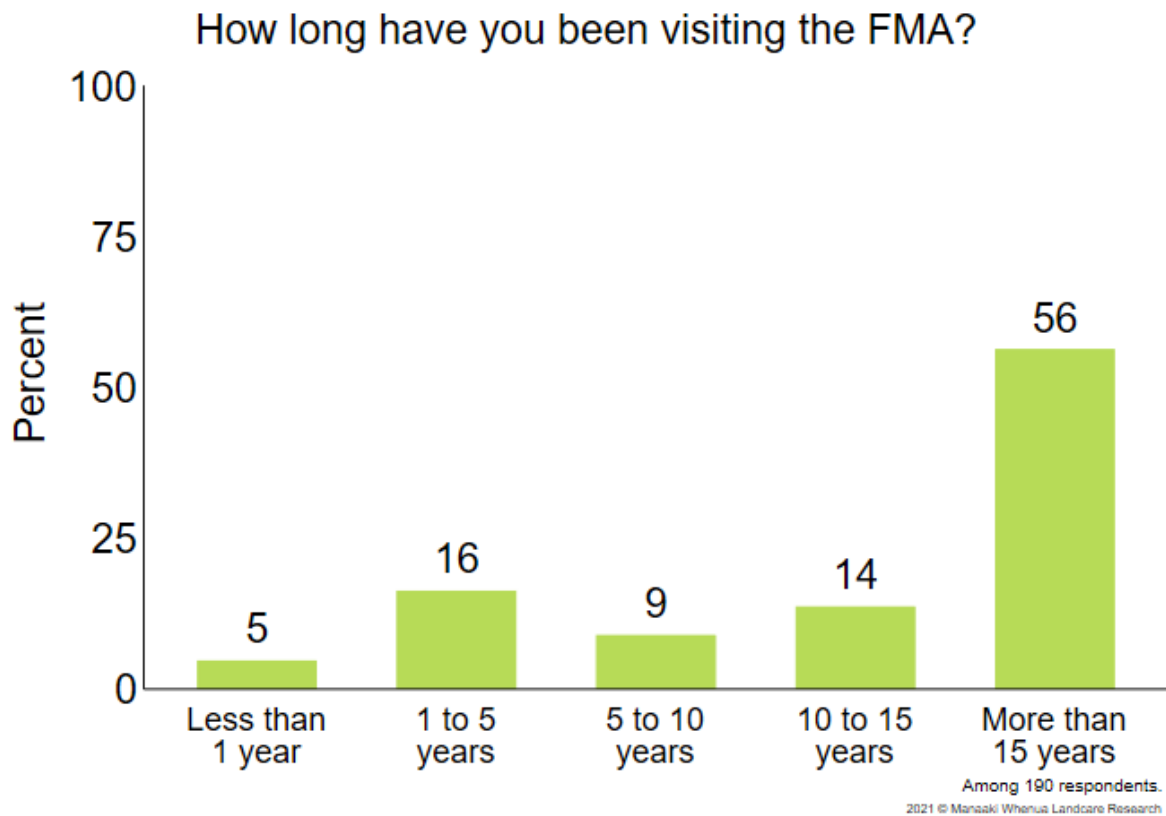


Figure C3. How long have you been visiting the FMA?

