

**BEFORE THE VARIATIONS 1 AND 1A PROPOSED MARLBOROUGH ENVIRONMENT
PLAN HEARINGS PANEL
AT BLENHEIM**

UNDER

the Resource Management Act 1991
(the Act)

IN THE MATTER

of proposed variations to the
publicly notified proposed
Marlborough Environment Plan
under the First Schedule to the Act

**STATEMENT OF EVIDENCE OF ROBERT JAMES GREENAWAY
IN SUPPORT OF THE SUBMISSIONS OF THE MARINE FARMING ASSOCIATION
INCORPORATED AND AQUACULTURE NEW ZEALAND AND BELEVE LIMITED, R J
DAVISON FAMILY TRUST AND TREBLE TREE HOLDINGS LTD**

Dated this 27th day of October 2021

**GASCOIGNE WICKS
LAWYERS
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INTRODUCTION

1. My full name is Robert James Greenaway.

Scope of Evidence

2. My evidence is provided in support of the submissions and further submissions of the Marine Farming Association (MFA) and Aquaculture New Zealand (AQNZ), and Beleve Ltd, RJ Davidson Family Trust and Treble Tree Holdings Ltd.
3. In this evidence I provide a high level summary of the effects of marine farms on recreation, navigation and tourism activity. I also specifically address points raised by Kenepuru and Central Sounds Residents Association (KCSRA) and Clova Bay Residents Association (CBRA) in their submissions.
4. My evidence focuses on marine recreation and tourism in Pelorus Sound, as this is the focus of the relevant submissions, but I also include the entire Marlborough Sounds to provide context.

Qualifications and Experience

5. I am a Director of Rob Greenaway & Associates (R&R Consulting (NZ) Ltd) and have been since 1997. Prior to this, I was a Recreation and Tourism Consultant for Boffa Miskell Limited, from 1995 until 1997, and before that I held the same position at Tourism Resource Consultants, from 1990 until 1995.
6. I graduated from Lincoln University in 1987 with a three-year Diploma in Parks and Recreation Management with Distinction, and completed 18 months of postgraduate study in conservation management. I hold the status of an Accredited Recreation Professional with Recreation Aotearoa (the NZ Recreation Association), and I am a member of the Recreation Aotearoa Board of Accreditation for member accreditation to professional status. I am also a member of the New Zealand Association for Impact Assessment. In 2011 I was appointed as an inaugural Board member of the Sir Edmund Hillary Outdoor Recreation Council, to assist Sport New Zealand with the implementation of the National Outdoor Recreation Strategy, amongst other things.
7. I was awarded the Ian Galloway Memorial Cup in 2004 by Recreation Aotearoa (of which I am a past Executive Member) to recognise “excellence and outstanding

personal contribution to the wider parks industry". In 2013 I was awarded the status of Fellow with Recreation Aotearoa.

8. I have comprehensive experience in undertaking recreation and reserve management planning assessments. I have presented evidence at more than 100 hearings, many for marine farming and coastal developments; including several marina proposals (Waikawa, Lyttelton, Bayswater, Waiheke Island), port dredging and development (Lyttelton, Whangarei), marine mining (Taranaki), the wreck of the Rena, marine farming (King Salmon for the MDC, Port Gore (twice) for residents, Kaipara Harbour for residents, Port Levy for residents, Firth of Thames for an applicant, Mercury Bay for an applicant, and I have recently prepared evidence in relation to King Salmon's Blue Endeavour proposal for King Salmon. I am also currently assessing the proposed seaward relocation of the Clifford Bay mussel farms. I have also completed many assessments of marine discharges (in Waimate (twice), Nelson, Christchurch, Taranaki, Wellington, Porirua and Kapiti). I have worked on many other marine recreation assessments throughout New Zealand for water supply and treatment infrastructure, transport projects and reclamations.
9. I am an experienced coastal sailor and own a 12.2m keeler based in the Nelson Marina. In early 2019 I sailed solo around the North Island. I am a PADI certified scuba diver (since 1983), although my last scuba dive was on the wreck of the Rena in 2016. I have sea kayaking experience and once owned a double sea-kayak. I was born while my parents were living aboard a yacht built by my father and have substantial coastal and some blue-water sailing and boating experience. I am deputy chair of the Nelson Marina Advisory Group to the Nelson City Council, assisting with development and management direction for the Nelson Marina and its hardstand, boat ramp and watersports facilities.

Experience in the Marlborough Sounds

10. I have recreated in the Marlborough Sounds on many occasions, including a site visit in relation to NZ King Salmon proposals in 2012, walking both the Nydia Bay and Queen Charlotte Tracks, dredging scallops in the Waitata Reach, taking a fishing charter in the outer Pelorus Sound, and this summer I spent almost a week cruising Pelorus Sound solo in my yacht, although I did not enter the Beatrix Bay area. I have sailed into Croisilles Harbour on many occasions – anchoring adjacent to and sailing

through mussel farms, as well as completing many cruises to Abel Tasman via the mid-Tasman Bay mussel farm, which I generally sail through.

11. I undertook a site visit to Beatrix, Clova and Crail Bays on 16 October this year aboard the Pelorus Sound Water Taxi out of Havelock, and revisited the marine farms at the entrance to Kenepuru Sound.

Code of Conduct and Conflict of Interest Declaration

12. I have read the Environment Court's Code of Conduct for Expert Witnesses 2014, and I agree to comply with it. I confirm that the issues addressed in this brief of evidence are within my area of expertise, except where I state I am relying on what I have been told by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.
13. I have no commercial relationship with the submitters, save in my role as an expert.

EXECUTIVE SUMMARY

14. My evidence reviews the relationship between mussel farming in the Pelorus Sound area and recreation and tourism. I find that these activities co-exist in the Sound and, while there will always be site-specific issues to consider with individual mussel farm placement, the activity is generally compatible with marine recreation and tourism in this setting. However, the most recent – albeit now dated – research into the effects of marine farming on recreation suggests that the ability of the Sounds to absorb increased mussel farming needs to be carefully considered from a recreation amenity perspective.
15. I respond to the concerns raised in the submissions of CBRA & KCSRA in relation to “problematic navigation and public access issues” within Clova Bay and the need to maintain “point to point” navigation routes in the Beatrix, Clova and Crail Bays areas and in the western end of Kenepuru Sound. Also their submission that these areas need similar levels of protection from development as the Queen Charlotte Coastal Management Unit. I find that there is no basis to their concerns regarding point to point navigation, and that potential navigation issues will not apply to the vast majority of recreation and tourism navigation in Beatrix, Clova and Crail Bays – a result of lack of mussel farms on relevant headlands, and low recreational use of the setting. I also note that the scale of recreational and tourism activity in the Beatrix, Clova and Crail Bays is significantly lower than that of Queen Charlotte Sound and

that it would be inconsistent to afford these areas the same classification for recreation amenity reasons. The mussel farms at the western end of Kenepuru Sound are well-removed from the navigation channel and are a focus of local tourism activity.

16. I make two recommendations:
 - a. That a social impact monitoring programme be included in the mandate of the technical advisory group as recommended in the submission of the Marine Farming Association Incorporated and Aquaculture New Zealand (at my paragraphs 97 and 98); and
 - b. That the Harbour Masters recommendation that the effects of marine farm locations on boat speed be a factor to consider rather than a criteria (at my paragraphs 99 and 100).

SCOPE OF ASSESSMENT AND RELEVANT PLANNING MATTERS

17. My expertise is in the assessment of recreational value, and in this section of my evidence I consider planning matters which relate to recreation in the marine environment of the Marlborough Sounds. I recognise that recreation value in the Marlborough Sounds depends on a wide range of natural and cultural values, which are referred in planning material – such as amenity from a landscape perspective, water quality, and the habitat of fish and shellfish which can be taken recreationally. In this assessment I focus only on matters directly relating to the ability to boat recreationally in the Sounds, rather than the full suite of values which add value to the boating experience. Those other matters, such as water quality and natural character, are considered by other specialists.

Resource Management Act 1991 (RMA)

18. In terms of Part 2 of the RMA, my assessment relates primarily to the requirement to have particular regard to the maintenance and enhancement of amenity values and the quality of the environment.
19. The RMA considers, as a matter of national importance, the preservation of the natural character of the coastal environment and protection of the coastal environment from inappropriate development and use. The coastal environment includes the sea, the shore and the surrounding backdrop.

20. I understand that the RMA requires particular regard to be had to maintaining and enhancing amenity values and the quality of the environment. The term ‘amenity values’ is defined in s 2 as meaning: *those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes.*
21. My opinion focuses on *recreation attributes*, but also by necessity considers the characteristics of the area *that contribute to people's appreciation of its pleasantness and aesthetic coherence and cultural attributes*. I use the term ‘cultural’ to refer to what is important to society generally, and not only aspects important to iwi or hapu.

New Zealand Coastal Policy Statement 2010 (NZCPS)

22. The NZCPS provisions which directly relate to recreation, amenity, and public access are Objective 4 and Policies 18 and 21. These are listed below. Other NZCPS provisions relate specifically to matters which can influence recreation (e.g. marine mammals, which are captured by Policy 11). These are not listed below and other relevant expert evidence prepared for the MFA and AQNZ will apply.
23. Objective 4 of the NZCPS aims to "maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by:
- *“recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy;*
 - *maintaining and enhancing public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not practicable providing alternative linking access close to the coastal marine area; and*
 - *recognising the potential for coastal processes, including those likely to be affected by climate change, to restrict access to the coastal environment and the need to ensure that public access is maintained even when the coastal marine area advances inland.”*
24. Policy 18 of the NZCPS relates to public open space, as follows:

"Recognise the need for public open space within and adjacent to the coastal marine area, for public use and appreciation including active and passive recreation, and provide for such public open space, including by:

- (a) ensuring that the location and treatment of public open space is compatible with the natural character, natural features and landscapes, and amenity values of the coastal environment;*
- (b) taking account of future need for public open space within and adjacent to the coastal marine area, including in and close to cities, towns and other settlements;*
- (c) maintaining and enhancing walking access linkages between public open space areas in the coastal environment;*
- (d) considering the likely impact of coastal processes and climate change so as not to compromise the ability of future generations to have access to public open space; and*
- (e) recognising the important role that esplanade reserves and strips can have in contributing to meeting public open space needs."*

- 25. Policy 21 of the NZCPS refers to considering whether the quality of the water in the coastal environment has an effect on, amongst other things, water based recreation.
- 26. I note that the Minister of Conservation in her submission on the draft Variations 1 and 1A finds that the Variations "appropriately recognise ... NZCPS policies to protect coastal values."
- 27. I consider all these values in my evidence.

