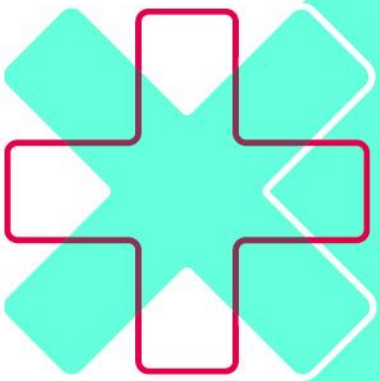
MARTIN JENKINS

REVITALISING THE GULF STAGE 1 – IMPACT OF THE MARINE PROTECTION PROPOSALS ON COMMERCIAL FISHERS

Final Report

11 August 2022



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PREFACE

This report has been prepared for the Department of Conservation by Jason Leung-Wai and Roshen Kulwant from MartinJenkins (Martin, Jenkins & Associates Limited).

For 30 years MartinJenkins has been a trusted adviser to clients in the government, private, and non-profit sectors in Aotearoa New Zealand and internationally. Our services include organisational performance, employment relations, financial and economic analysis, economic development, research and evaluation, data analytics, and public policy and regulatory systems.

We are recognised as experts in the business of government. We have worked for a wide range of public-sector organisations from both central and local government, and we also advise business and non-profit clients on engaging with government.

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Caveats and restrictions

We have prepared this report solely for the purposes stated in it, and it should not be relied on for any other purpose.

We accept no duty of care or liability to any third party in relation to us providing this report, other than any duty or liability that we already have under the law. If a third party relies on this report when they are deciding to do or not do something, we are not responsible or liable for the consequences.

Our brief for this report did not require us to independently verify the accuracy of the information that the client or others provided to us for the report, and we did not attempt to do so. We therefore do not express any opinion on how accurate, reliable, or complete that information is.

We have made the statements in this report in good faith, and on the basis that all the information we relied on is materially true, accurate, and not misleading, whether by omission or otherwise.

We reserve the right to change this report if we later become aware of additional relevant information that existed at the date of the report, but we do not have any obligation to change it.

KEY FINDINGS

The brief

MartinJenkins has been commissioned by the Department of Conservation (DOC) to carry out an economic assessment of the Hauraki Gulf protected area proposals in "Revitalising the Gulf: Government action on the Sea Change Plan", the Government's strategy in response to the call for action made by the 2017 Sea Change – Tai Timu Tai Pari Hauraki Gulf Marine Spatial Plan.

This report presents Stage 1 of the economic assessment. The objective of Stage 1 is to understand the current level of commercial fishing activity within the proposed protected areas, in order to determine the potential impact on commercial fishers of the marine protection proposals in "Revitalising the Gulf".

Our analysis considers the current commercial fishing activity within the proposed areas relative to the commercial fishing activity for all fish stocks with quota management areas that include the Hauraki Gulf, and relative to the permit holders' activity across all of New Zealand.

The findings

The level of commercial fishing activity in the proposed protected areas varies by place and time

We found that there is variation in the level of commercial fishing activity across the proposed protected areas and across fishing years.

For some permit holders, the amount of fish caught within the proposed protected areas and its relative commercial value also varied across fishing years.

Fishing in the proposed protection areas accounts for 1%–3% of total greenweight in all Hauraki Gulf quota management areas

The level of commercial fishing activity within the proposed protected areas represents approximately 1% to 3% of the total greenweight caught across all quota management areas that includes the Hauraki Gulf. This suggests that most commercial fishing activity in these quota management areas happens outside the areas proposed for protection.

Fishing in the proposed protection areas generates annual revenue of $4.2–5.2 million

The annual revenue (measured by market price) generated by fish caught within the proposed protected areas was between $4.2 million and $5.2 million[1] over the last two years. This represents approximately 2.0%–3.5% of the revenue generated by the catch across all quota management areas that include some or all of the Hauraki Gulf.

[1] This is an estimate which combines the revenue from the October and the April fishing years.

Fishing in the proposed areas is concentrated in Te Hauturu-o-Toi / Little Barrier Island and Te Ruamaahu / Aldermen Islands

In the proposed protected areas and across all of the fishing years studied, just under three-quarters of the commercial fishing activity (measured by greenweight) is concentrated in Te Hauturu-o-Toi / Little Barrier Island High Protection Area and the Aldermen Islands / Te Ruamaahu (south) High Protection Area.

These two areas make up 12% and 10%, respectively, of the total area of all the proposed protected areas (in square kilometres).

12%–14% of Hauraki Gulf permit holders fish in the proposed protected areas

Around 12%–14% of the total number of permit holders who fished in quota management areas that include some or all of the Hauraki Gulf also fished in the proposed protected areas.

However, the level of fishing activity of these permit holders varies from year to year. Approximately a third of permit holders caught more greenweight in the second year, and half of permit holders caught less greenweight, with the remaining permit holders fishing only in one of the two years.

For most Hauraki Gulf fishers, their catch in the proposed areas is under 10% of their total catch

For the majority of permit holders who fish in Hauraki Gulf quota management areas, the catch in the proposed protected areas represents less than 10% of their total catch (see Figure 7 and Figure 8 on page 33).

Fishing in the proposed areas is anywhere from 0.05% to more than half of individual Hauraki Gulf fishers' total activity in New Zealand's EEZ

The commercial fishing activity of permit holders (in port price revenue) within the proposed protected areas ranges from 0.05% to 53.8% of their total fishing activity within New Zealand's exclusive economic zone.

Key figures for October and April fishing years

Table 1 and Table 2 below give a summary of the commercial fishing activity within the proposed protected areas and the quota management areas that include the Hauraki Gulf.

Fish stocks are managed under either an October or April fishing year,[2] in that changes to the total allowable catch or fisheries management measures take effect on either 1 April or 1 October for the fish stocks that fall under that fishing year. This is reflected in the tables.

[2] Fisheries Act 1996, section 19(1).

Table 1: Commercial fishing activity summary, by study area, October fishing years

2019-2020 (Oct) fishing year	All fish stocks that include the Hauraki Gulf	Within the proposed protected areas	Proportion of total activity within the proposed protected areas
Number of permit holders	316	40	13%
Number of fish stocks	44	24	55%
Greenweight (tonnes)	32,717	906	3%
Port price revenue ($m)	59.02	1.15	2%
Market price revenue ($m)	165.12	3.91	2%

2020-2021 (Oct) fishing year	All fish stocks that include the Hauraki Gulf	Within the proposed protected areas	Proportion of total activity within the proposed protected areas
Number of permit holders	288	40	14%
Number of fish stocks	44	24	55%
Greenweight (tonnes)	37,979	530	1%
Port price revenue ($m)	66.31	1.37	2%
Market price revenue ($m)	183.34	4.59	3%

Table 2: Commercial fishing activity summary, by study area, April fishing years

2020-2021 (Apr) fishing year	All fish stocks that include the Hauraki Gulf	Within the proposed protected areas	Proportion of total activity within the protected areas
Number of permit holders	33	4	12%
Number of fish stocks	2	2	100%
Greenweight (tonnes)	124	3	2%
Port price revenue ($m)	8.83	0.23	3%
Market price revenue ($m)	14.08	0.34	2%

2021-2022 (Apr) fishing year	All fish stocks that include the Hauraki Gulf	Within the proposed protected areas	Proportion of total activity within the protected areas
Number of permit holders	38	5	13%
Number of fish stocks	2	1	50%
Greenweight (tonnes)	129	4.5	3%
Port price revenue ($m)	7.76	0.30	4%
Market price revenue ($m)	16.90	0.59	3%

INTRODUCTION AND APPROACH

The brief and its context

“Revitalising the Gulf: Government action on the Sea Change Plan” is the Government’s strategy in response to the call for action made by the 2017 Sea Change – Tai Timu Tai Pari Hauraki Gulf Marine Spatial Plan. It sets out an integrated package of marine conservation and fisheries management actions to improve the health and mauri of the Hauraki Gulf. This includes establishing new high protection areas and seafloor protection areas, and extending the area of protection adjacent to two existing marine reserves in 2024 (see next page for protection area definitions).

MartinJenkins has been commissioned to perform a staged economic assessment of the protected area proposals.

This report presents Stage 1 of this assessment, in which we have estimated the current level of commercial fishing activity within the proposed protected areas, as a proportion of overall commercial fishing activity.

Stage 2 will assess the wider economic impacts that may result from the new and extended protected areas.

A Microsoft Excel workbook with a breakdown of the analysis for each of the proposed protected areas has been provided to DOC alongside this report. This report summarises the estimated commercial fishing activity at an aggregate level.

Acronyms used in this report

MPI – Ministry for Primary Industries

ACE – Annual catch entitlement

LFR – Licenced fish receiver

Fishing methods

PS – Purse seining

BLL – Bottom long-line

BT – Bottom trawl

DS – Danish seining

DV – Diving Combined (snorkel, scuba and surface supplied)

HL – Handlining

PRB – Precision bottom trawl

RN – Ring net

SN – Set netting (including Gill nets)

RLP – Rock lobster pot.

Protection area definitions

High Protection Areas offer site-specific management objectives based on the biological values requiring protection in each area.

Seafloor Protection Areas protect seafloor habitats and communities susceptible to damage from activities such as fishing (particularly dredging, bottom trawling and Danish seining), sand extraction and mining. They will allow activities, such as commercial and recreational fishing, where they are compatible with the management objectives of each protected area.

Marine Reserves established under the Marine Reserves Act 1971 offer the highest possible level of marine protection. As designated areas that are completely protected from the sea surface to the seafloor, the entire area is strictly 'no take', including marine life, shells, rocks and driftwood.

Overview of the approach

For this economic assessment, we:

- identified the proposed protected areas and the reference areas to be studied
- defined “commercial fishing activity” for this study by asking “who”, “what”, “how”, “where”, and “when”
- measured the levels of commercial fishing activity in the proposed protected areas and compared that activity with total landings for quota management areas that contain the Hauraki Gulf, and also with all activity, anywhere within New Zealand and in any fish stock, of those permit holders who operated within the proposed protected areas.

We defined “commercial fishing activity” in terms of greenweight[3] landings (kgs) and revenue by permit holders and fishing method across two October fishing years (2019/20 and 2020/21) and two April fishing years (2020/21 and 2021/22).

The analysis shows the importance of measuring commercial fishing activity through a number of measures, including as greenweight and port prices, and comparing this to the overall commercial fishing activity. Although the greenweight catch for a particular fish stock within the proposed protection areas may be greater than for other fish stocks, the relative commercial value of that fish stock could be lower or higher than others.