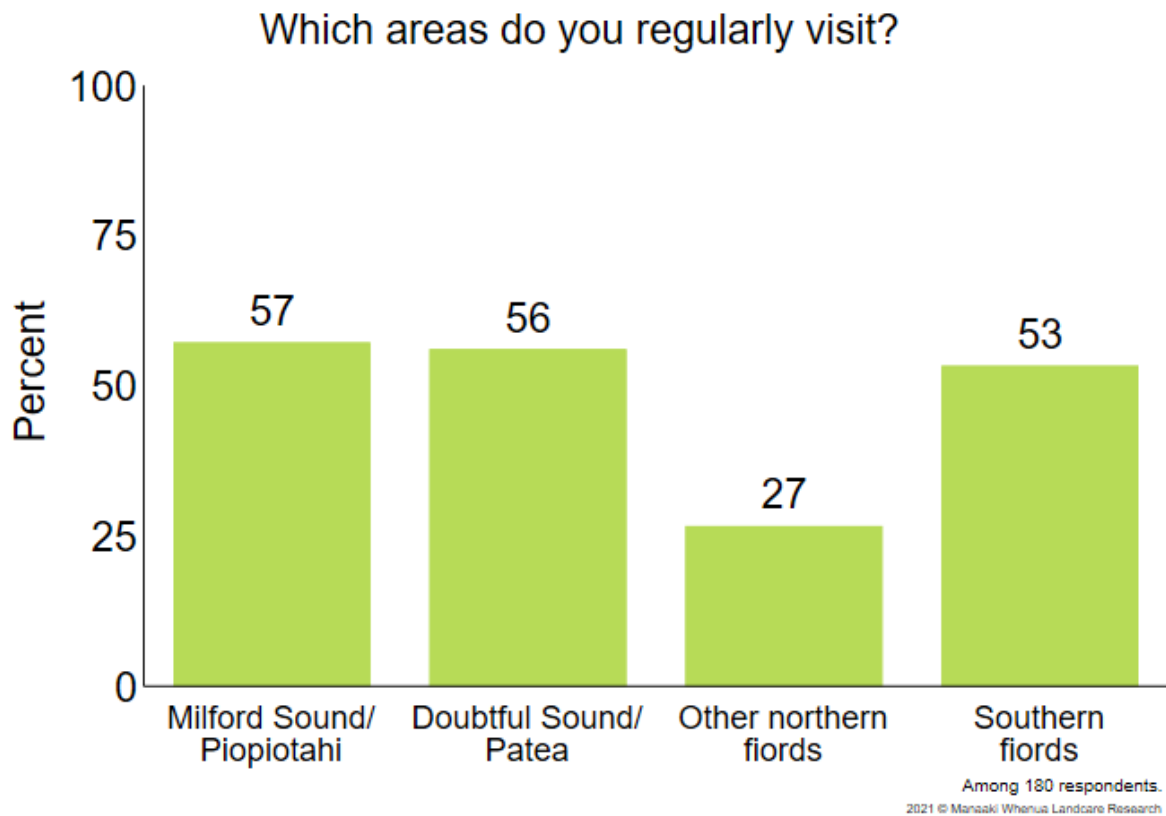


Figure C4. Where in the FMA do you visit?