Proposed Marlborough Environment Plan 2020 (PMEP Appeal Version and Variation 1)

- 28. The PMEP defines objectives and policies for (Issue 9A), "Trying to meet community expectations that public access will be available to rivers, lakes and the coast."
- 29. Policy 9.1.1 identifies areas with a "high degree of importance for public access" where the Marlborough District Council "will as a priority focus on enhancing access to and within." In the coastal marine area these are:¹

¹ Policy 9.1.1(c) PMEP. Noting that the Appeals Version of the PMEP includes a spelling adjustment to correctly spell Croisilles which has been included here.

“particularly in and near Picton, Waikawa and Havelock, Kaiuma Bay, Queen Charlotte Sound (including Tory Channel), Port Underwood, Kenepuru Sound, Mahau Sound, Mahikipawa Arm and Croisilles Harbour, Rarangi to the Wairau River mouth, Wairau Lagoons, Marfells Beach and Ward Beach”

30. Considering the entire Marlborough Sounds environment, Objective 13.3 seeks to ensure that “Recreation continues to make a significant contribution to people’s health and wellbeing and to Marlborough’s tourism industry, whilst avoiding adverse effects on the environment.” Objective 13.21 (of Variation 1 to the PMEP) seeks to “Provide for marine farming in appropriate locations while protecting and maintaining the values of Marlborough’s coastal environment.”

31. Policy 9.1.13 sets out assessment matters for resource consent applications in or adjacent to the coastal marine areas. Of relevance to recreation and tourism are:

“(a) whether the application is in an area identified as having a high degree of importance for public access, as set out in Policy 9.1.1;...

(d) the extent to which the activity/subdivision/structure would benefit or adversely affect public access, customary access and recreational use, irrespective of its intended purpose;...

(g) how public access around or over any structure sought as part of an application is to be provided for;

(h) whether the impact on public access is temporary or permanent and whether there is any alternative public access available;...”

32. Policy 9.2.1 states that

“Public access to and along the coastal marine area and the margins of lakes and rivers may be restricted to:

(a) ensure a level of security consistent with the purpose of a resource consent or designation; ...”

33. This would apply to the immediate areas occupied by marine farms, although it is possible to navigate between mussel lines (as I regularly do).

34. 9.2.2 notes that constraints on public access to and along the coastal marine area shall not be imposed unless “there is no practical alternative” and “the effects on public access would be no more than minor.”
35. Variation 1 includes a number of policies addressing the appropriateness of the location of Aquaculture Management Areas (AMAs):
36. In relation to AMAs for existing marine farms, in relation to matters relevant to my assessment (per policy 13.21.3):

AMAs within the Enclosed Waters CMUs are generally located:

(a) In the coastal ribbon between 100 and 300 metres from mean low water (other than those AMAs that provide for intertidal marine farms) in order to protect natural, recreational and amenity values of the coastal marine area of the Marlborough Sounds; ...

(c) Away from residences, publicly accessible boat launching facilities, jetties, publicly accessible beaches, moorings, anchorages of refuge and recognised navigational routes where this is necessary to maintain and enhance the recreational and amenity values of the Marlborough Sounds;....

37. In terms of policy 13.21.4:

Additional AMAs in the Enclosed Waters CMUs (AMAs that are not to provide for existing marine farms or the relocation of existing marine farms), and AMAs in Near-shore CMUs, and marine farms in the offshore CMU are not appropriate in:

(a) Queen Charlotte Sound CMU to protect the particularly high recreational, scenic, and amenity values present in that area;

(b) The National Transportation Route, other than the side bays of Tory Channel/Kura Te Au;...

38. Policy 13.21.5 states, in relation to matters relevant to my assessment:

The appropriateness of additional AMAs in the Enclosed Waters CMUs and AMAs in the Near-shore CMUs will be assessed considering adverse effects on any of the natural and human use

values of the coastal marine area and may be provided only where the criteria in Policy 13.21.3 are met and:...

(c) the location of an AMA and subsequent marine farm will not significantly narrow the navigable channel resulting in speed restrictions across the majority of a bay;

(d) public access for recreational opportunities near the proposed AMA will not be significantly affected by the AMA or subsequent marine farm activities;

(e) amenity values including visual amenity will not be significantly adversely affected by lighting and noise arising from the operation of the subsequent marine farm;...

39. In terms of new marine farms in the offshore CMU, these may be provided for – in relation to matters relevant to my assessment – where they are located (per policy 13.21.6):

“(a) Away from recognised navigational routes (including small craft navigation) where this is necessary to facilitate safe navigation; ...

(h) In an area where amenity values including visual amenity will not be significantly adversely affected by lighting and noise arising from the operation of the subsequent marine farm.”

40. I have taken these overarching policies into account when preparing this evidence. However, I defer to landscape assessments for the assessment of visual amenity and natural character values. Marine ecological values are also relevant to recreation amenity considering fishing, diving and interacting with wildlife, and I also defer to those relevant specialists.

MARINE RECREATION AMENITY IN THE MARLBOROUGH SOUNDS

41. There are no data or assessments that define the significance, at a national level and for all activities, of the recreation values of the Marlborough Sounds, or specific parts of it. There have been several studies of marine recreation value, particularly with regard to managing the Sounds cod fishery, and these are helpful for angling. There are scant data for sailing, power boating, sightseeing, swimming, diving and

other marine activities, although AIS (Automatic Identification System) data are very useful.

42. In this section of my evidence I consider the available data which describe the marine recreation attributes of the Marlborough Sounds.

Marine recreation demand generally

43. Sport NZ (2015) reported that fishing, both freshwater and marine, was the fifth most important 'active leisure' pursuit in New Zealand with 19.5% of the national population participating in 2013/14, and 16.6% fishing in marine settings in 2007/08 (approximately 540,000 people). (The difference between marine and freshwater fishing is not reported for the 2013/14 data). This makes fishing more popular as a participation activity than, for example, golf, tramping, cricket, tennis and rugby. Almost 30% of men fished in 2014/15, and 10.5% of women. Scuba diving was undertaken by 3.4% of the population in 2013/14, compared with cricket at 5.3%, rugby union at 3.6% and football at 6.3%.
44. Vance (2014) indicated that, based on eight Colmar Brunton surveys completed between 2002 and 2011, a range of 16% to 19% of households owned at least one boat in New Zealand. Vance estimated that between 30% and 50% of boat users go out at least every couple of weeks; and that levels of ownership have been reasonably consistent since at least 2006, but with possible increases in the ownership of trailer power boats and canoes and kayaks.
45. Data describing and quantifying recreation values of the Marlborough Sounds is provided by the 2001 and 2012 national surveys: *Perceptions of the Marlborough Sounds and the Impacts of Marine Farms* (Corydon Consultants 2001) and *New Zealanders' Perceptions of the Marlborough Sounds In 2012* (Corydon Consultants 2012). The surveys indicated that the Sounds are considered a nationally important resource for cultural and recreational reasons, although they are now rather dated.
46. The 2012 survey found that 59% of respondents had visited the Marlborough Sounds at least once.²

² This figure is not quoted in the 2012 report and this additional data is provided by the authors.

47. On their 'last visit' to the Sounds 91% of the 2012 survey respondents who had visited the Marlborough Sounds at least once had travelled on the ferry and 68% of respondents had stayed in the Sounds for at least one night.
48. Respondents for the 2012 survey were divided into two groups: Marlborough respondents and those living elsewhere ("nationwide"). **Table 1** shows the activities and levels of participation reported, showing, for example, 53% of Marlborough respondents had walked the Queen Charlotte Track compared with 36% for "nationwide" respondents.

Table 1: Activities undertaken in the Sounds (Corydon Consultants 2012)		
Activity	Marlborough respondents (n=391) %	Nationwide respondents (n=1,203) %
Travelled through Sounds (on a ferry)	95	90
Travelling Queen Charlotte Drive	97	70
Stayed at least one night in the Sounds	91	68
Queen Charlotte Walkway	53	36
Boating (on a private boat), including motor boating, sailing, jet skiing, water skiing	93	56
Passenger on a tourist boat or water taxi	80	51
Kayaking	37	23
Swimming	82	63
Land-based recreation including bush walking, tramping, mountain biking, hunting, camping, rock climbing	60	60
Recreational fishing, including collecting shellfish	90	50
Diving / snorkelling, including spear fishing	35	16
Picnicking	85	65
Visiting a marine farm	62	26
Working	37	12
I live there	17	2

49. The authors of the study noted:

Some of the results in [Table 1] appear to be unusually high. In particular, it seems unlikely that over one quarter of nationwide respondents and nearly two thirds of Marlborough respondents had made a formal visit to

a marine farm. The high level of reporting in this instance may include people who have been boating near a marine farm, which would probably include a large proportion of the respondents who said they had been out on a private boat (more than half of nationwide respondents and almost all Marlborough respondents).

50. Most of the figures in **Table 1** are possibly generally high, considering the level of recreation participation reported in other surveys. For example, Sport NZ's 2007/08 participation study (SPARC 2009) indicated that 6.4% of the population canoe or kayak, including whitewater kayaking. The participation figure of 23% for kayaking in the Sounds shown in **Table 1**, for the 59% of the population who reported visiting the Sounds in the 2012 survey, suggests approximately 14% of the total population participated in kayaking in the Sounds – more than double the national participation rate for all destinations. The Sport NZ study is based on 4,443 face-to-face interviews, whereas the Corydon study is based on 1,534 telephone interviews, and the former has lower error levels. However, Sport NZ focuses on participation over the preceding 12 months whereas the Corydon 2012 study considers any activity over a lifetime. There may also be some confusion with, for example, questions about walking the Queen Charlotte Track, which may have been interpreted as walking a track in the Queen Charlotte Sound.
51. Nevertheless, the Corydon 2012 study indicates that there is a high level of interest in recreation in the Sounds, although the actual reported activity figures in the study are, in my view, likely to be overstated.
52. The main “valued qualities” associated with the Sounds for the “nationwide” 2012 study respondents were “scenic beauty” (60%), “high water quality” (29%), “restfulness / peace / tranquillity / holidays” (39%) and “wildness / natural environment / unspoilt character, including limited population and low level of development” (38%).
53. Respondents to the 2012 survey were asked to rank the importance of the Marlborough Sounds for contributing to the image of New Zealand within New Zealand and overseas. Ninety-eight percent of both “nationwide” and Marlborough respondents viewed the contribution of the Sounds to New Zealand’s image amongst New Zealanders as “very important” or “important”. A greater percentage

of Marlborough respondents (71%) ranked it as “very important” rather than “important” when compared to nationwide respondents (66%).