The potential decrease in a permit holder’s catch because of new protected areas may be a large proportion of their overall greenweight catch for the fishing year. However, this may not significantly affect revenue if the fish stock has a lower port price than the rest of the permit holder’s catch.

[3] Greenweight is the weight of fish before any processing has happened or before any part of the fish is removed.

“Commercial fishing activity” was defined in this study through asking “who”, “what”, “how”, “where”, and “when”

Whose commercial fishing activity are we studying?

In commercial fisheries, there are three main market operators:

- **Quota owners** provide annual catch entitlements for permit holders to operate in the market
- **Permit holders** are commercial fishers who catch fish to sell in the market
- **Licensed fish receivers** buy and process fish from permit holders to sell either at a wholesale or retail level.

This analysis focuses on permit holders, as it is mainly their activity that will potentially be restricted by the proposed protected areas.

What measures do we use for the activity we are studying?

We have defined commercial fishing activity in terms of greenweight (kgs) of fish caught, by fish stock, and by commercial value.

“Commercial value” itself has different meanings depending on where in the supply chain or value chain a market operator sits. Annual catch entitlements are leased or sold to permit holders at agreed prices. Permit holders receive port prices for each kg of fish that they land. Licensed fish receivers receive wholesale or retail market prices.

For example, a permit holder may pay for annual catch entitlement for snapper in quota management area 8. This allows them to fish commercially for snapper and land that fish to a licensed receiver for a port price. That licensed fish receiver would then process the fish and on-sell to consumers, either domestically or through exports.

How is the activity carried out?

Commercial fishing activity includes various fishing methods, such as bottom trawling, purse seining, and potting, among many others.

Where does the activity happen?

Our analysis is primarily concerned with commercial fishing activity in the proposed protection areas. To provide useful comparisons, the analysis also considers total landings for quota management areas that include the Hauraki Gulf, and all activity, anywhere within New Zealand and in any fish stock, of those permit holders who operate within the proposed protected areas (see “Identifying wider sets of fishing activity as comparators to provide baselines” on page 15).

When has the activity happened?

There are two main management periods for New Zealand fisheries, April–March and October-September, as defined by the Fisheries Act 1996.

The two most recent fishing years for each of those two management periods are used for this study. This is because the electronic reporting and global position requirements for commercial fishers was

rolled out in stages across all remaining commercial fisheries during 2019 and represents “best available” data for the study. Previous years would see a difference in reporting requirements.

This study used the 2020/21 and 2021/22 fishing years for April–March, and the 2019/20 and 2020/21 fishing years for October–September. Some permit holders also may not be represented in both fishing years.

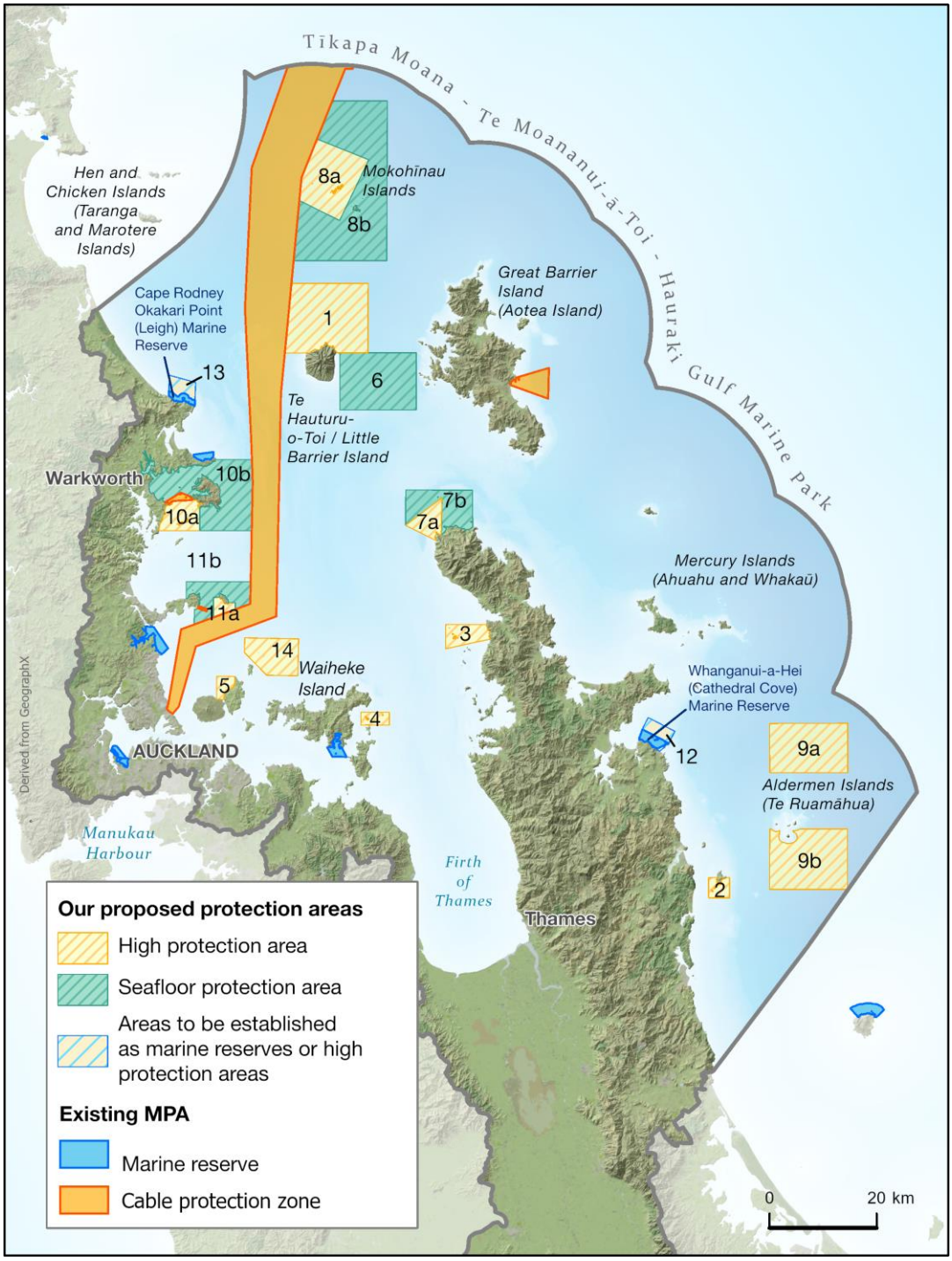
The proposed protected areas in the Hauraki Gulf

“Revitalising the Gulf: Government action on the Sea Change Plan” proposes a set of new or extended protection areas – see Table 3 and Figure 1.

Table 3: Proposed new areas for protection in the Hauraki Gulf

Map reference	Site	Type of protection proposed	Area km^2
1	Te Hauturu-o-Toi / Little Barrier Island	High Protection Area	195.25
2	Slipper Island / Whakahau	High Protection Area	13.31
3	Motukawao Islands	High Protection Area	29.11
4	Rotoroa Island	High Protection Area	12.35
5	Rangitoto and Motutapu	High Protection Area	10.60
6	Craddock Channel	Seafloor Protection Area	151.99
7a	Cape Colville	High Protection Area	26.61
7b	Cape Colville	Seafloor Protection Area	68.03
8a	Mokohinau Islands	High Protection Area	118.24
8b	Mokohinau Islands	Seafloor Protection Area	325.99
9a	Aldermen Islands / Te Ruamaahu (north)	High Protection Area	133.75
9b	Aldermen Islands / Te Ruamaahu (south)	High Protection Area	154.85
10a	Kawau Bay	High Protection Area	40.93
10b	Kawau Bay	Seafloor Protection Area	158.38
11a	Tiritiri Matangi	High Protection Area	9.49
11b	Tiritiri Matangi	Seafloor Protection Area	53.68
12	Whanganui-a-Hei (Cathedral Cove) Marine Reserve	High Protection Area or Marine Reserve	14.61
13	Cape Rodney-Okakari Point (Leigh) Marine Reserve	High Protection Area or Marine Reserve	15.17
14	Ōtata / Noises Islands	High Protection Area	59.51

Figure 1: Locations of the protected area proposals



Source: Department of Conservation, 2022.

Identifying wider sets of fishing activity as comparators to provide baselines

Some of a permit holder's catch may come from outside the proposed protected areas, and the quota management area for a particular fish stock may be larger than just the Hauraki Gulf. Accordingly, we identified two wider sets of fishing activity to provide baselines for assessing the levels of commercial fishing activity within the proposed protected areas:

- Total landings for quota management areas that contain some or all of the Hauraki Gulf
- All activity, anywhere within New Zealand and in any fish stock, of those permit holders who operate within the proposed protected areas.

We compared the level of commercial fishing activity within the proposed protected areas to those two wider sets of activity. This allows us to answer two key questions:

1 What proportion of each fish stock caught within the proposed protected area boundaries could potentially be displaced?

2 What is the potential impact on each permit holder if they can no longer fish within the proposed protected areas, relative to their overall commercial fishing activity?

The first comparator set of activity: Total landings for quota management areas that contain the Hauraki Gulf

We analysed the commercial fishing activity, for any fish stock, in quota management areas that include the Hauraki Gulf.

In the case of some quota management areas, such as rock lobster management area 1 (CRA1 – see Figure 2 below), the Hauraki Gulf accounts for only a small portion of that area, and we therefore did not include those quota management areas in our comparator activity set.

If we studied only the fish stocks that are caught within the proposed protected area boundaries, this would provide an incomplete view of the total level of commercial fishing activity that may include the Hauraki Gulf. An example of the differences between quota management area boundaries is shown in Figure 2.

Another reason for using the Hauraki Gulf as the central location for this first comparator set of fishing activity is that we assumed that it is more economically efficient for a permit holder to shift their effort to other fishing locations within a quota management area than it is to source new quota shares or annual catch entitlements for other quota management areas.