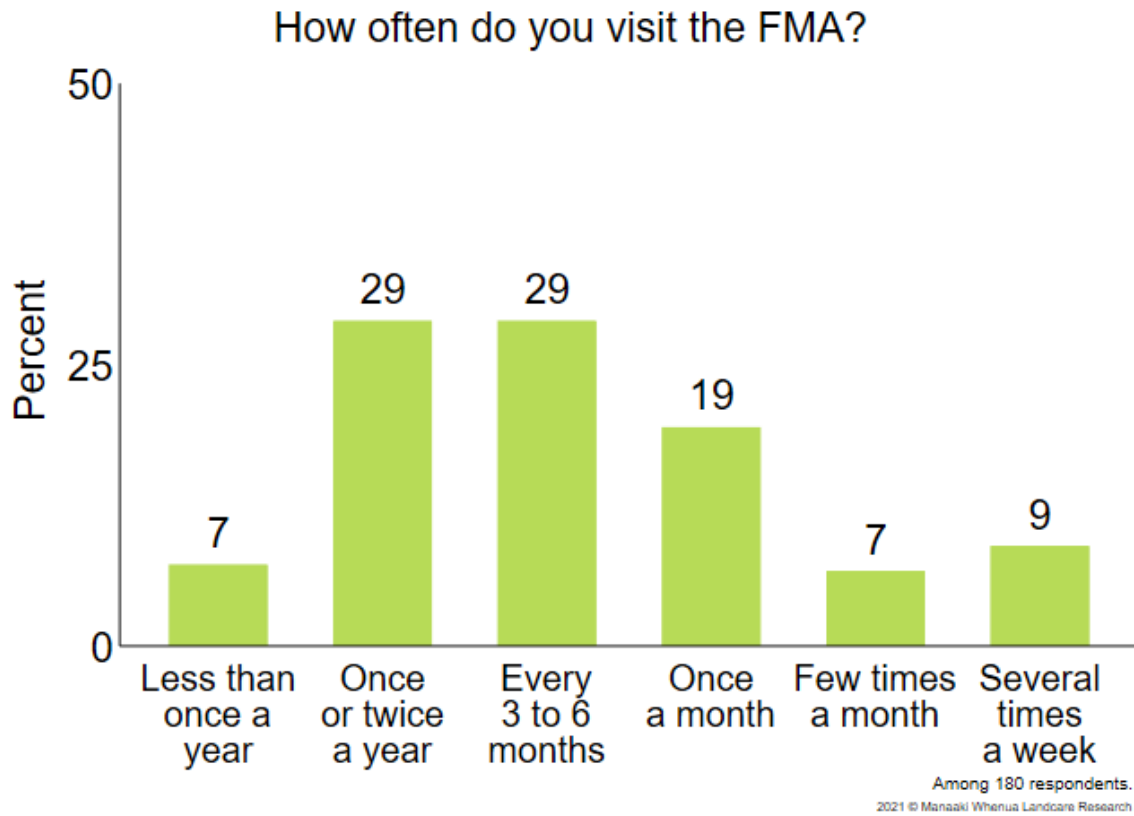


Figure C5. How often do you visit the FMA?