54. Slightly fewer nationwide and Marlborough respondents considered the Sounds “very important” or “important” for New Zealand’s image overseas (95%). By comparison, the 2001 survey found that 90% of respondents considered the Sounds to be “very important” or “important” for the overseas image.
55. Most respondents (72%) thought that, as a recreational setting, the Sounds were “very important” or “important” for people throughout New Zealand, 21% thought they were important to residents of central New Zealand only and 5.5% thought they were of little importance to anyone outside the Marlborough Sounds. Most respondents (73%) strongly agreed that the Sounds were important for future generations. The vast majority of respondents thought that the Sounds were either “very important” or “important” as a contributor to the image of New Zealand among New Zealanders (94%) and also for New Zealand’s image overseas (90%). These views did not differ significantly with the location of respondents.

Fishing

56. Fishing is probably the most common form of recreation undertaken in the Sounds – either in association with other activities or as a single focus.
57. Allen *et al* (2010) apply a very coarse description of important inshore recreational line fisheries, surrounding almost all the North Island, and in the South Island. These include: Golden and Tasman Bays, D’Urville Island and the Marlborough Sounds (as a contiguous area), Banks Peninsula, Kaikoura, Motunau, Fiordland, the Catlins and the eastern corner of Stewart Island. Greater analysis would be required to identify which of these areas are nationally significant, considering the scale of opportunity identified.
58. Late last century, James & Unwin (2000) carried out a survey of recreational fishing from charter vessels, showing that the Marlborough Sounds were the most popular setting for this activity south of East Cape on the North Island (**Figure 1**).
59. More recently, Davey *et al* (2007) reported on recreation fishing activity in the Sounds via aerial surveys. **Figure 2** indicates the findings for the 2005/06 season.

60. Hartill *et al* (2015) reviewed the method applied by Davey *et al* (2007) and carried out two aerial counts of fishing activity in March 2014 and October 2015 (outside the preferred recreational fishing season of December to February (Batstone *et al* 2009)) to review the relevance of that survey method for any future comprehensive research. They noted that the general distribution of activity was similar to the 2007 study and that aerial counts remain a valid research method, with the results shown in my **Figure 3**.

61. In 2009, Batstone *et al* reported on a “characterisation survey of recreational fishers” undertaken in the Marlborough Sounds over the summer of 2008/09. This gave an estimate of the total number of fishers in the Sounds (9,212, with a 95% confidence interval of 7,416 to 11,008), estimates of catch, and an understanding of motivations. For the latter, the authors stated (p iii):

“The most important motivations amongst Marlborough Sounds recreational fishers are to be outdoors, to be close to nature, and to share the fun of fishing and the fish they catch with family and friends. In contrast, motivations associated with sports fisheries, such as the pursuit of trophy fish, technical aspects of fishing, and fishing skill development, are less important in the Marlborough Sounds. Only 25% of respondents agreed with the proposition that the more fish are caught, the better a fishing trip.”

62. Notably, Batstone *et al*’s intercept survey of 1,207 fishers relied on reaching a target ratio of 70% trailer boats, 25% yachts and launches and 5% other vessels (such as kayaks) based on previous research which characterised the Marlborough Sounds recreational fleet (including Davey *et al* 2007). Trailer boats tend to be the faster craft which can achieve relatively long day-trips to remote settings.

63. The Blue Cod Management Group’s 2015 report on the blue cod fishery in the Sounds includes detail from recreational charter fishing diary records. **Figure 4** shows charter focused around the western side of D’Urville Island, Tory Channel and the outer Queen Charlotte Sound and thinly spread within Pelorus Sound.

64. In 2016, the Ministry for the Environment released the *A New Marine Protected Areas Act* consultation document proposing to establish Recreational Fishing Parks in the Hauraki Gulf and the Marlborough Sounds – the latter matching the boundaries

set by the MPI Blue Cod Management Area which spans from Stephens Island in the north-west to Cape Koamaru in the east (**Figure 5**). These Fishing Parks would control commercial take of finfish only.

65. In the South Island, sheltered and relatively accessible inshore line fisheries are limited to Abel Tasman and the Marlborough Sounds areas, including D’Urville Island. Accordingly, these areas are very important for the South Island, and most likely nationally significant in aggregate.
66. The Spot X guide fishing in the Marlborough Sounds identifies only two prime fishing sites in Pelorus Sound – the western side of Crail Bay and the north-western corner of Beatrix Bay (Lamb & Fargher 2004). For the Beatrix Bay site the recommendation is, “Use heaps of berley and fish around the mussel farms or if possible a working harvester. The occasional kingfish can be caught in the running current on the point.” I assume Whakamawahi Point is that referred to. For the Crail Bay site, the recommendation is similar: “Anchor next to a mussel farm or if possible a working harvester”

Boating and boat passage

67. At a coarse level, New Zealand has several obvious important recreational boating settings at the national level: the east coast from Tauranga to Houhora (including the Hauraki Gulf, Bay of Islands and the Coromandel Peninsula), and Abel Tasman and the Marlborough Sounds. Other coastal areas are important to their local boating fraternities, including Banks Peninsula, Wellington and Taranaki, and other areas are important for specific qualities, such as Fiordland and Stewart Island.
68. In the South Island, there are only small areas of coast which provide for relatively easy cruising. These are Abel Tasman and the Marlborough Sounds. Banks Peninsula and Stewart Island are interesting but more challenging cruising destinations. At a high level I would class Abel Tasman and the Sounds as nationally significant recreational boating areas, considering their popularity and multitude of fishing areas and anchorages and relatively sheltered aspects.
69. I would not apply the same classification (of national significance) to each bay in these areas. However, in my opinion, the waters of Abel Tasman National Park can be classed as nationally significant for recreational boating – individually and *in toto* – while the Marlborough Sounds has some areas of national significance and some

of regional significance. For example, much of the inner Queen Charlotte Sound, Ship Cove and Endeavour Inlet are likely to be nationally significant for boating, while most of Pelorus Sound is likely to be regionally significant – although more research would be required to confirm this.

70. Allen *et al* (2010) identifies the location of boating clubs as a proxy for identifying likely boating grounds. I would caution against this approach as some clubs focus on small dinghy sailing, some have huge memberships and others quite small. Allen *et al* (2010) also omits many clubs from their review.
71. The most common routes taken by pleasure craft are indicated by AIS data. An AIS is an Automatic Identification System mounted on a vessel which periodically transmits the vessel's "personal" information – such as name, size and type – as well as its speed and heading, via VHF radio signal and, when capable, by satellite. It also receives the same data from other vessels via VHF and can track their courses and warn of collisions. Some navigation buoys or hazards also transmit an AIS signal (or it is transmitted virtually from another location), and appear live on digital charts where they interface with an AIS receiver, with the same ability for an AIS receiver to warn of a possible collision.
72. Shore-based VHF receiving stations automatically transfer VHF AIS data to a global database, and GPS tracks are recorded online via global marine traffic databases, which can be accessed through commercial websites (the dominant one being Marine Traffic³). There are eight coastal receivers in the Marlborough Sounds and so any local vessel with a VHF or satellite AIS transmission system in the Sounds appears on the global database.
73. I do not have any data about the uptake of AIS systems by pleasure craft in New Zealand, but I observe that when at sea, I can always see several other recreational vessels with them operating (I have an AIS fitted on my yacht). Live online marine traffic AIS reporting always shows several pleasure craft transmitting in all popular boating areas, and my **Figure 6** shows, via live-tracking on the Marine Traffic portal, multiple pleasure craft using AIS on a Friday morning in February 2021. The AIS data therefore provide a sample of recreational boating activity, much in the same manner as a sample applied in a social survey. AIS is therefore a little like a tag and

³ www.marinetraffic.com

release programme, but unlike, for example, tagging 10 longfin eels with GPS devices and seeing where they head to breed⁴, AIS essentially tags multiple boats in an area and monitors where and how they recreate. Its greatest strength is therefore in showing the relative value of settings for different forms of recreation.

74. Certain rules apply to the compulsory use of AIS on commercial vessels, but, as noted, they are voluntary for pleasure craft. Online AIS data can be filtered by vessel type, such as commercial fishing, pleasure craft, tanker, cargo and passenger vessels, and by vessel size.
75. **Figure 7** shows the recorded 'pleasure craft' vessel tracks for 2019 and 2020 (the latest available) for the wider Cook Strait, Marlborough Sounds and Tasman areas, and **Figure 8** shows 2020 AIS data for 'all vessels' for the same area for comparison. 'All vessels' includes fishing boats, passenger vessels, cargo vessels, tugs and special craft, container ships and tankers.
76. **Figure 9** shows AIS data for 'pleasure craft' for the Marlborough Sounds for 2020 and **Figure 10** shows the same area with 2019 data. Both show a relatively low level of recreational boating activity in the Beatrix, Clova and Crail Bays area.
77. **Figure 11** shows the location of club boat moorings maintained by the Waikawa, Pelorus, Mana boating clubs (which have reciprocal agreements for sharing services) and the Tasman Bay Cruising Club (which has no reciprocal agreements).⁵ No recreational club moorings are provided in the Beatrix, Clova and Crail Bay areas, although they are provided in many other locations near mussel farms (such as Kauauroa Bay, Maori Bay (Port Ligar), Wainui Bay, Waitata Bay, Hallam Cove and many more).

Tourism

78. Tourism Resource Consultants (TRC) prepared a useful summary of tourism and recreation patterns in the Marlborough Sounds in 2012 for NZ King Salmon's application at the time for additional salmon farm locations. My **Figure 12** shows TRC's summary graphic, indicating the main activity locations and estimated visitor

⁴ As NIWA did in 2019 and earlier in the century see

<https://www.rnz.co.nz/national/programmes/ourchangingworld/audio/2018695044/mystery-of-the-longfin-eel-s-breeding-ground>

⁵ Data sourced from <http://www.island42.net/wpmgpx/> and <https://tasmanbaycc.co.nz/cruising/club-moorings/>. The location of Tasman Bay Cruising Club moorings in Figure 11 is approximate only to avoid overlaying graphics.

numbers (both domestic and international). This omits many dive sites and I have added those recommended by Enderby & Enderby (2007), which, for Pelorus Sound, are all located in the outer Sounds area. **Figure 12** also does not show the destination of fishing charters, which appear in my **Figure 4**.