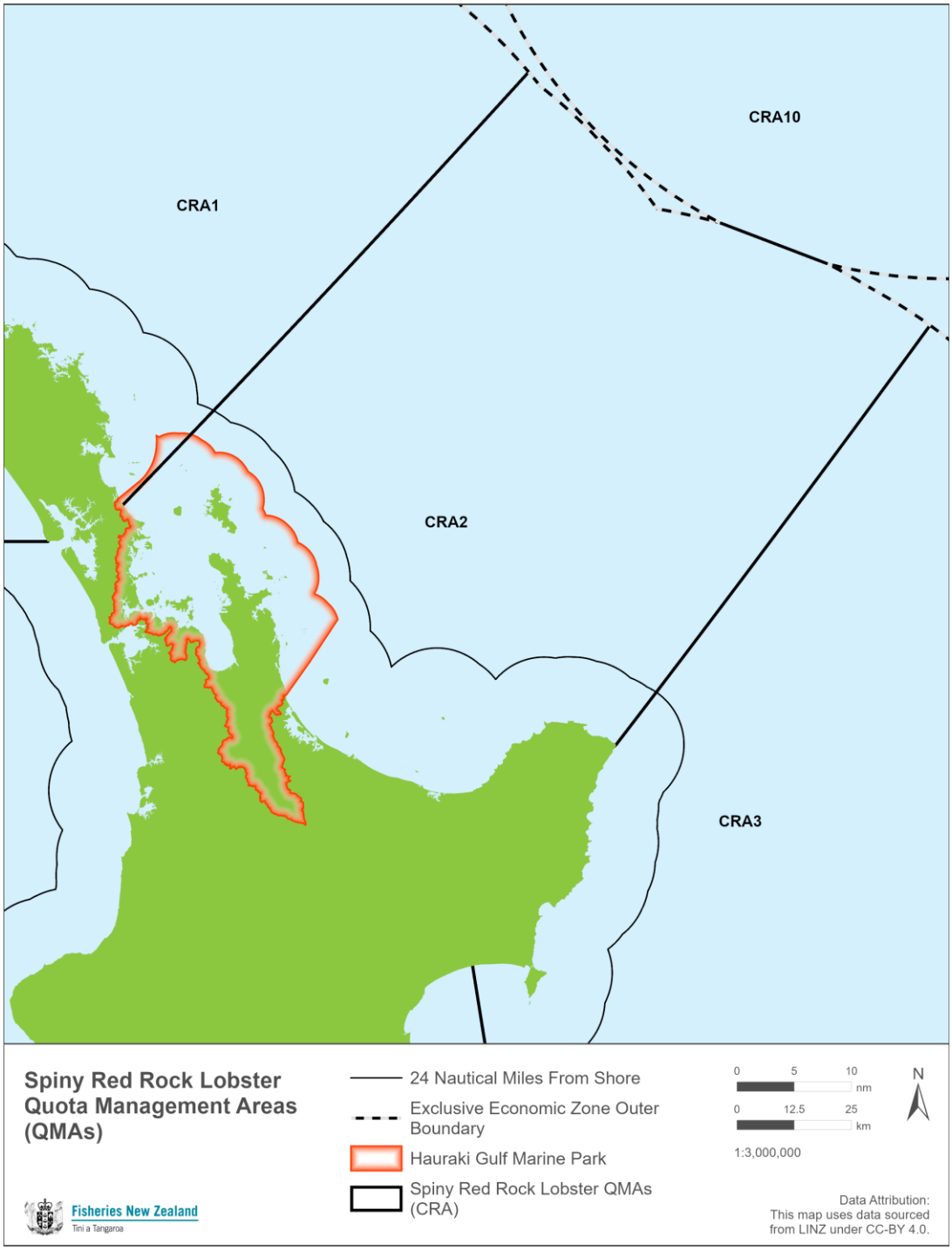
The second comparator set of activity: All activity, anywhere within New Zealand and for any fish stock, of those permit holders who operate within the proposed protected areas

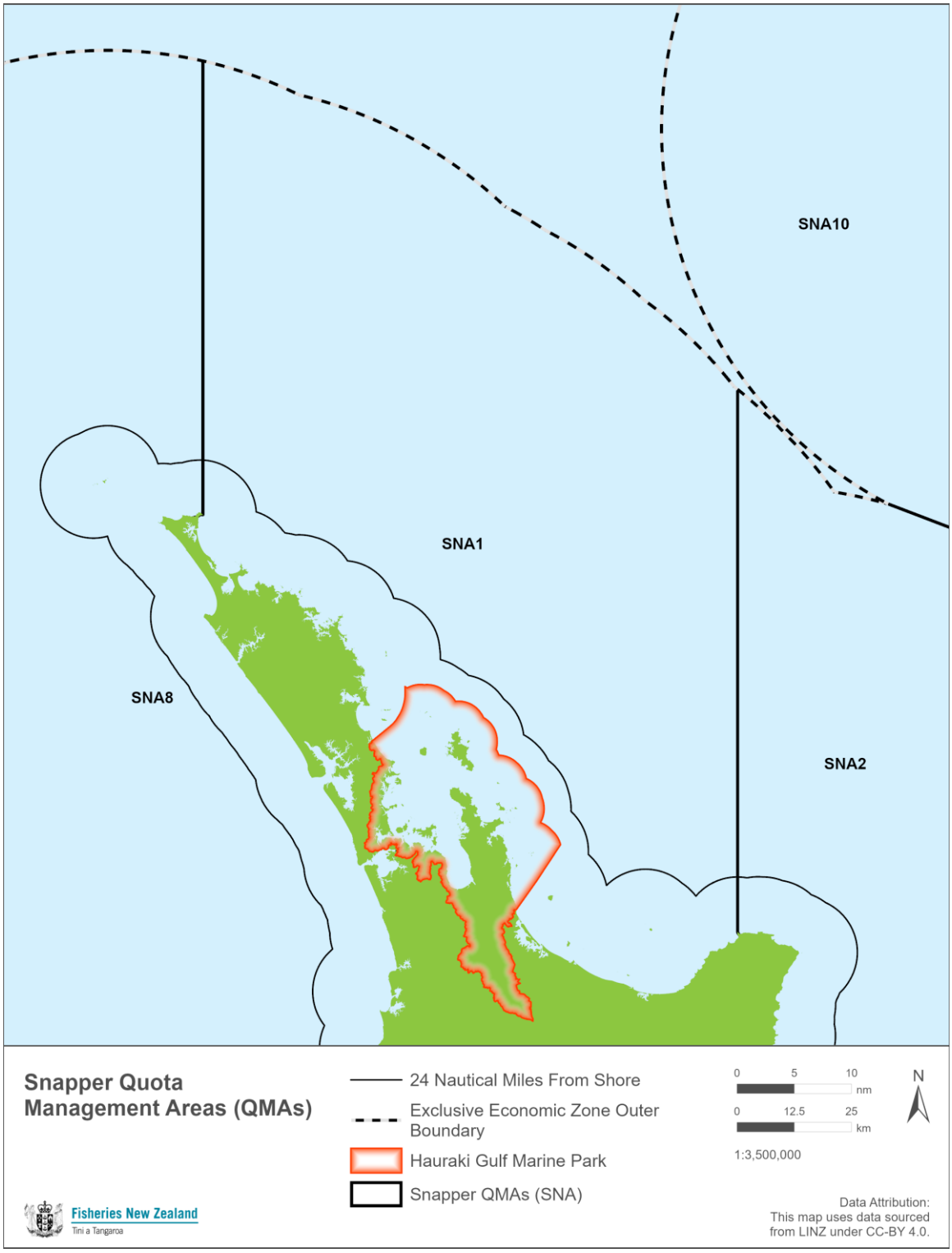
We analysed the commercial fishing activity of permit holders that have fished inside the proposed protected areas in any of the fishing years. This included each permit holder's total activity across all quota management areas and in any fish stock. Permit holders are not restricted to fishing only in the Hauraki Gulf or within the proposed protected areas boundaries.

Commercial catch activity can also have seasonal variations, where some permit holders operate in different quota management areas across New Zealand's Exclusive Economic Zone at different times of the year.

By doing this, we are able to estimate the proportion of each permit holder's activity that occurs within the proposed protected areas.

Figure 2: Spatial differences across quota management areas





Source: Ministry for Primary Industries, Fisheries New Zealand

Data and assumptions

All datasets have been provided to MartinJenkins by Fisheries New Zealand/the Ministry for Primary Industries (MPI). The analysis has been performed using datasets on port prices, export prices, annual catch entitlement (ACE) prices, total allowable catch, fish stock, species, permit holder, fishing method, location of fishing activity, total landings/monthly harvest returns, and reported catch effort.

A list of the measures used in this report, and their caveats, is as follows.

Commercial catch information

We have compared the level of commercial fishing activity to overall landings using catch effort information and monthly harvest returns. Catch effort utilises both electronic reporting and global position reporting to provide an indication of the spatial position, fishing method, time, permit holder, and fish stocks included in the activity. However, this information does not capture the total amount of fish that is caught by permit holders. Monthly harvest returns provide an accurate description of the total amount of fish that is caught by a permit holder within a month and is used to balance total catch with total ACE, but does not include detailed information such as global positioning or fishing method.

The fishing effort estimates within the proposed protected areas have been generated using a combination of electronic reporting and global positioning reporting vessel positions by MPI and provided to MartinJenkins. The estimated catch was produced by measuring the proportion of a fishing event inside an area, then applying that proportion to the reported catch from the event. Only fish stocks within the Quota Management System are included within this study.

The process that MPI used to produce these estimates is as follows:

1 map the fishing effort for the 2019/20 and 2020/21 October fishing years and the 2020/21 and 2021/22 April fishing years

2 intersect the effort polygons with areas of interest

3 calculate the area inside the areas of interest vs. the total mapped area for each event

4 use the proportion of the area inside the areas of interest to apportion the estimated catch for each event (for example, if 50% of the event area was inside the areas of interest, then 50% of the catch from that event was impacted)

5 tally up the estimated catch totals

6 use the estimated catch totals to estimate the proportion of a fisher's landings which originated inside the areas of interest.

These estimates are then compared to the total amount of fish caught by permit holders using the monthly harvest returns.

It is important to note that the commercial fishing data used within our analysis may be influenced by challenges arising from the COVID-19 pandemic and the associated alert level restrictions. Although commercial fishing was permitted to continue over the last couple of years, some disruptions to supply chains and fishing capacity may be present. We have not analysed the associated impacts and challenges due to the COVID-19 pandemic within this report.

ACE prices per fish stock

- ACE prices are calculated by FishServe and are derived from the total number of ACE transfers in the selected periods. The prices associated are presented as:
  - The lowest price paid for an ACE transfer included in the price calculations.
  - The average price paid for an ACE transfer included in the price calculations.
  - The highest price paid for an ACE transfer included in the price calculations.

  The average price has been used with our analysis.
- Not all fish stocks have an ACE price and no other price was generated to mitigate this issue. ACE prices are not available where fewer than three ACE transfers are included in a selected reporting period.