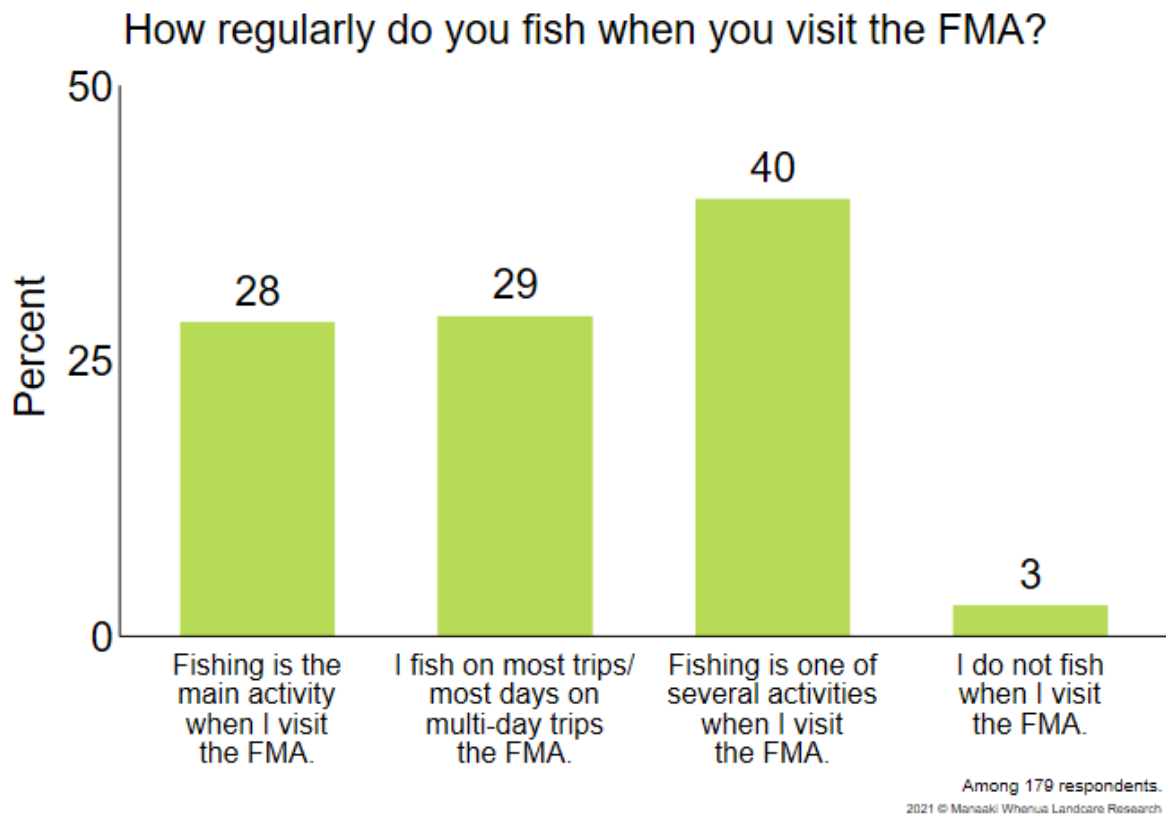


Figure C6. How regularly do you fish when you visit the FMA?

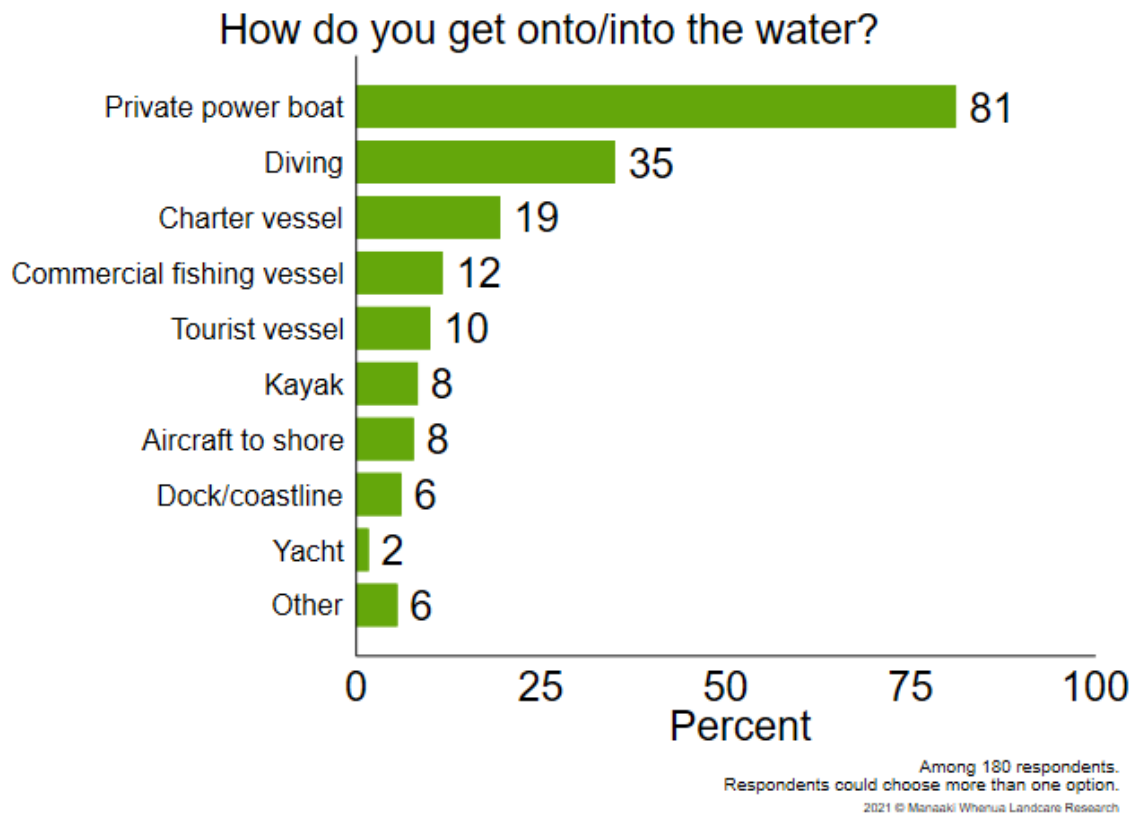


Figure C7. How do you get onto the water / access the FMA?