79. It also omits several activities in Pelorus Sound which are shown in the “Discover Pelorus” visitor map which is widely available at visitor attractions in Havelock and online via the Pelorus Promotions Group website.⁶ This shows the routes of the Pelorus Mail Boat, which includes a cruise route into Beatrix Bay, and the Greenshell Mussel Cruise which operates in Kenepuru Sound. I contacted both these operators by phone to check if they have any navigational concerns relating to marine farm locations and both advised that they would check with their skippers – and neither got back to me. I note that neither submitted on Variation 1.
80. Tourism activity in the Marlborough Sounds is focused on Queen Charlotte Sound, but includes in Pelorus Sound kayaking and fishing and cruise charters, as well as the Nydia Bay Track. Destination Marlborough describes the destinations of Kenepuru, Mahau and Pelorus Sounds as centred on Havelock which is described as the “Greenshell Mussel capital of the world”.⁷ Top promoted activities include swimming in the Pelorus River, the Havelock Mussel & Seafood Festival and visiting a mussel farm. Promoted businesses in the Pelorus Sounds area include:
- (a) Foxy Lady Cruises (including “Mussel Cruise - visit mussel farms and enjoy a taste of famous Marlborough Mussels.”)⁸
 - (b) Greenshell Mussel Cruise (“Relax and unwind while you cruise the tranquil Pelorus Sound and Kenepuru Sound aboard our luxury launch MV Spirit on these morning or afternoon cruises, departing Havelock. Learn about local history, visit a mussel farm and take in the stunning scenery.”)⁹
 - (c) Havelock Sea Charters (no reference to mussel farms)¹⁰
 - (d) Kenepuru Water Taxi (no reference to mussel farms)¹¹

⁶ <https://discoverpelorus.co.nz/>

⁷ <https://marlboroughnz.com/havelock-pelorus-kenepuru/>

⁸ <https://marlboroughnz.com/listings/foxy-lady-cruises-havelock/>

⁹ <https://marlboroughnz.com/listings/greenshell-mussel-cruise/>

¹⁰ <https://marlboroughnz.com/listings/havelock-sea-charters/>

¹¹ <https://marlboroughnz.com/listings/kenepuru-water-taxi/>

- (e) Pelorus Mail Boat - Sunday Cruise ("Learn about the Greenshell mussel farms you pass on the way and spot marine wildlife including dolphins, seals, penguins and many other marine birds.")¹² ("12:45pm to 3:30pm: Various mail deliveries and transfers – highlights may include cruising past the king shag colony or remote island, and through a mussel farm.")¹³
- (f) Pelorus Sound Water Taxi and Cruises ("Enjoy some of the highlights of the Pelorus Sound. View mussel farms as you travel, see the new regenerating native bush with all the holiday homes hidden within, hear and see some of the wild life and learn some of the local history from our experienced local skipper.")¹⁴
- (g) Pelorus Tours ("...Eco Tour trips in January each year to Maud Island, a scientific Reserve Island managed by D.O.C., Cruises, Family Day Trips, Corporate Trips, Mussel Farm Tours, Garden Tours and general water transport for groups. Regularly on a Friday you can join Gary on a baby green shell mussel research Trip ...")¹⁵
- (h) Explore Pelorus (Elaine Bay sea kayak hire) ("Pelorus Sound is used by holiday makers, marine farmers, for sheep and cattle farmers and for pine forestry.... Plentiful bird life, good fishing, magnificent scenery and sheltered waters combine to make Pelorus Sound superb for sea kayaking ...")¹⁶
- (i) Sounds by Sail ("3 Hour sail. Step aboard a luxury Beneteau yacht, and become part of the crew or just sit back and enjoy the exhilaration of sailing. We'll explore the many bays and inlets of the of the Sounds, anchoring for a glass of local Marlborough wine, marinated green lip mussels, Dips and crackers.")¹⁷

Summary of recreation and tourism value

81. The data I have presented show the dominance of Queen Charlotte Sound as the primary recreation and tourism setting in the Marlborough Sounds, but also that Pelorus Sound is a popular destination for boating and fishing activity. Tourism in Pelorus Sound is largely based out of Havelock, with mussel farming a common feature of tourism activity and promotion. Beatrix, Clova and Crail Bay have relatively low levels of recreational use, but feature two recommended fishing

¹² <https://marlboroughnz.com/listings/pelorus-mail-boat-walk-lunch-cruise/>

¹³ <https://www.themailboat.co.nz/mail-boat-cruises/the-mail-run-cruise/>

¹⁴ <https://marlboroughnz.com/listings/pelorus-sound-water-taxi-and-cruises-2/>

¹⁵ <https://marlboroughnz.com/listings/pelorus-tours/>

¹⁶ <https://seakayakingmarlborough.co.nz/kayak-hire/pelorus-sound>

¹⁷ <https://discoverpelorus.co.nz/listing/sounds-by-sail/>

destinations – both associated with mussel farms. There is the potential for growing concern over the scale of marine farming in the Sounds from a recreation perspective, but there is no recent measure of this concern. However, in broad terms, marine farming and marine recreation are co-existing, although I note some concerns raised in submissions from marine recreation groups, which I consider below.

SUBMISSIONS

82. Several recreation groups have made submissions relating to Variation 1. I have mentioned that the Minister of Conservation’s submission finds that the Variation broadly supports the objectives of the NZCPS in protecting coastal values. The Waikawa Boating Club’s submission refers only to the management of plastic pollution. The New Zealand Sports Fishing Council refers to the capacity of the Sounds for additional marine farming – and I agree that capacity is now an important consideration for marine recreation – and the remainder of their submission focuses on “marine ecosystem health” and recreational fishing values. I note general support for relocating mussel farms away from the coast to provide additional navigational space near the shore.
83. Two submitters raise issues related to navigation and boating in the Beatrix, Clova and Crail Bays area. In summary, this area of the Sounds is a relatively low use setting for marine recreation as evidenced by the AIS data and lack of recreational moorings, but some recreational fishing is indicated. I address the submissions in more detail below.

Clova Bay Residents Association (CBRA) and Kenepuru & Central Sounds Residents Association (KCSRA)

84. The CBRA submission refers to “problematic navigation and public access issues” within Clova Bay,¹⁸ although the primary focus of the submission appears to be on ecological, biodiversity and landscape values. Both the CBRA and KCSRA submissions refer at their paragraphs 10.5.3 to the need to maintain “point to point” clearance from marine farm structures for safe navigation, and at their Appendix 3 provide an “Annotated AMA Map” showing “Indicative Point to Point Navigation Issues and Low Aquacultural Value AMA Areas.”

¹⁸ In the covering letter at page count 3 of the submission

85. Maritime NZ's *Marine farm guidelines: navigational safety* (2018) refers to "key factors that should be taken into account when considering marine farm locations." These include (p6):

Proximity to headlands

In general, marine farms should be kept clear of headlands because:

- *by their nature, headlands extend to seaward more than any other point of land and may extend close to navigational routes*
- *headlands are commonly used for 'point to point' navigation*
- *vessel traffic tends to converge at headlands, pass close to headlands and operate in multiple directions near headlands, and*
- *prominent headlands are often marked by charted aids to navigation*

In some circumstances, positioning a marine farm near a headland may create navigational complexity in an area and introduce navigational safety risks

86. In my opinion, the headlands of relevance to this provision in the Marlborough Sounds are adequately indicated by the AIS data shown in my **Figures 9 and 10**, where vessel densities are relatively high. The Waitata Reach provides a very good example with vessels regularly passing close to the headlands outside Horseshoe, Richmond and Ketu Bays. The routes shown in the CBRA's Appendix 3 are local recreational traverses from bay to bay and in my opinion are not relevant to the "point to point" considerations in Maritime NZ's *Marine farm guidelines*. For example, my **Figure 13** shows the promoted navigation route of the Pelorus Mail Boat, which skirts various headlands which have no mussel farms in place on their outer sides, such as Te Puraka Point (the southern headland in Beatrix Bay), the headland at Hopai Bay at the entrance to Crail Bay, and Ōpani-āputa Point (immediately east of Old Homewood Bay).
87. Both the CBRA and KCSRA submissions refer at their paragraphs 10.7.6 for the preference to accord several sites in the Pelorus Sounds area the same status as the Queen Charlotte Coastal Management Unit because they have "particularly high recreational, scenic, and amenity values." These are:

- Tuhitarata Bay, in Beatrix Bay
 - The head waters of Clova Bay
 - Hopai Bay in Crail Bay
 - The north side of Kenepuru Sound from Skiddaw Bay around to Mills Bay (Skiddaw Bay is not formally named but I understand it refers to the area immediately inside the entrance to Kenepuru Sound on its northern side)
 - The south side of Kenepuru Sound from Broughton Bay to the Kenepuru Heads
88. I have no data which indicates that these sites have “particularly high recreational, scenic, and amenity values.” AIS data and the lack of recreational moorings, compared with, for example, the Queen Charlotte Coastal Management Unit, suggest at face value a quantum difference in the recreational value of these settings.
89. The *New Zealand Cruising Guide* (Murray 2013) refers to Tuhitarata Bay in passing as part of its description of Beatrix Bay: “[Beatrix Bay] is approximately two mile square and because of its size is open to all winds. The bay is of little use as a quiet anchorage in bad conditions. At the north-west end of the bay, there is some shelter from NW to N winds, but it can be extremely gusty. Similar conditions occur in the north-eastern end of the bay. Laverique, Tuhitarata and Sheep Pen Bays all have protection from sea conditions in winds from the S sector, but they have little protection from gusts. Holding is satisfactory.”
90. I note that marine farm number 8623 at the north-western entrance to Tuhitarata Bay is not an impediment to access to the Bay or anchoring within it.
91. Clova Bay is not well-recommended by the Guide: “Because the bay lies in a north-west/south-east direction, it is completely open to all the prevailing winds. NW winds blow with considerable force through here, as they build up through Tawhitinui Reach and then continue into Clova Bay and over the low saddle though to Waitara Bay. SW to S winds act in reverse. The bay is not recommended as an anchorage.” On my site visit I noted that mussel farms have an obvious presence in Clova Bay, but due to its narrow nature and dominant wind conditions (normally blowing either in or out of the Bay) I would not enter it under sail with a headwind. I would focus on motoring down the centre of the Bay – although I do not see any particular reason to visit the Bay considering the very many superior alternatives in Pelorus Sound – apart from the Waimaru gannet colony at the entrance to the Bay.