Port prices per fish stock

- Not all fishing years and fish stocks have a port price. No other price was generated to mitigate this issue as it was deemed minimal.
- Port prices are an average across all fishing methods and Licenced Fish Receivers, generated by MPI for cost recovery purposes.
- The original purpose of determining the port prices is to create an index for allocation of costs in determining the fish stock levies for fisheries and conservation services. Other parties use port prices for other purposes (such as setting deemed values and commercial revenue estimates). However, these uses are not considered when determining port prices and the reliability of the port price for this purpose has not been determined.
- The annual process of determining the port prices is governed by the Fisheries (Cost Recovery) Rules 2001 (SR 2001/229). A voluntary survey is sent to licensed fish receivers (LFR) whereby the LFR enters the landed price (port price), this price is the price for a particular day and not an average, for example, of the whole year. The fishing method is not included in the survey even though a particular method may receive a higher landed price. The same is true for any onboard processing; any increase in landed price due to onboard processing is ignored.
- Many LFRs do not reply to the survey and there are usually significant gaps in the data from the survey (i.e. no returns for both stocks and species in total).

Market prices per species

- Export prices were used to determine the market price. These were provided at a species level and matched to fish stocks using MPI's concordance list.
- Not all fishing years and species have an export price. Where there was no export price, the port price was used as proxy. Doing so ensures that market prices are not completely discounted where some pricing information exists in the form of a port prices.
- However, as port prices are the landed price for fish between a permit holder and LFR, there is the potential to underestimate the overall market value of fish stocks when using port prices as a proxy for market prices.
- Not all fish is exported, however, this measure is used as a proxy for the retail or wholesale price of fish. This represents the relative value to the overall commercial fishing industry, rather than an accurate description of fish exports.

Greenweight (kgs)

- Greenweight has been provided at the permit holder level for each fish stock, fishing method, and proposed protected area.
- The total greenweight landed for each fish stock has been provided at the fish stock level.
- The total greenweight landed for each permit holder has been provided at the fish stock level, via monthly harvest returns.

THE ANALYSIS

Establishing a baseline: Analysis of commercial fishing activity in all Hauraki Gulf fish stocks

Table 4 below shows total numbers of permit holders and fish stocks for fish stocks with quota management areas that include the Hauraki Gulf, for the last two fishing years for the April and October management periods. These figures form the baseline for assessing the level of commercial fishing activity within each of the proposed protected areas.

The 46 fish stocks included in the management periods are listed in the Appendix to this report.

The number of permit holders is the total number of individual permit holders who have operated across the two-year period. Different permit holders operated across each fishing-year period, which shows variability in the level of commercial fishing activity over time and across the proposed protected areas. For example, 316 permit holders reported catch against the 44 fish stocks in the October 2019/20 fishing year, compared to 288 permit holders in the October 2020/21 fishing year.

However, although there was a fall in the number of permit holders across the two October years, the total number of fish stocks caught did not change.

Table 4: Commercial fishing activity for Hauraki Gulf fish stocks

Fishing year	Number of permit holders	Number of fish stocks
2020-2021 (Apr) Fishing Year	33	2
2021-2022 (Apr) Fishing Year	38	2
Apr Total	**43**	**2**
2019-2020 (Oct) Fishing Year	316	44
2020-2021 (Oct) Fishing Year	288	44
Oct Total	**343**	**44**

Table 5 and Table 6 show the level of commercial fishing activity for the top 10 fish stocks. The results show that snapper made up 44% and 42% of the total port price revenue generated across the October fish stocks for the two October fishing years. For the April fish stocks, only two were identified as containing the Hauraki Gulf – rock lobster and pack horse lobster.[4]

[4] SCC1B was removed from the analysis due to issues with ACE prices and port prices.

Table 5: Hauraki Gulf commercial fishing activity by fish stock, top 10 and other, October fishing years

Oct 2019 – Sep 2020	Fish stock	Species name	Greenweight (tonnes)	ACE revenue ($m)	Port revenue ($m)	Market revenue ($m)
1	SNA1	Snapper	4,462	$17.8	$26.1	$48.2
2	GMU1	Grey Mullet	821	$0.5	$3.9	$8.4
3	FLA1	Flats	405	$0.4	$3.0	$3.2
4	EMA1	Blue Mackerel	7,169	$0.6	$2.9	$14.2
5	TAR1	Tarakihi	822	$0.0	$2.4	$5.6
6	SCI1	Scampi	123	$2.0	$2.1	$5.4
7	JMA1	Jack Mackerel	6,478	$0.5	$2.0	$12.8
8	GUR1	Gurnard	745	$0.7	$1.9	$7.6
9	TRE1	Trevally	1,300	$0.0	$1.8	$5.7
10	BAR1	Barracouta	5,603	$0.5	$1.7	$12.7
	All Others		4,790	$3.2	$11.1	$41.3
Total			**32,717**	**$26.1**	**$59.0**	**$165.1**

Oct 2020 – Sep 2021	Fish stock	Species name	Greenweight (tonnes)	ACE revenue ($m)	Port revenue ($m)	Market revenue ($m)
1	SNA1	Snapper	4,579	$18.0	$28.1	$49.7
2	GMU1	Grey Mullet	829	$0.5	$4.0	$8.1
3	FLA1	Flats	392	$0.3	$3.9	$2.8
4	EMA1	Blue Mackerel	8,002	$0.7	$3.6	$17.2
5	BAR1	Barracouta	8,918	$0.8	$2.7	$21.9
6	TRE1	Trevally	1,664	$0.0	$2.6	$6.2
7	TAR1	Tarakihi	919	$0.0	$2.5	$5.0
8	GUR1	Gurnard	847	$0.9	$2.5	$9.1

9	SCI1	Scampi	127	$1.7	$2.2	$6.1
10	JDO1	John Dory	287	$0.2	$1.7	$3.7
	All Others		11,416	$3.1	$12.6	$53.3
Total			**37,979**	**$26.2**	**$66.3**	**$183.3**

Table 6: Commercial fishing activity by fish stock, April fishing years

Reporting Period	Fish stock	Species name	Greenweight (tonnes)	ACE revenue ($m)	Port revenue ($m)	Market revenue ($m)
Apr 2020 – Mar 2021	CRA2	Rock Lobster	83.9	$2.62	$6.71	$9.53
	PHC1	Packhorse Rock Lobster	40.1	$0.98	$2.13	$4.55
Total			**124.0**	**$3.60**	**$8.83**	**$14.08**

Reporting Period	Fish stock	Species name	Greenweight (tonnes)	ACE revenue ($m)	Port revenue ($m)	Market revenue ($m)
Apr 2021 – Mar 2022	CRA2	Rock Lobster	79.7	$2.73	$5.44	$10.48
	PHC1	Packhorse Rock Lobster	48.8	$1.27	$2.32	$6.42
Total			**128.6**	**$4.00**	**$7.76**	**$16.90**

Although there were fewer permit holders operating in the 2020/21 October fishing year (288 compared with 316 the previous year), a greater amount of fish (greenweight) was landed (38,000 tonnes compared with 32,700 tonnes), generating higher port price revenue ($66.3 million compared with $59.0 million) across the same total number of fish stocks (44).

This again shows both the variability and the seasonality of the commercial fishing activity within the quota management areas that were analysed, as there were fewer permit holders, catching more fish, and generating higher revenues in the second of the two October fishing years. However, that is not the case for the April fishing years, which had a higher number of permit holders operating and higher greenweight catches. Total port price revenue decreased but market revenue increased, and this is due to decreases in the port price and increases in the export or market price for each year.

Comparing activity in the proposed protected areas to activity for all Hauraki Gulf fish stocks

Table 7 below shows the level of commercial fishing activity in the proposed protected areas in relation to activity in all quota management areas that encompass the Hauraki Gulf.

For the October stocks, the seasonality of the fishing activity becomes evident once more, with an almost halving of the total greenweight caught within the proposed protected areas, but an increase in the port price revenue generated. This is because of a decrease in the catch of fish stocks with a relatively lower port price value such as blue mackerel in EMA1 (between $0.40/kg to $0.46/kg) and an increase in higher value stocks such as snapper in SNA1 (between $5.86/kg to $6.13/kg) across the two fishing years.

Table 7 also shows that, although the greenweight activity within the proposed protected areas decreased between the two fishing years, total greenweight activity increased across all fish stocks in the wider study area. This suggests opportunities to transfer fishing effort to areas outside the proposed protected areas.

Table 7: Commercial fishing activity in proposed protected area vs Hauraki Gulf fish stocks