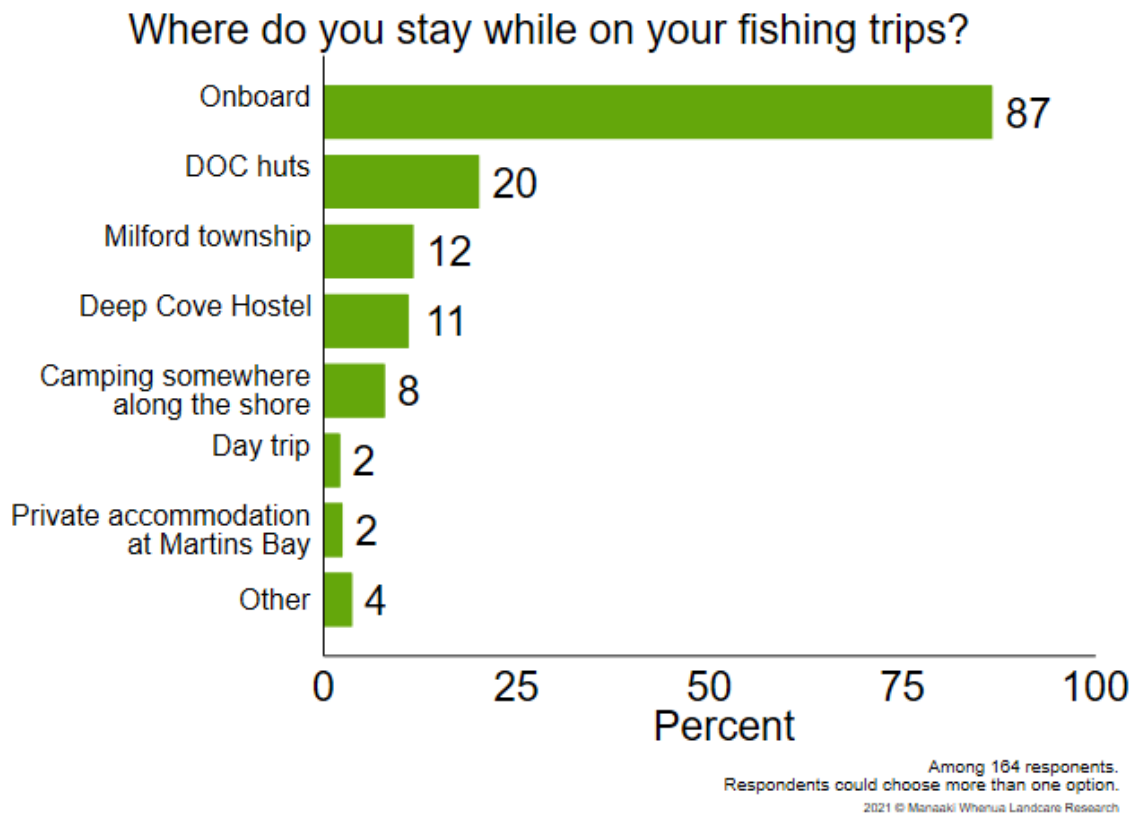


Figure C8. Where do you stay when you are on your fishing trips?

How would you rate the overall fishing in the FMA at present?