92. My **Figure 13** shows – via the public toilet icon – the location of the Waimaru Recreation & Scenic Reserve at the northern corner of Clova Bay. This includes the Department of Conservation Waimaru campsite with 30 non-powered tent sites. There are no mussel farms adjacent to the camping area in Otatara Bay and Waimaru Bay, but two farms (8560 and 8559) are located within the southern end of Otatara Bay adjacent to private land.
93. Hopai Bay has no marine farms present and anchorage is described by the Guide as “difficult as it is open to most winds” and “the head of the bay is shallow.”
94. The two settings in Kenepuru Sound (as per my paragraph 87) have higher recreation value for boating as suggested by the AIS data, compared with the Beatrix/Crail/Clova Bays area, but I have no other resource to assess their full value. I note that Broughton Bay has no marine farms present, and the *New Zealand Cruising Guide* recommends relatively good anchorage in its south-eastern end. The area west of Broughton Bay to the Kenepuru Heads is primarily a transit route and the mussel farms along the inshore areas north and south of the central channel do not present navigational issues. This reach of the Kenepuru Sound is also the route and destination of the Greenshell Mussel Cruise tourism operation.¹⁹
95. In summary, there is no support for the recommendations made by the CBRA and KCSRA for the Beatrix, Clova and Crail Bays area and Kenepuru Sound from a recreation amenity perspective. I observe that if parts of Beatrix Bay and Kenepuru Sound were being considered to have the same status of the Queen Charlotte CMU, then many other areas in the Pelorus Sounds area would most likely be more deserving from a recreation perspective, but all less-so than Queen Charlotte Sound.

RESPONSE TO S42A REPORTS

96. I have looked over the s42A reports (except from any that immediately do not look relevant) and consider the only relevant one for my comment is the one titled ‘*Report on Submissions and Further Submissions Volume 1 Part A (Variation 1)*’.
97. I refer to paragraphs [243] to [246] in that Part A report. I generally support the recommendation made by the Harbour Master that clause c read: “the location of an AMA and subsequent marine farm will not result in adverse effects on any navigable channel, by narrowing it to the extent that it results in speed restrictions across the

¹⁹ See **Figure 13** and <https://www.greenshellmusselcruise.co.nz/map>

majority of a bay.” I wonder, however, if further definition of “speed restrictions” is required. I take it that the Harbour Master’s recommendation would refer to the 5 knot Maritime Rule encapsulated in the *Marlborough District Council Navigation Bylaw 2009* section 3.2:

1. No person shall, without reasonable excuse, propel or navigate a vessel (including a vessel towing a person or an object) at a proper speed exceeding five (5) knots within:

(a) 50 metres of any other vessel, raft or person in the water; or

(b) either 200 metres from the shore or any structure, or on the inshore side of any row of buoys demarcating that distance from the shore or structure; or

(c) 200 metres of any vessel or raft that is flying Flag A of the international Code of Signals (diver’s flag).

98. However, due to the black and white nature of these rules it would be prudent to make the Harbour Master’s recommendation a factor to consider in assessing the impacts of marine farming rather than a criteria. For example, if the 5 knot rule was applied as a criteria, the farms in Wairangi Bay in Croisilles Harbour may well be considered non-compliant, and I am not aware of any submissions suggesting that they present navigational issues. The same issue could apply in Whakakitenga Bay.
99. In the s42A report ‘*Variation 1 General, New Provisions, Definitions and Appendix 11 Report on submissions and further submissions*’ at paragraph [92], Marlborough Recreational Fishers Association seeks “that Council mandate yearly monitoring of activities, to ensure that farming can continue in a sustainable fashion, without seriously impinging on the rights of other users of the Sounds, and allowing recreational fishing to proceed.” I note that the Corydon Consultants social research that I have referred to in my paragraph 45 is now quite dated (2012) and data on recreational fishing referred to in my paragraph 61 (Batstone *et al* 2009) is even older. I would not recommend yearly monitoring of recreational (or social) values of the Sounds as affected by marine farming, but would expect that a programme of social monitoring be considered for implementation at five-yearly intervals. This could incorporate qualitative methods (such as interviews with tourism operators) and quantitative tools via intercept surveys at launching ramps and relying on

marina and club membership databases. This would not be an onerous exercise and serve to identify issues relating to marine farm operations as well as location.

100. The submission of the Marine Farming Association Incorporated and Aquaculture New Zealand suggests at row 55 of its Schedule 1 that a technical advisory group (TAG) be established to “to recommend, review and periodically update an environmental monitoring programme for the Marlborough Sounds.” I recommend that the TAG’s mandate be extended to include social monitoring, with the intent of capturing the social impact data that I have just described.

CONCLUSION

101. I have considered the relationship between mussel farming and recreation and tourism in the greater Pelorus Sound area and find that the activities currently coexist well, although any expansion of mussel farming needs careful consideration from a recreation amenity perspective on a site-specific basis.
102. I do not agree with the submissions of the CBRA and KCSRA as they have no basis from a regional recreation amenity perspective and appear to apply only to very local boating interests.
103. It is also worth finally commenting on the general relationship between marine farming and recreation, and the seaward relocation of various AMAs as proposed by Variation 1.²⁰ Freeing inshore space for recreation access to and along the coast by relocating AMAs is generally appropriate, and as I note above, is supported by the Department of Conservation in relation to the objectives of the NZCPS. Marine recreation is compatible with marine farming where the location and form of the farms are well-considered. Mr Luke Grogan, Harbourmaster, reviews these considerations in his memo attached to ‘*Volume 4 Coastal Management Units and Aquaculture Management Areas Report on submissions and further submissions*’ and I agree with his findings. In my experience of anchoring by, sailing past and through marine farms, navigation is generally very legible and easy. I would be concerned by the skills of a boatie who finds them, in general terms, a navigational hazard. I have

²⁰ For example, refer to paragraph [667] of ‘*Volume 4 Coastal Management Units and Aquaculture Management Areas Report on submissions and further submissions*’: “One of the reasons for the seaward shift of farms is to free up that inshore area, not just to protect the more sensitive photic zone but to also provide a coastal ribbon free from structures for other uses, such as recreation and access.”

reviewed Maritime New Zealand's '*Accident, incident and mishap notification summaries*' available online²¹ from 2013 to 2020 which report no recreational accidents with marine farms. One report in July 2020 refers to the skipper of a commercial trawler falling asleep and waking to find the vessel entangled in a mussel farm, which was probably preferable to reaching the shore. I am familiar with anecdotal reports of small vessels being swamped as they attempt to hail in mussel lines for a feed. In summary, I support the restriction of AMAs in areas with significant recreation value, but find that in very many circumstances, recreation and marine farming can easily coexist.

Robert James Greenaway

²¹ <https://www.maritimenz.govt.nz/commercial/safety/accidents-reporting/reporting-summaries/default.asp>

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ATTACHMENT 1: FIGURES

Figure 1: Estimated annual fishing effort (hours) by recreational fishers from charter vessels, for the 1997–98 Diary Survey, by diary Zone and fishing method. James & Unwin 2000.

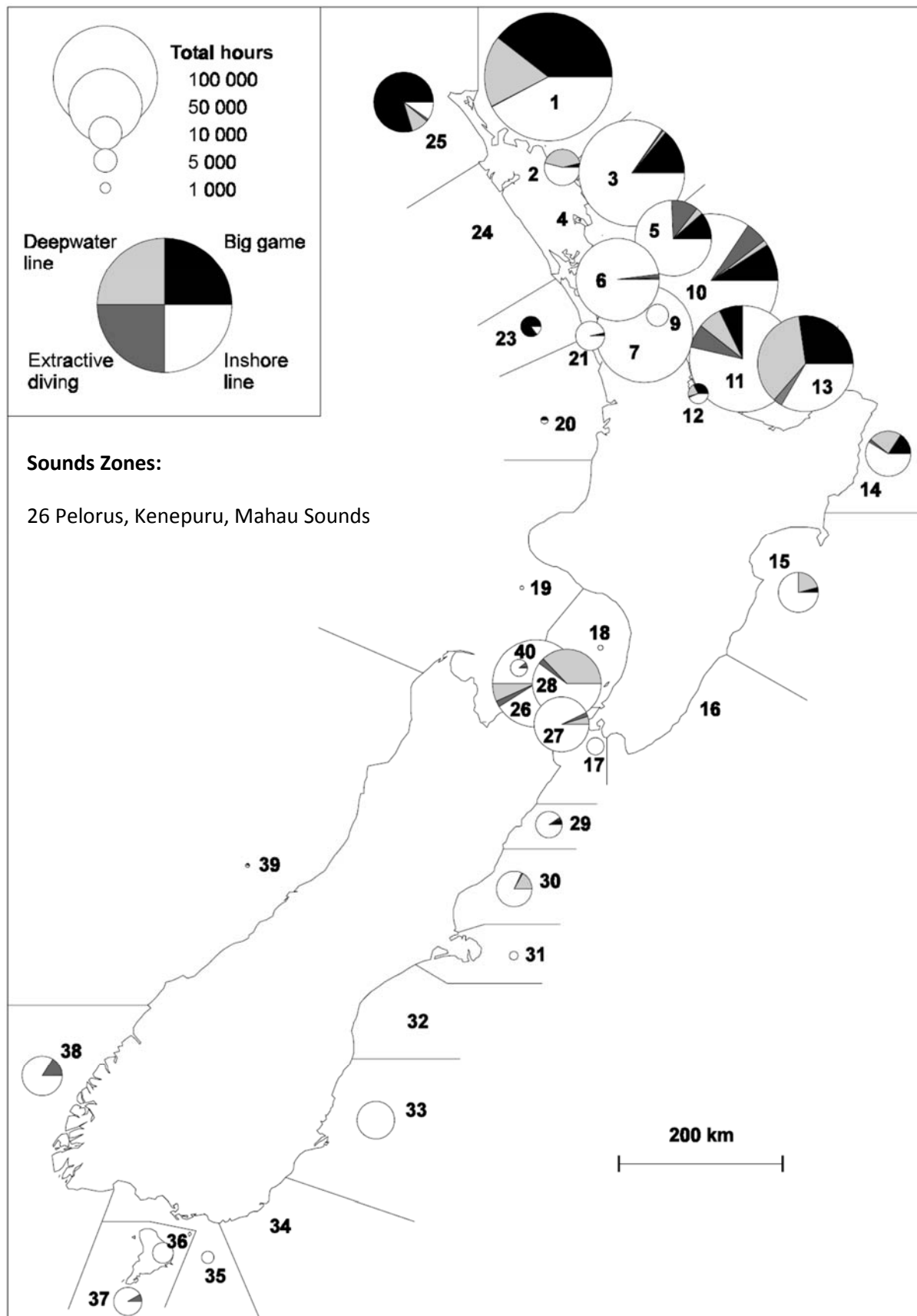


Figure 2: MPI NABIS 2005/06 recreational fishing survey data output, Marlborough Sounds