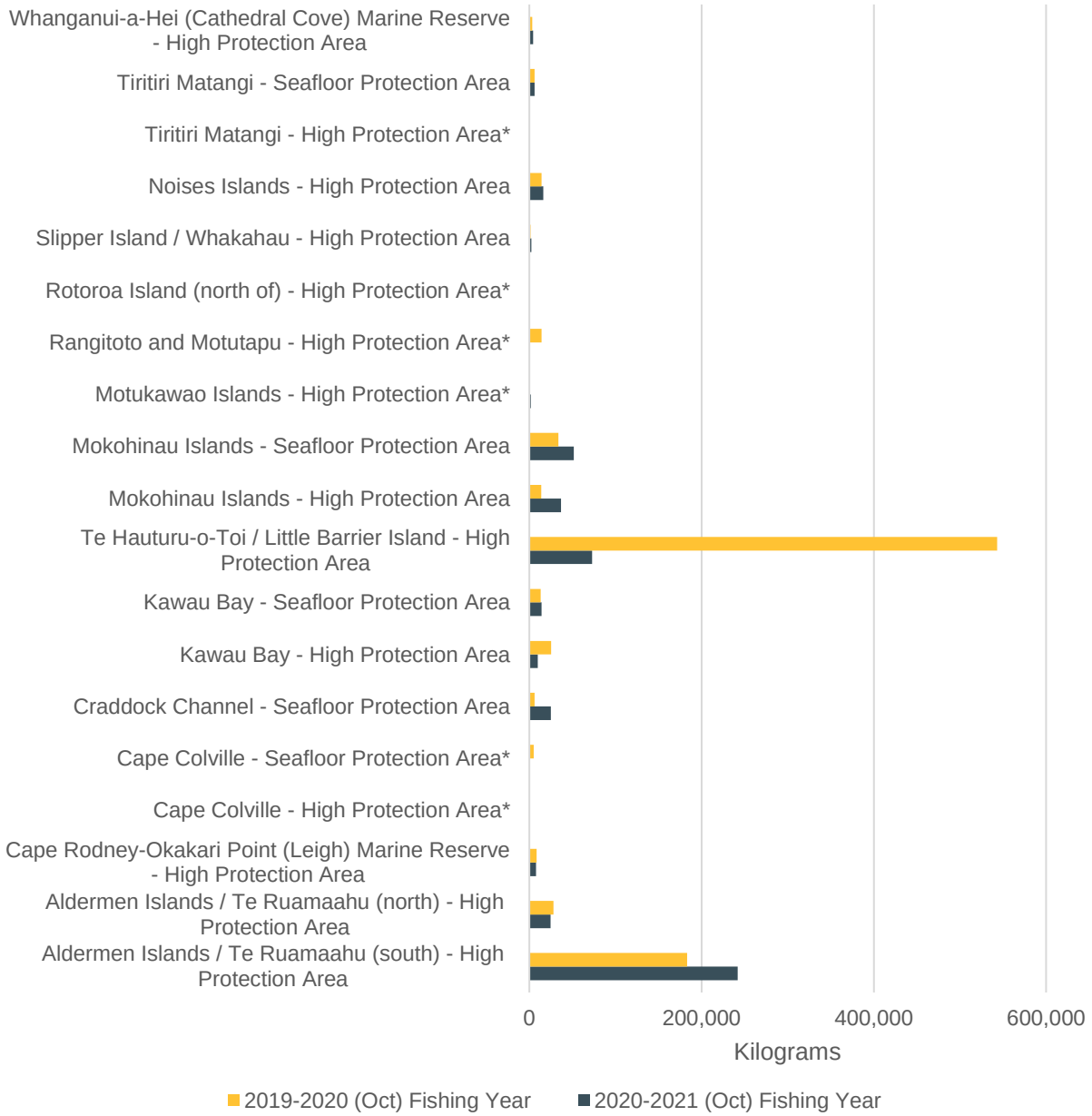
October years	Values	2019-2020 (Oct) Fishing Year	2020-2021 (Oct) Fishing Year
Proposed protected areas	Greenweight (tonnes)	906.07	530.23
	Port price revenue ($m)	1.15	1.37
	Market price revenue ($m)	3.91	4.59
All Hauraki Gulf fish stocks	Greenweight (tonnes)	32,716.85	37,979.49
	Port price revenue ($m)	59.02	66.31
	Market price revenue ($m)	165.12	183.34
April years	**Values**	**2020-2021 (Apr) Fishing Year**	**2021-2022 (Apr) Fishing Year**
Proposed protected areas	Greenweight (tonnes)	2.96	4.47
	Port price revenue ($m)	0.23	0.30
	Market price revenue ($m)	0.34	0.59
All Hauraki Gulf fish stocks	Greenweight (tonnes)	124.00	128.56
	Port price revenue ($m)	8.83	7.76
	Market price revenue ($m)	14.08	16.90

The Te Hauturu-o-Toi / Little Barrier Island – High Protection Area had the highest greenweight commercial fishing activity in three of the four fishing years. The exception was the October 2020/21 year, where almost half the greenweight activity across all of the proposed protected areas occurred in the Aldermen Islands / Te Ruamaahu (south) – High Protection Area. This is shown in Figure 3 and Figure 4.

However, Figure 5 and Figure 6 show the difference in the proportion of commercial fishing activity across the proposed protected areas when considering the relative commercial value of each fish stock caught through the port price revenue generated. Whereas greenweight activity was concentrated within one or two of the proposed protected areas, port price revenue is more spread out.

These sets of figures show that there is a difference between the amount of greenweight caught in an area and the relative commercial value of each fish stock. While a specific area may seem to have a relatively higher impact on commercial fishing activity because more fish is caught than in other areas, we need to consider the value of that fish to the commercial fishing industry in order to get an overall view of that activity.

Figure 3: Total greenweight commercial fishing activity for each proposed protected area, October fishing years



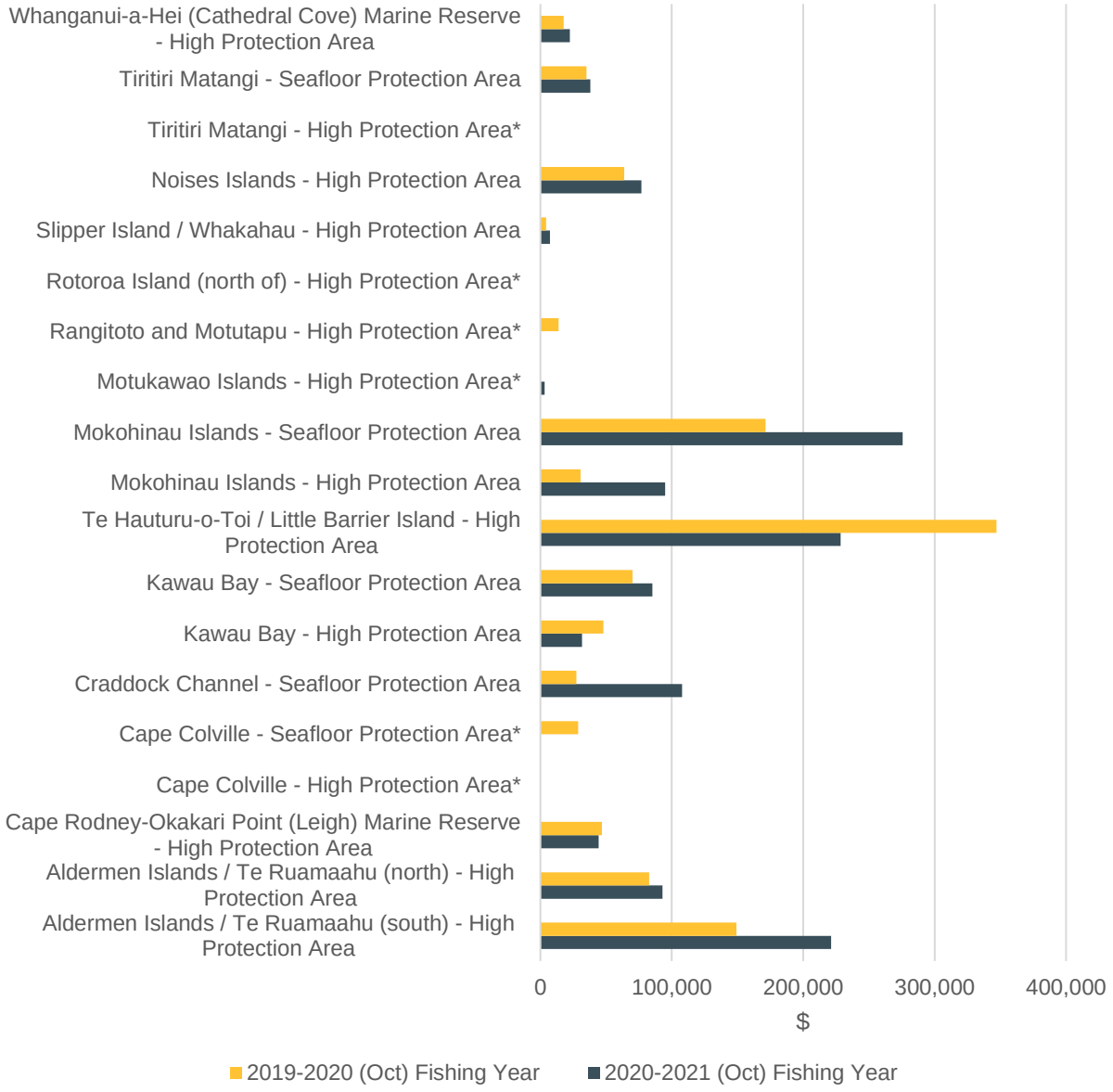
Some information in Figure 3 of this report has been redacted and cannot be released publicly due to commercial sensitivity. It contains low number of commercial fishers operating in the protected areas, and they could be identified from the data in this report.

The "*" shows which areas have had either one or both fishing years redacted.

Figure 4: Total greenweight commercial fishing activity for each proposed protected area, April fishing years

Figure 4 of this report cannot be released publicly due to commercial sensitivity. It contains low number of commercial fishers operating in the protected areas, and they could be identified from the data in this report.

Figure 5: Total port price revenue commercial fishing activity for each proposed protected area, October fishing years



Some information in Figure 5 of this report has been redacted and cannot be released publicly due to commercial sensitivity. It contains low number of commercial fishers operating in the protected areas, and they could be identified from the data in this report.

The "*" shows which areas have had either one or both fishing years redacted.

Figure 6: Total port price revenue commercial fishing activity for each proposed protected area, April fishing years

Figure 6 of this report cannot be released publicly due to commercial sensitivity. It contains low number of commercial fishers operating in the protected areas, and they could be identified from the data in this report.

Analysis of all fishing by permit holders who fish in the proposed protection areas

The number of permit holders fishing in the proposed areas

The number of individual permit holders fishing in the proposed protected areas varies across fishing years and across the proposed protected areas. This is because a permit holder does not necessarily operate in the same area each year.

For the October fishing years, 40 individual permit holders fished in the proposed protected areas each year. However, a total of 48 permit holders fished in either of the two years, because different individual permit holders fished in different years.

For the April years, the number varies between four and five individual permit holders within the proposed protected areas.

This suggests that permit holders' fishing activity within the proposed protected areas varies across different fishing years.

Table 8: Number of individual permit holders operating in the proposed protected areas, October years

Number of permit holders	2019-2020 Oct Fishing Year	2020-2021 Oct Fishing Year	Total across both years
Aldermen Islands / Te Ruamaahu (south) – High Protection Area	12	12	17
Aldermen Islands / Te Ruamaahu (north) – High Protection Area	9	10	12
Cape Rodney-Okakari Point (Leigh) Marine Reserve – High Protection Area	7	5	8
Cape Colville- High Protection Area	1	1	2
Cape Colville – Seafloor Protection Area	4	2	5
Craddock Channel – Seafloor Protection Area	3	3	3
Kawau Bay – High Protection Area	10	6	11
Kawau Bay – Seafloor Protection Area	4	5	5
Te Hauturu-o-Toi / Little Barrier Island – High Protection Area	14	14	16
Mokohinau Islands – High Protection Area	5	9	9
Mokohinau Islands – Seafloor Protection Area	11	13	14

Number of permit holders	2019-2020 Oct Fishing Year	2020-2021 Oct Fishing Year	Total across both years
Motukawao Islands – High Protection Area	2	3	4
Rangitoto and Motutapu – High Protection Area	3	2	3
Rotoroa Island (north of) – High Protection Area	2	2	3
Slipper Island / Whakahau – High Protection Area	5	7	8
Noises Islands – High Protection Area	6	5	6
Tiritiri Matangi – High Protection Area	2		2
Tiritiri Matangi – Seafloor Protection Area	3	3	3
Whanganui-a-Hei (Cathedral Cove) Marine Reserve – High Protection Area	4	4	6
Total across all proposed protected areas	**40**	**40**	**48**

Table 9: Number of individual permit holders operating in the proposed protected areas, April years

Number of permit holders	2020-2021 Apr Fishing Year	2021-2022 Apr Fishing Year	Total across both years
Aldermen Islands / Te Ruamaahu (south) - High Protection Area	1	1	1
Te Hauturu-o-Toi / Little Barrier Island - High Protection Area	1	3	3
Mokohinau Islands - High Protection Area		1	1
Mokohinau Islands - Seafloor Protection Area	1	1	2
Slipper Island / Whakahau - High Protection Area	1	1	1
Whanganui-a-Hei (Cathedral Cove) Marine Reserve - High Protection Area	1	1	1
Total across all proposed protected areas	**4**	**5**	**5**

Permit holders' activity, by port price and by greenweight

October fishing years: Activity by port price and by greenweight

Figure 7 and Figure 8 show the port price revenue generated for each permit holder and the percentage of their total greenweight commercial fishing activity which occurred in the proposed protected areas.