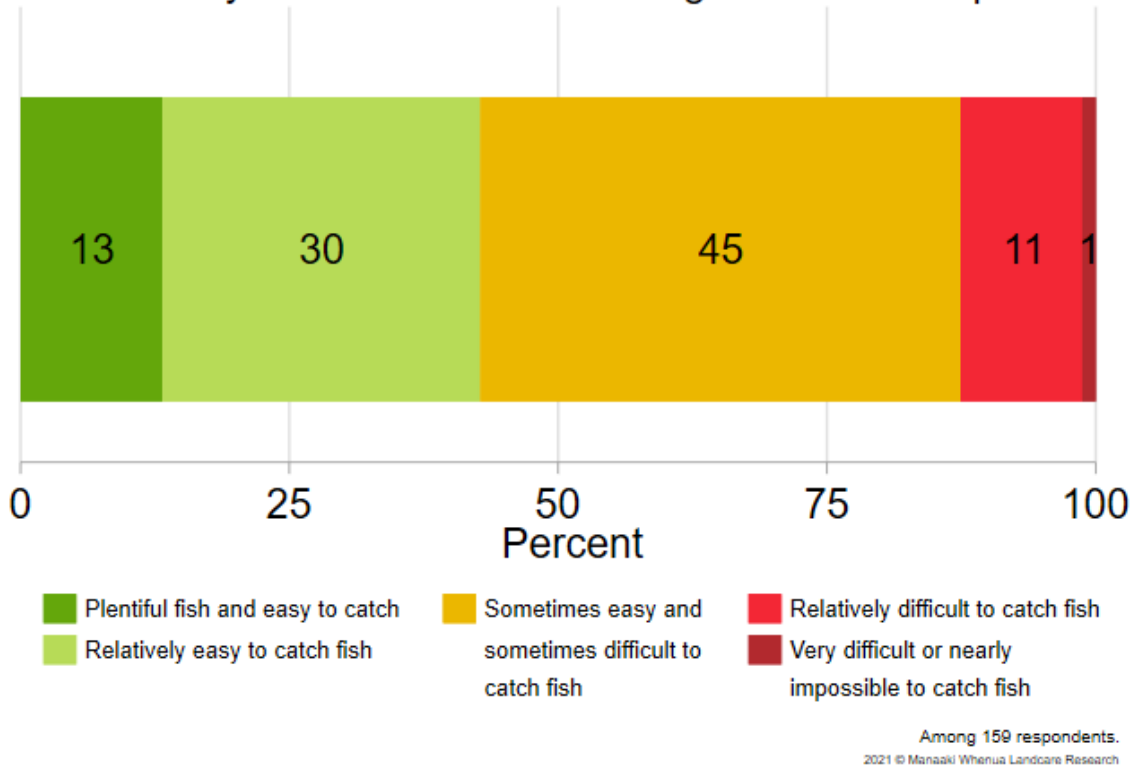


Figure C9. How respondents' rate the overall fishing in the FMA at present.

How has the fishing in the FMA changed since you started visiting?