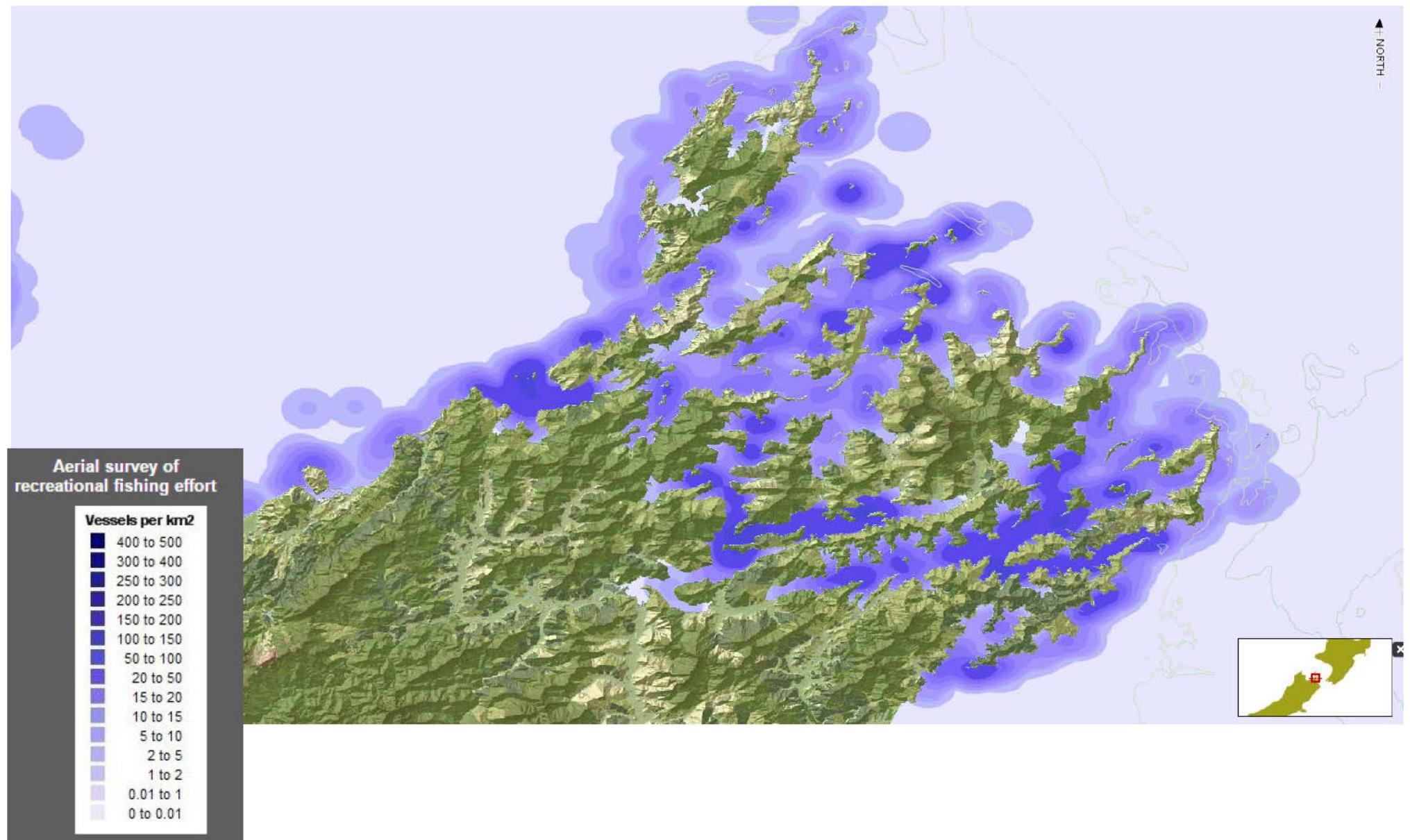


Figure 3: Recreational fishing boats reported in Hartill *et al* 2015

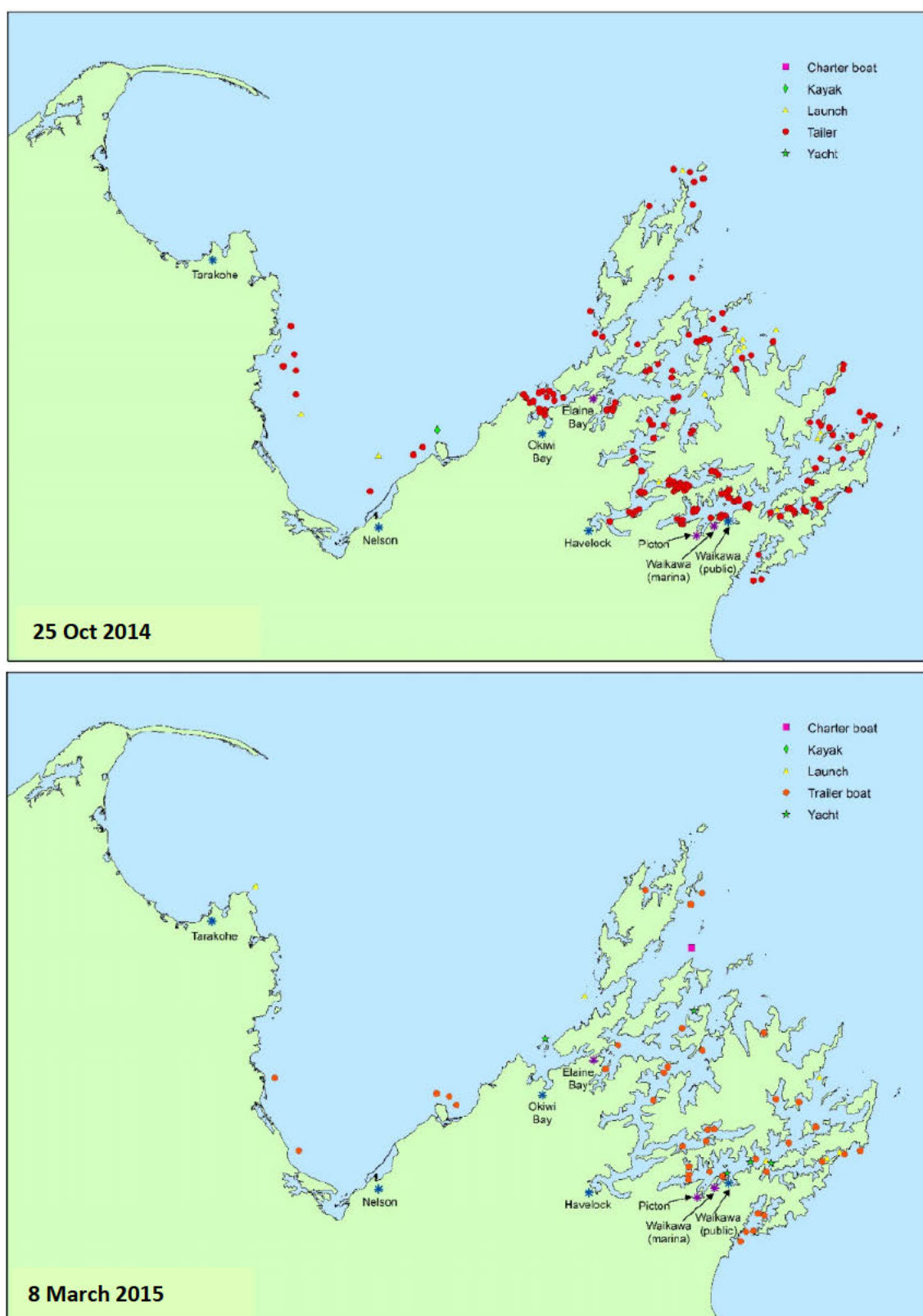


Figure 4: Locations of areas fished around the Marlborough Sounds, as reported by charter vessel operators since 2010 to 2015

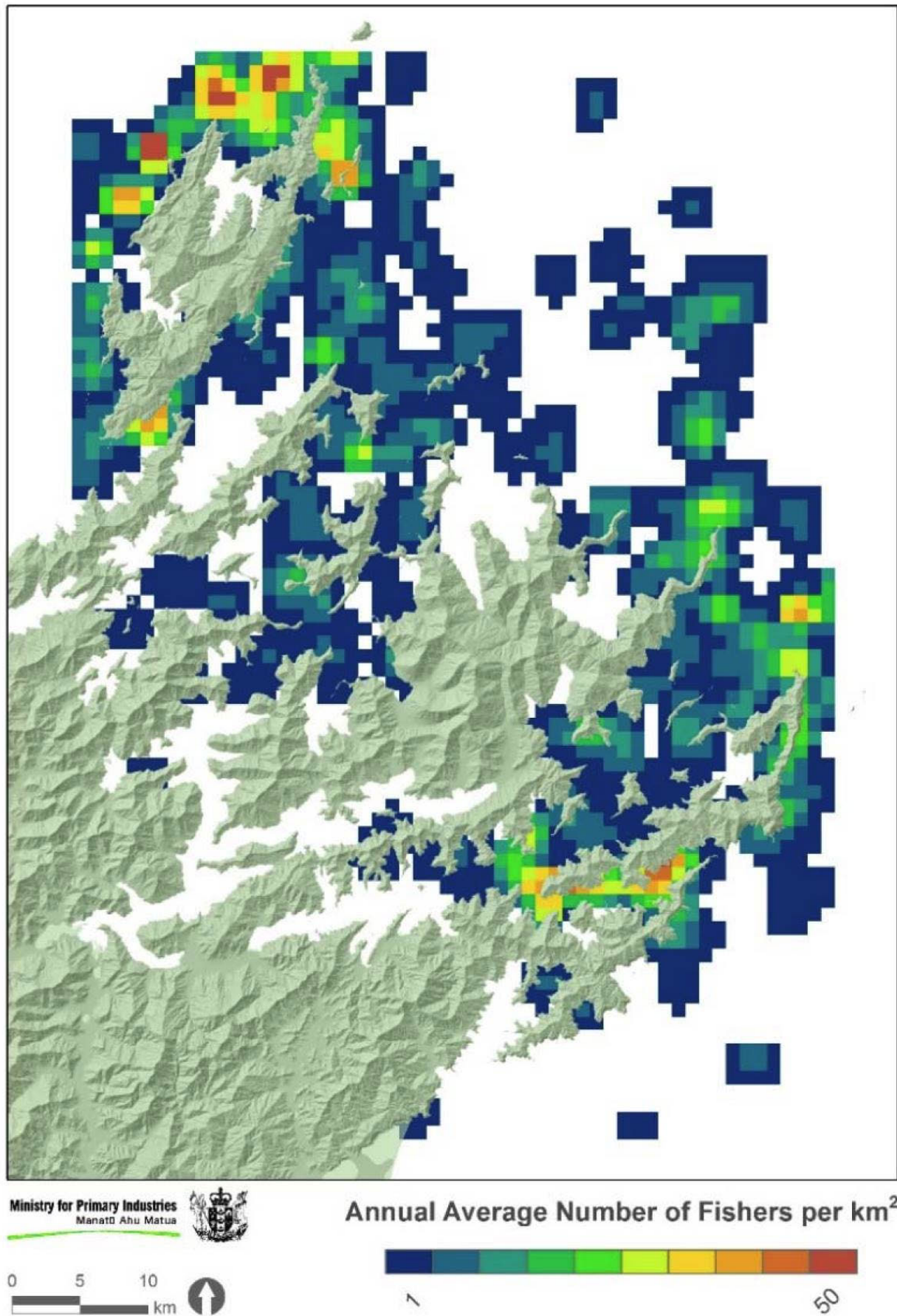


Figure 5: Proposed location of a Marlborough Sounds Recreational Fishing Park based on the Blue Cod Management Area (MfE 2016)