For example, in the October 2019/20 fishing year, one permit holder's port price revenue was higher than all others in absolute terms, at just over $280,000. However, that made up around just 4% of that permit holder's total greenweight activity across all stocks for that fishing year.

These figures show that permit holders vary in how much they rely on the fishing grounds in the proposed protected areas, and that this also varies by fishing year. Although the majority of permit holders generated less than $50,000 in port price revenue within the proposed protected areas, for different permit holders this represents very different proportions of their total commercial fishing activities.

Figure 7: Permit holders' port price revenue and greenweight percentage, October 2019/20

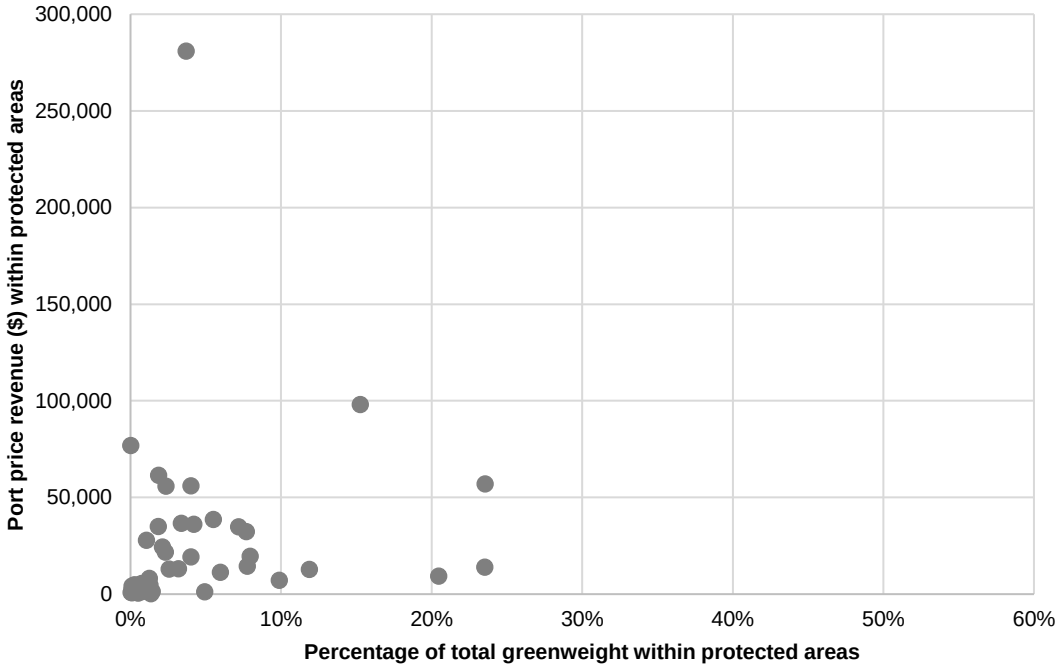
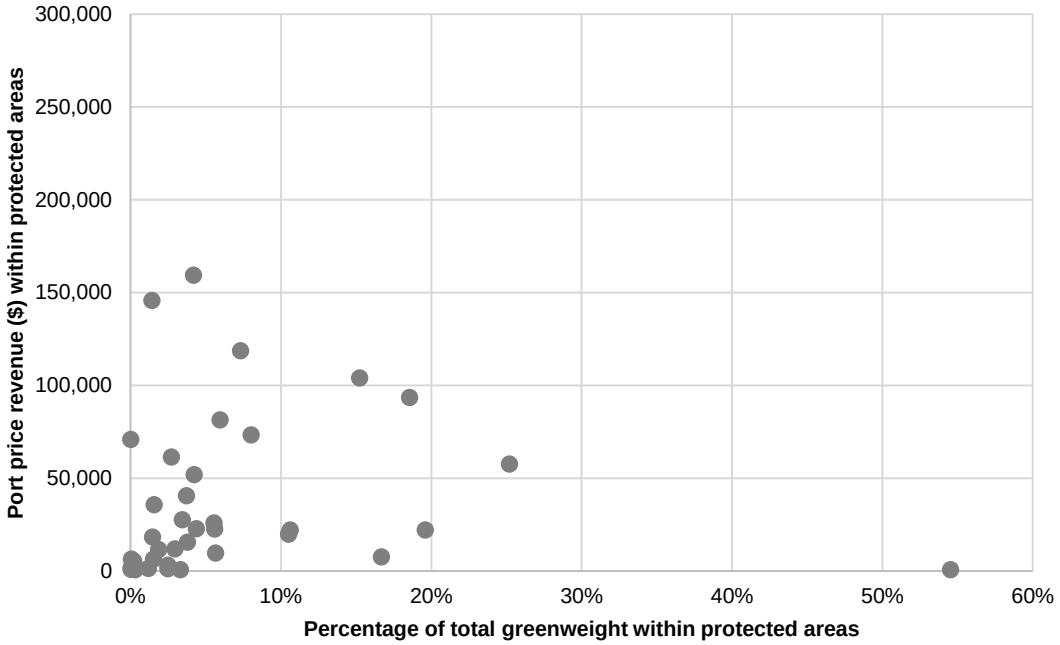


Figure 8: Permit holders' port price revenue and greenweight percentage, October 2020/21



April fishing years: Activity by port price and by greenweight

Figure 9 and Figure 10 show a more even distribution of permit holders' reliance of the commercial fishing activity within the protected areas for the April fishing years.

Where the permit holders were grouped along lower port price revenues for the October fishing years, the April years observed increasing percentages of each permit holder's overall greenweight fishing activity in line with increases in port price revenue. This suggests that there is a higher reliance on the proposed protected areas for some permit holders and their commercial fishing activity.

Figure 9: Permit holders' port price revenue and greenweight percentage, April 2020/21

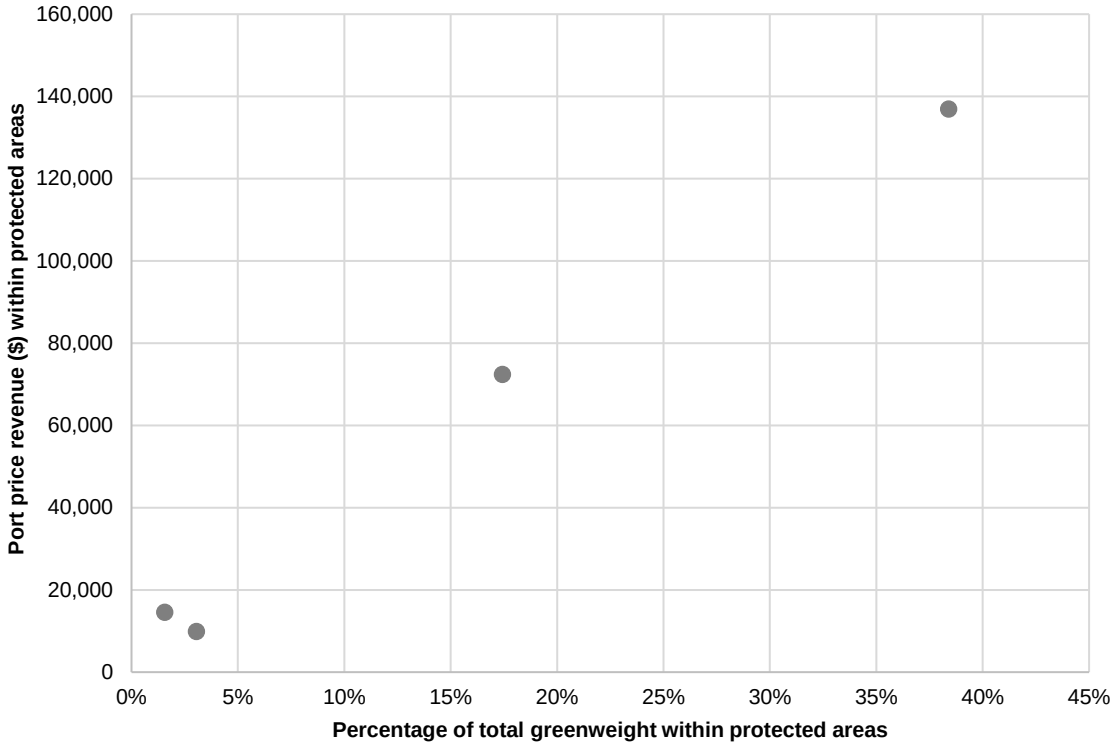
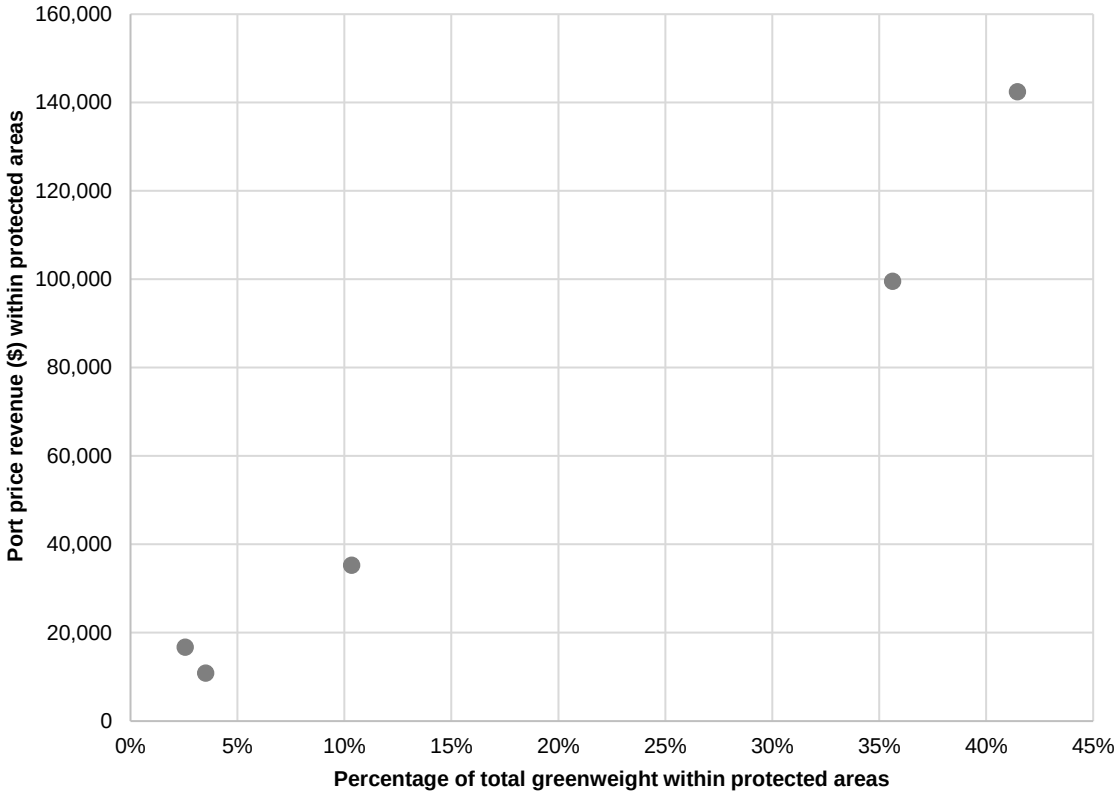