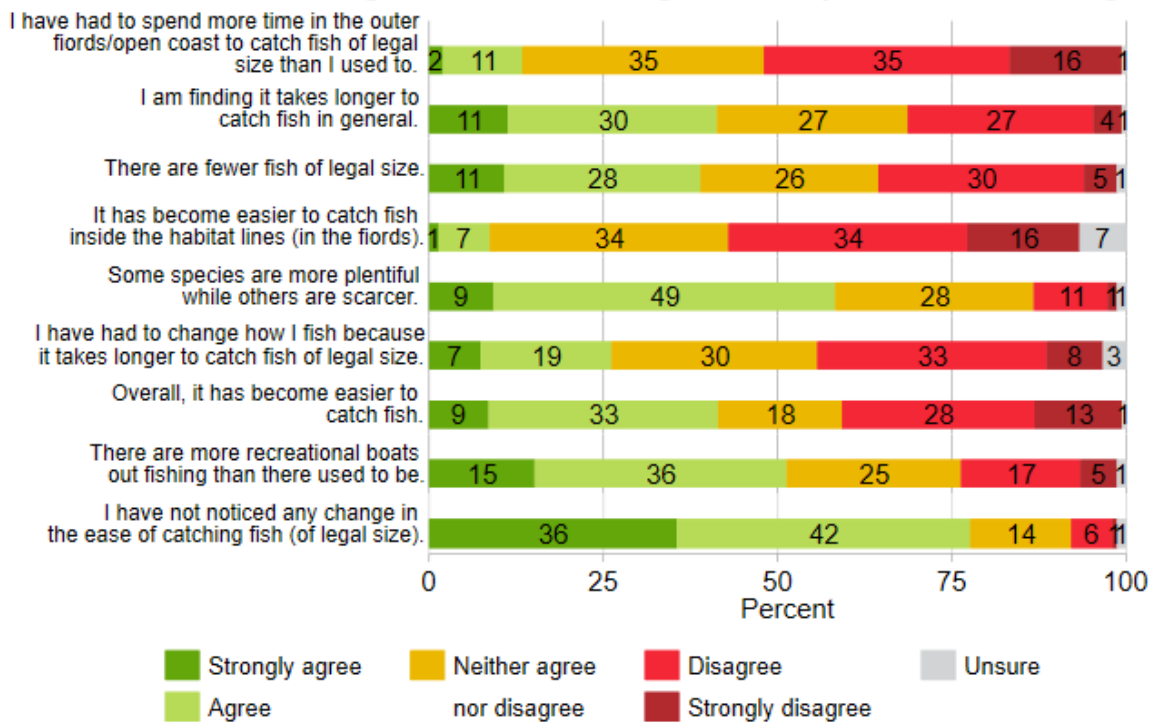
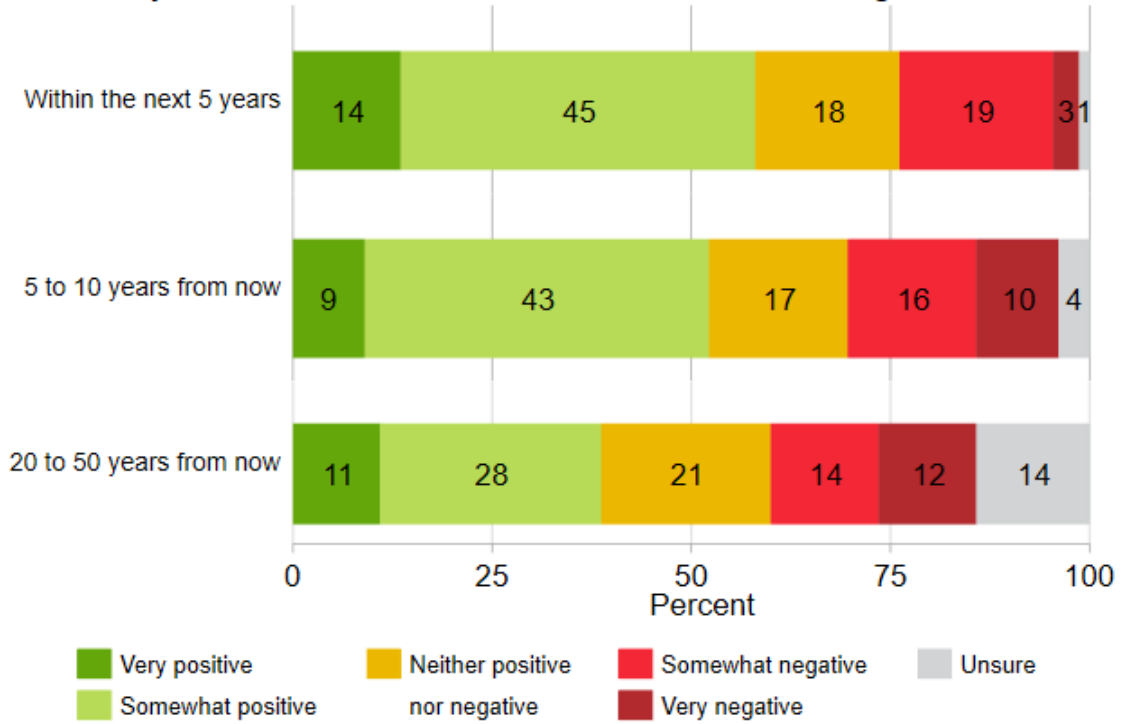


Figure C10. Statements to understand changes and perceptions of changes over time to fishing in the FMA.

How do you feel about the future of recreational fishing in the FMA?



Among 155 respondents.
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Figure C11. How respondents feel about the future of recreational fishing the FMA.