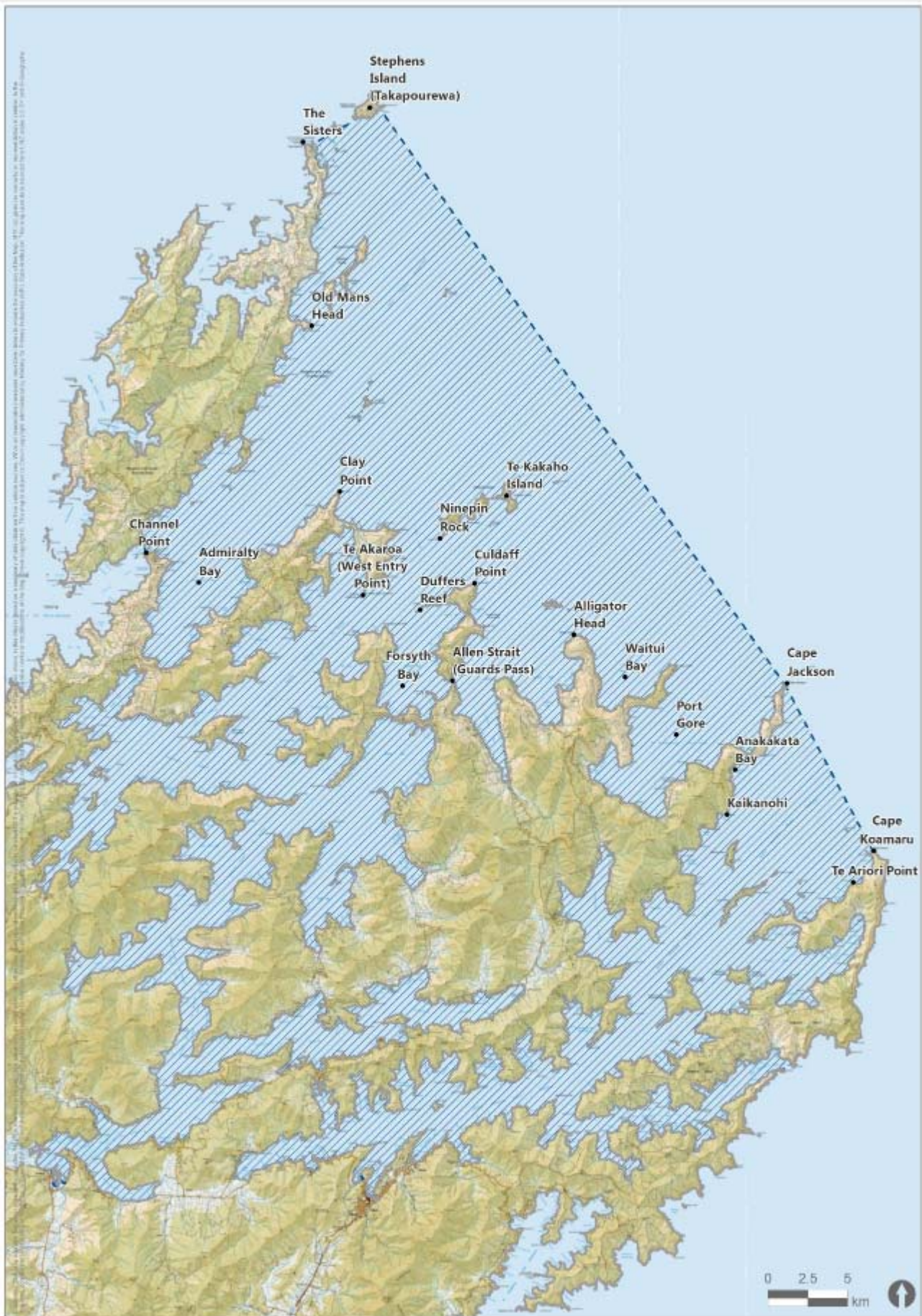


Figure 6: Live AIS vessel tracking 12 February 2021 (Friday 10am) (Marine Traffic data). Pleasure craft in pink.

Boat-shaped icons are underway and indicate direction of travel. Circles are stationary – generally moored or anchored. Berthed vessels with AIS usually have them turned off, but some moored vessels may have them turned on at all times to allow remote monitoring.

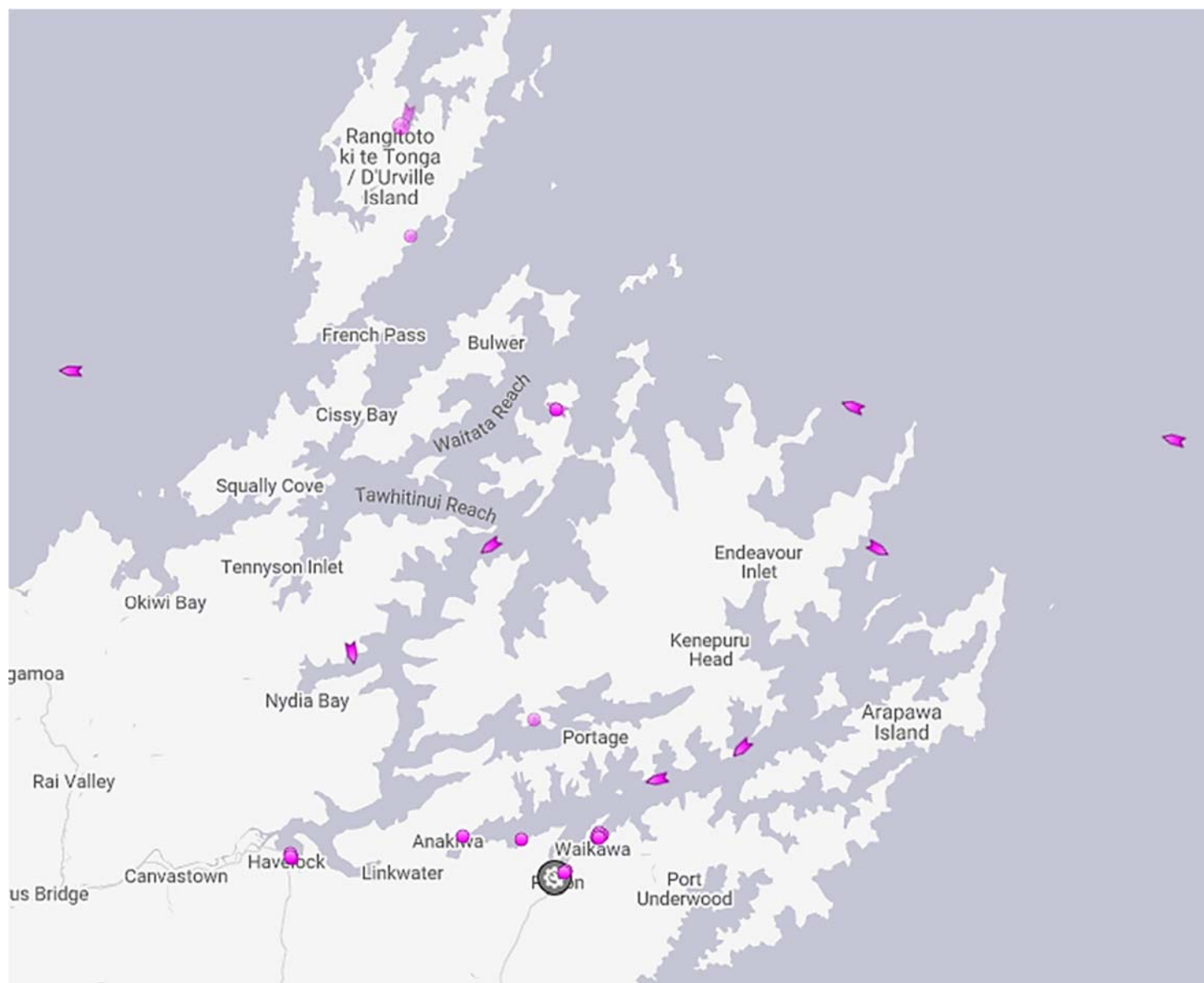


Figure 7: Central area 2019 and 2020 AIS routes for “Pleasure craft” (Marine Traffic data)