Figure 10: Permit holders' port price revenue and greenweight percentage, April 2021/22



Analysis of fishing activity in the proposed areas by fish stock

This section provides context for understanding the relative importance of the proposed protected areas to the commercial fishing industry for each fish stock. This is done by estimating the level of commercial fishing within the proposed protected areas and comparing this to the activity in other areas not being proposed for protection.

For each year, we compared the amount of commercial fishing activity for each fish stock within the proposed areas to total landings for that fish stock across all permit holders. For this purpose, the total landings were capped at the total available ACE.

In the absence of retail price data we used export prices to show the respective market value (market price revenue) of each fish stock.

Overall, 27 October fish stocks and two April fish stocks were caught in the proposed protected areas during the two fishing years studied.

October fishing years: Analysing activity in the proposed areas by fish stock

The significance of the proposed protected areas for commercial fishing activity varies by fishing year and fish stock.

Across the October fishing years, snapper (SNA1), kina (SUR1B), and blue mackerel (EMA1) generated the highest market price revenue within the proposed protected areas.

The SNA1 catch within the proposed protected areas amounted to approximately 2.6% and 3.4% of total landings, respectively, for the 2019/20 and 2020/21 fishing years. For blue mackerel in EMA1, this proportion is higher at 7.2% for the 2019/20 year and lower at 2.7%, for the 2020/21 year.

Table 10: Market price revenue and proportion of total greenweight from within proposed protected areas, October years

Species name	Fish stock	Market price revenue ($)		Proportion of total greenweight landed (capped at total available annual catch entitlement)	
		2019-2020 (Oct) Fishing Year	2020-2021 (Oct) Fishing Year	2019-2020 (Oct) Fishing Year	2020-2021 (Oct) Fishing Year
Barracouta	BAR1	*	*	*	*
Blue Cod	BCO1	-	*	-	*
Blue Mackerel	EMA1	*	*	*	*
Frostfish	FRO1	*	*	*	*
Grey Mullet	GMU1	*	31,879	*	0.4%
Ghost Shark	GSH1	*	*	*	*
Gurnard	GUR1	25,817	47,148	0.3%	0.5%
Hāpuku & Bass	HPB1	*	*	*	*
John Dory	JDO1	125,683	166,109	3.7%	4.5%
Jack Mackerel	JMA1	330,238	51,573	2.6%	0.4%
Kahawai	KAH1	47,674	34,653	2.9%	2.4%
Kingfish	KIN1	10,625	13,340	1.9%	2.0%
Leatherjacket	LEA1	*	3,896	*	2.5%
Ling	LIN1	*	-	*	-
Parore	PAR1	*	*	*	*
Pilchard	PIL1	*	-	*	-
Pōrae	POR1	-	2,756	-	1.7%
Rough Skate	RSK1	*	-	*	-
Red Snapper	RSN1	*	29,607	*	12.1%
School Shark	SCH1	39,056	49,686	0.6%	0.8%

Gemfish	SKI1	*	*	*	*
Snapper	SNA1	1,257,131	1,682,150	2.6%	3.4%
Sea Perch	SPE1	-	*	-	*
Rig	SPO1	35,973	28,915	2.3%	1.6%
Kina	SUR1B	*	*	*	*
Tarakihi	TAR1	42,728	28,819	0.8%	0.6%
Trevally	TRE1	108,635	161,452	1.9%	2.6%

* Data cannot be published due to commercial sensitivity. It displays catch and revenue information related to fewer than three permit holders.

April fishing years: Analysing activity in the proposed areas by fish stock

The permit holder analysis for the April years in the earlier section showed an increasing proportion of each permit holder's fishing activity coming from within the proposed protected areas. However, this activity represents between 3.4% and 5.6% of total greenweight landed for rock lobster in the CRA2 management area and 0.3% for packhorse lobster in the PHC1 management area across the two April fishing years.

For fish stocks in the April fishing years, rock lobster represents almost all the commercial fishing activity generated within the proposed protected areas. Commercial fishing activity is, therefore, geared more towards rock lobster for the April year permit holders.

That finding helps to shed light on permit holders' ability to shift their fishing effort to areas not being proposed for protection, with approximately 95% of rock lobster in CRA2 not being caught within the proposed protected areas.

Table 11: Market price revenue and proportion of total greenweight from within proposed protected areas, April years

Species name	Fish stock	Market price revenue ($)		Proportion of total greenweight landed confined to total available ACE	
		2020-2021 (Apr) Fishing Year	2021-2022 (Apr) Fishing Year	2019-2020 (Oct) Fishing Year	2020-2021 (Oct) Fishing Year
Rock Lobster	CRA2	323,252	586,910	3.4%	5.6%
Packhorse Rock Lobster	PHC1	*	-	*	-

* Data cannot be published due to commercial sensitivity. It displays catch and revenue information related to fewer than three permit holders.

Analysis of fishing in the proposed areas by fishing method

The marine protection proposals in the “Revitalising the Gulf” strategy designate each proposed protected area as either a High Protection Area or a Seafloor Protection Area, with different restrictions on which fishing methods can be used in the relevant area.

This section sets out in what proportions the different fishing methods are used in the proposed protected areas.

October fishing years: Analysis of activity by fishing method

A number of different fishing methods are used by permit holders within the proposed protected areas and across the different fish stocks.

Figure 11 and Figure 12 show the use of each method in terms of greenweight and port price revenue. Across all the proposed protected areas, most of the activity by greenweight involves the purse seine (PS) method. The greenweight catch by purse seine was higher in the first October fishing year than in the second, and that difference can mostly be attributed to the difference in blue mackerel catch between those two years (see Table 10).

However, the port price revenue generated within the proposed protected areas is more spread out across the fishing methods compared to greenweight activity, because of different port prices for different fish stocks.

A ban on bottom long-line (BLL) or bottom trawling (BT) in the proposed protected areas would not be as restrictive as a ban on PS fishing, in terms of total greenweight. However, in terms of port price revenue, we would expect a ban on BLL or BT to be as or more restrictive than a PS ban.

There has also been a decrease in the use of the PS fishing method, and an increase in the use of most other methods, over the two years. However, this is not enough data to conclude that there has been a shift across the commercial fishing industry in the preferred fishing methods.

Figure 11: Greenweight commercial fishing activity by fishing method inside the proposed protected areas

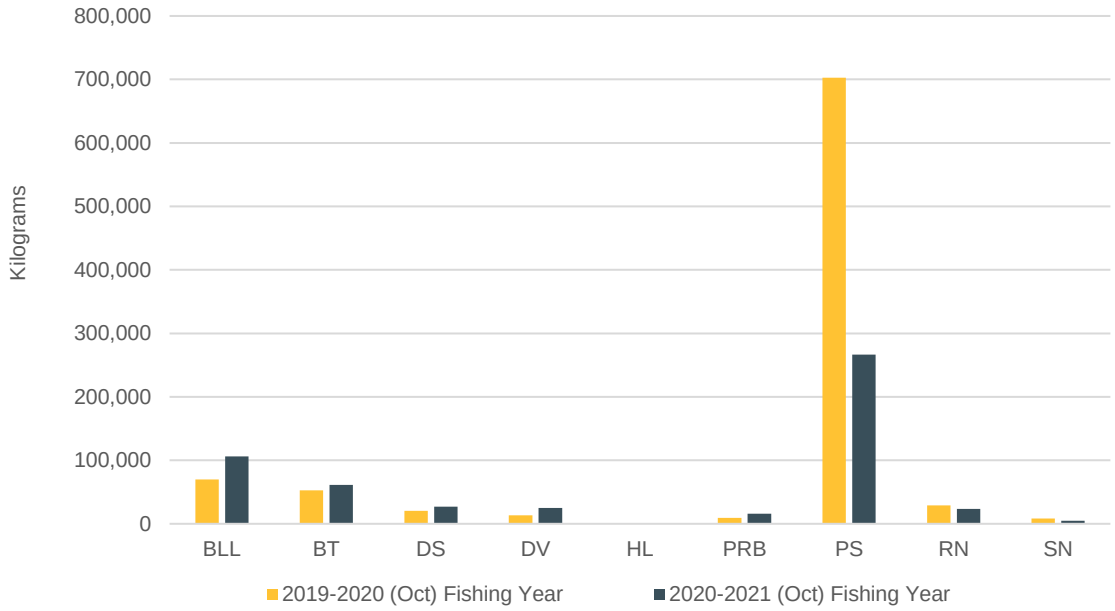
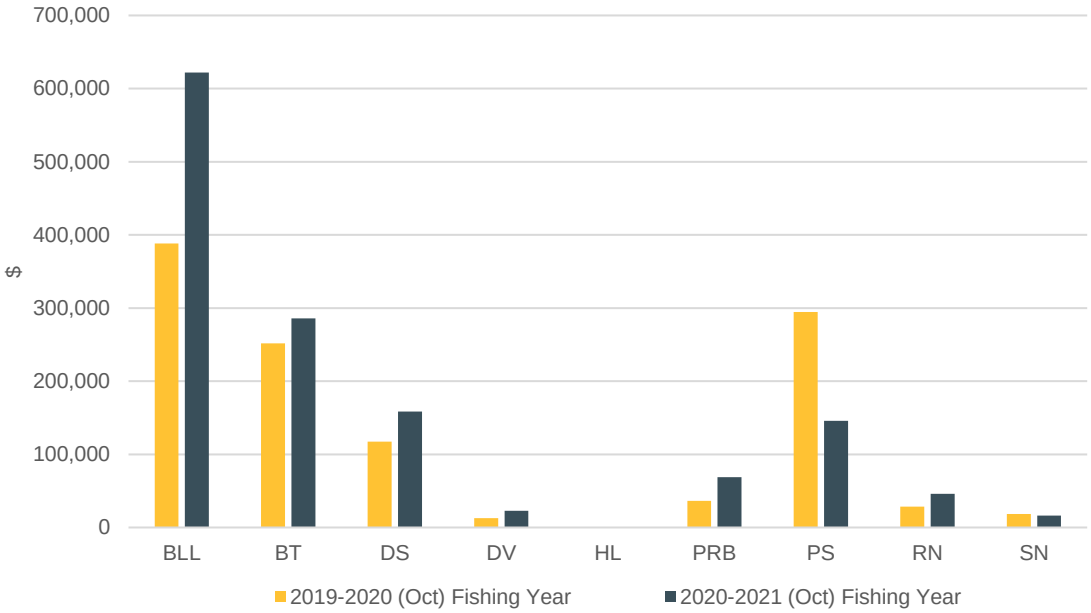


Figure 12: Port price revenue commercial fishing activity by fishing method inside the proposed protected areas



April fishing years: Analysis of activity by fishing method

The fish stocks managed in the April fishing years were caught only by the rock lobster pot (RLP) method. This is expected given that the two fish stocks caught in the proposed protected areas are rock lobster (CRA2) and pack horse lobster (PHC1).

Table 12: Commercial fishing activity by fishing method inside the proposed protected areas, April fishing years

April fishing year	Fishing method	Greenweight (kgs)	Port price revenue ($)
2020-2021 (Apr) Fishing Year	RLP	2,963	233,678
2021-2022 (Apr) Fishing Year	RLP	4,466	304,725

NEXT STEPS

Stage 2 of this assessment will estimate the economic impact of the proposals

This report on Stage 1 of our economic assessment of the proposed protection areas has focused on determining the current level of commercial fishing activity within those areas, in relation to our comparator sets of fishing activity (total landings for quota management areas that include the Hauraki Gulf; and all activity, anywhere within New Zealand and in any fish stock, of those permit holders who operate within the proposed protected areas).

Stage 2 will assess the economic impacts of the proposed protected areas, based on permit holders being unable to transfer their catch to other areas. We will also evaluate the extent to which this commercial fishing activity will be able to transfer to other areas. These economic impacts will be discussed relative to the overall social, environmental, and economic wellbeing generated by protections, which will be identified with reference to available literature.

APPENDIX 1: QUOTA MANAGEMENT AREAS THAT INCLUDE THE HAURAKI GULF

October-year fish stocks

Stock	Species name	Total landings reduced to total ACE (kgs)	ACE revenue ($)	Port revenue ($)	Market revenue ($)
Oct 2019 - Sep 2020					
BAR1	Barracouta	5,602,569	$491,345	$1,730,917	$12,656,147
BCO1	Blue Cod	8,445	$6,451	$46,201	$141,313
BNS1	Bluenose	198,800	$418,653	$1,533,473	$2,598,867
BUT1	Butterfish	3,194	$4,224	$15,960	$15,960
BWS1	Blue Shark	112,288	$5,536	$14,056	$807,509
EMA1	Blue Mackerel	7,169,043	$597,898	$2,885,229	$14,192,943
FLA1	Flats	404,508	$371,338	$3,011,147	$3,247,277
FRO1	Frostfish	46,713	$0	$31,166	$31,166
GAR1	Garfish	22,543	$23,623	$209,678	$209,678
GMU1	Grey Mullet	820,744	$503,362	$3,908,635	$8,448,509
GSH1	Ghost Shark	22,336	$3,473	$5,717	$62,853
GUR1	Gurnard	745,065	$744,543	$1,889,159	$7,611,841
HPB1	Hāpuku & Bass	225,808	$265,257	$1,504,913	$1,504,913
JDO1	John Dory	254,922	$218,953	$1,615,282	$3,369,820
JMA1	Jack Mackerel	6,478,329	$493,001	$2,037,027	$12,825,499
KAH1	Kahawai	998,014	$428,647	$721,161	$1,657,683
KIN1	Kingfish	78,427	$218,074	$407,363	$572,491
LEA1	Leatherjacket	78,559	$8,037	$66,088	$297,840
LIN1	Ling	371,458	$439,101	$1,128,953	$3,802,381
MAK1	Mako Shark	29,598	$1,631	$8,643	$212,851
MOK1	Moki	384,259	$261,796	$808,871	$4,002,077
PAR1	Parore	60,733	$17,552	$124,935	$124,935
PIL1	Pilchard	128,744	$0	$180,234	$180,234
POR1	Pōrae	43,147	$36,364	$170,398	$170,398
PRK1	Prawn Killer	2	$0	$7	$7
RBM1	Rays Bream	218,833	$16,281	$168,894	$168,894
RCO1	Red Cod	5,111	$581	$2,469	$16,403

RSK1	Rough Skate	70,830	$8,974	$14,518	$323,335
RSN1	Red Snapper	22,553	$24,066	$154,852	$243,641
SCH1	School Shark	536,704	$532,464	$942,161	$6,240,433
SCI1	Scampi	123,029	$1,963,986	$2,096,553	$5,358,459
SKI1	Gemfish	210,245	$232,699	$416,320	$643,001
SNA1	Snapper	4,461,628	$17,793,865	$26,127,071	$48,199,180
SPD1	Spiny Dogfish	157,810		$91,792	$455,876
SPE1	Sea Perch	42,197		$23,521	$131,703
SPO1	Rig	217,513		$449,162	$1,564,225
SSK1	Smooth Skate	23,958		$5,135	$109,367
STA1	Giant Stargazer	21,171		$32,872	$198,753
SUR1A	Kina	35,053		$4,475	$2,217,824
SUR1B	Kina	143,693		$137,849	$9,091,541
TAR1	Tarakihi	821,759		$2,435,072	$5,585,036
TRE1	Trevally	1,300,458		$1,816,382	$5,675,634
WAR1	Common Warehou	3,031		$4,296	$16,909
YEM1	Yellow-eyed Mullet	13,027		$45,251	$134,096
Oct 2020 - Sep 2021					
BAR1	Barracouta	8,917,862	$812,417	$2,683,773	$21,916,847
BCO1	Blue Cod	8,200	$5,131	$49,382	$217,355
BNS1	Bluenose	182,949	$325,174	$1,400,767	$2,367,391
BUT1	Butterfish	1,551	$1,946	$7,750	$7,750
BWS1	Blue Shark	93,587	$3,762	$11,715	$746,793
EMA1	Blue Mackerel	8,002,034	$678,572	$3,622,148	$17,208,302
FLA1	Flats	392,122	$305,816	$3,856,668	$2,831,329
FRO1	Frostfish	43,405	$1,129	$21,683	$21,683
GAR1	Garfish	13,652	$11,937	$145,319	$145,319
GMU1	Grey Mullet	829,012	$496,993	$3,953,634	$8,093,361
GSH1	Ghost Shark	22,146	$3,388	$11,781	$46,014
GUR1	Gurnard	846,795	$851,452	$2,480,858	$9,105,344
HPB1	Hāpuku & Bass	180,416	$204,574	$1,469,480	$1,469,480
JDO1	John Dory	286,560	$243,547	$1,664,131	$3,720,625
JMA1	Jack Mackerel	6,776,884	$412,712	$1,513,562	$14,573,628
KAH1	Kahawai	1,016,792	$396,651	$1,509,684	$1,460,611
KIN1	Kingfish	89,277	$231,040	$547,091	$674,541
LEA1	Leatherjacket	64,233	$6,584	$48,892	$157,258
LIN1	Ling	318,876	$361,159	$1,002,339	$2,765,938
MAK1	Mako Shark	29,166	$1,665	$8,516	$232,735
MOK1	Moki	280,084	$218,718	$664,161	$3,580,628

PAR1	Parore	55,872	$14,264	$135,891	$135,891
PIL1	Pilchard	257,337	$0	$360,256	$360,256
POR1	Pōrae	40,883	$34,260	$163,634	$163,634
PRK1	Prawn Killer	24	$0	$82	$82
RBM1	Rays Bream	405,365	$23,349	$312,857	$312,857
RCO1	Red Cod	11,240	$1,100	$7,728	$34,701
RSK1	Rough Skate	57,336	$7,408	$26,977	$233,985
RSN1	Red Snapper	22,560	$22,901	$210,337	$245,114
SCH1	School Shark	517,730	$528,136	$1,063,311	$6,334,033
SCI1	Scampi	127,429	$1,723,885	$2,171,534	$6,120,848
SKI1	Gemfish	252,001	$275,765	$674,735	$657,901
SNA1	Snapper	4,578,508	$18,018,718	$28,085,301	$49,745,356
SPD1	Spiny Dogfish	147,001		$85,505	$318,490
SPE1	Sea Perch	40,736		$53,526	$88,434
SPO1	Rig	233,797		$829,316	$1,865,623
SSK1	Smooth Skate	23,543		$10,319	$96,078
STA1	Giant Stargazer	17,946		$36,578	$172,534
SUR1A	Kina	41,919		$63,803	$2,975,739
SUR1B	Kina	150,628		$136,004	$10,692,756
TAR1	Tarakihi	918,926		$2,519,122	$5,046,583
TRE1	Trevally	1,664,389		$2,631,546	$6,231,839
WAR1	Common Warehou	3,047		$4,451	$12,652
YEM1	Yellow-eyed Mullet	15,665		$54,415	$152,932

April-year fish stocks

Stock	Species name	Total landings reduced to total ACE (kgs)	ACE revenue ($)	Port revenue ($)	Market revenue ($)
Apr 2020 - Mar 2021					
CRA2	Rock Lobster	83,896	$2,615,743	$6,705,540	$9,525,919
PHC1	Packhorse Rock Lobster	40,104	$982,183	$2,125,264	$4,553,584
Apr 2021 - Mar 2022					
CRA2	Rock Lobster	79,740	$2,728,272	$5,441,013	$10,479,555
PHC1	Packhorse Rock Lobster	48,822	$1,273,483	$2,320,595	$6,416,263