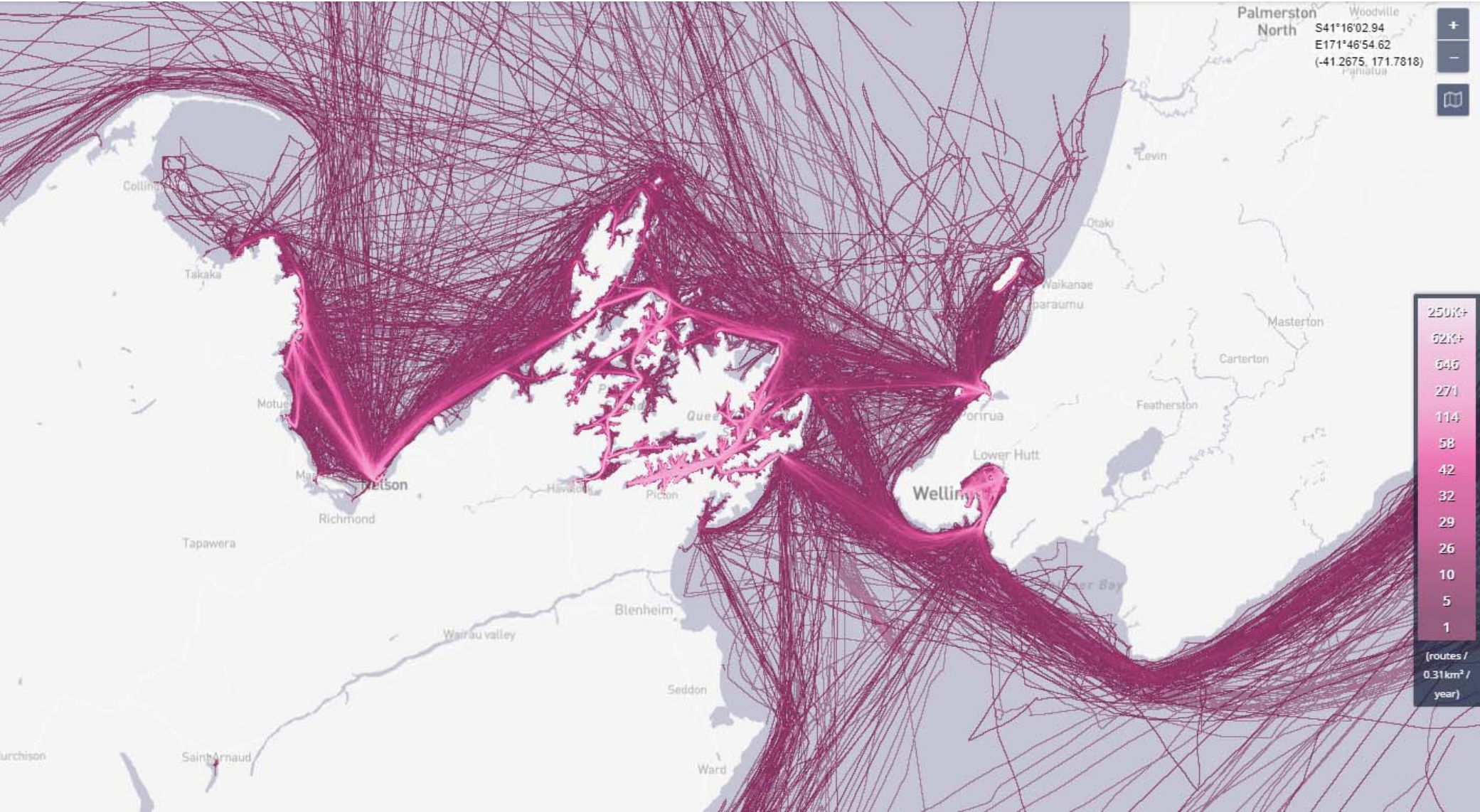


Figure 8: Sounds area 2020 AIS routes for “All vessels” (Marine Traffic data)

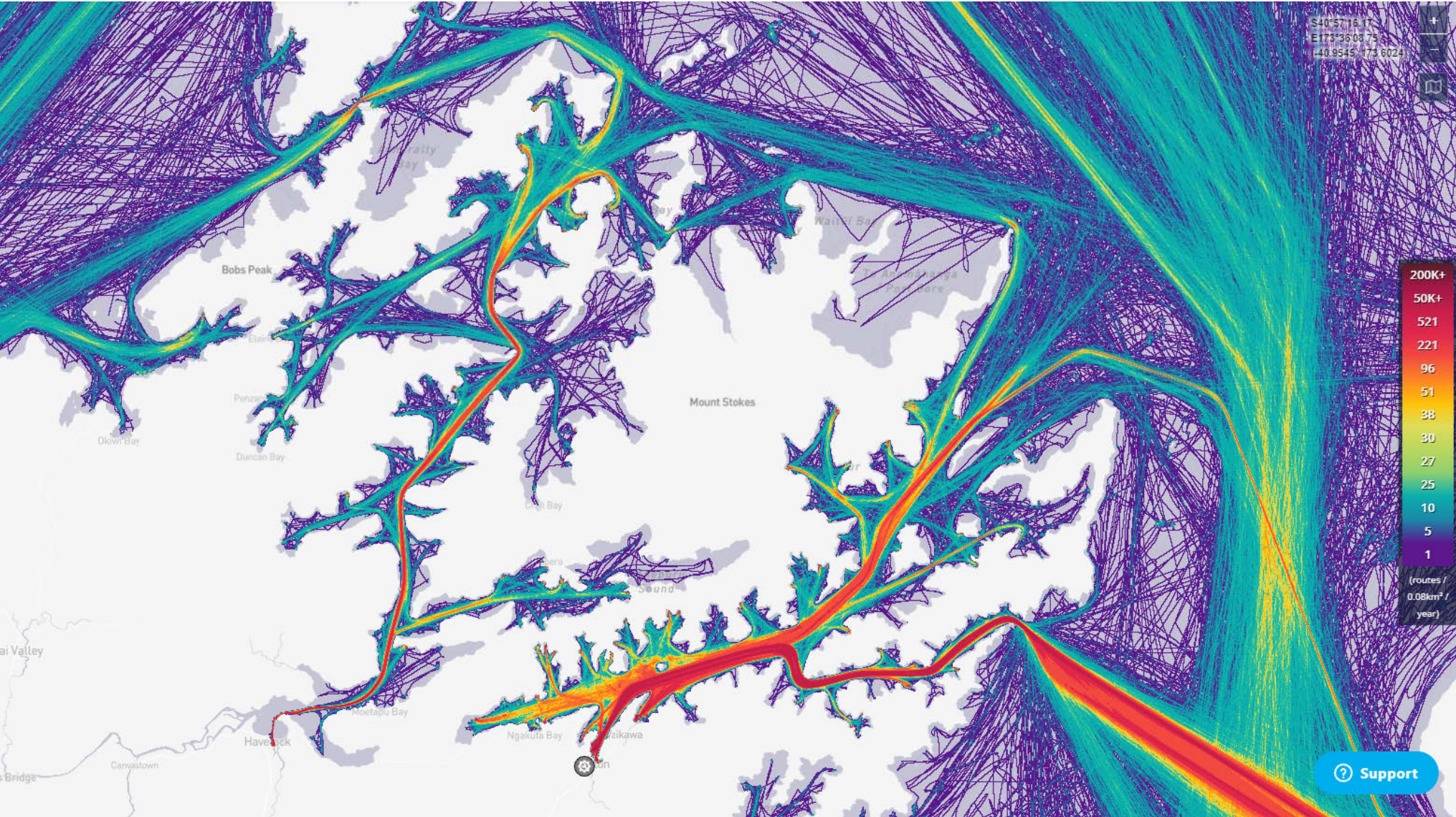


Figure 9: Sounds area 2020 AIS routes for “Pleasure craft” (Marine Traffic data)

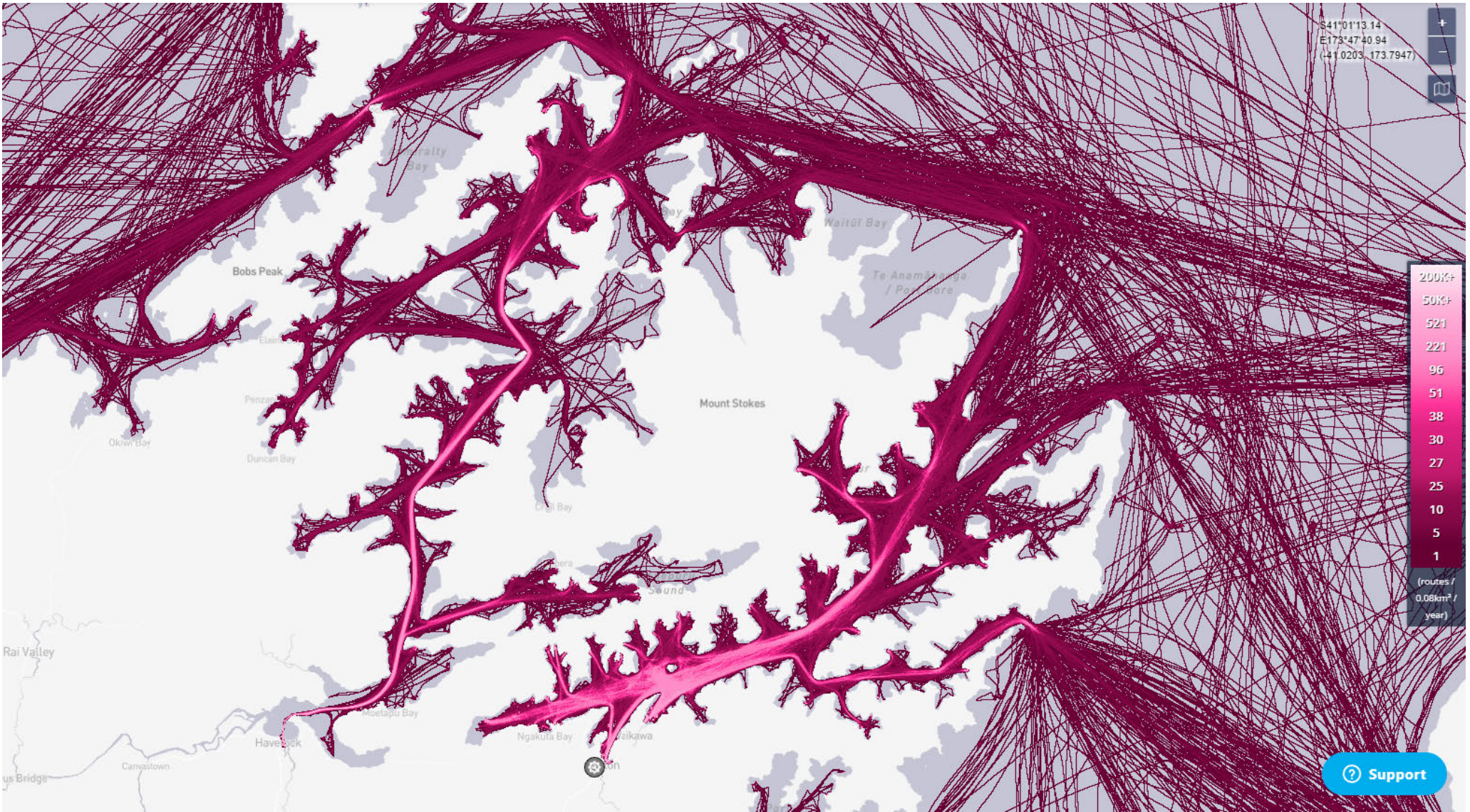


Figure 10: Sounds area 2019 AIS routes for “Pleasure craft” (Marine Traffic data)

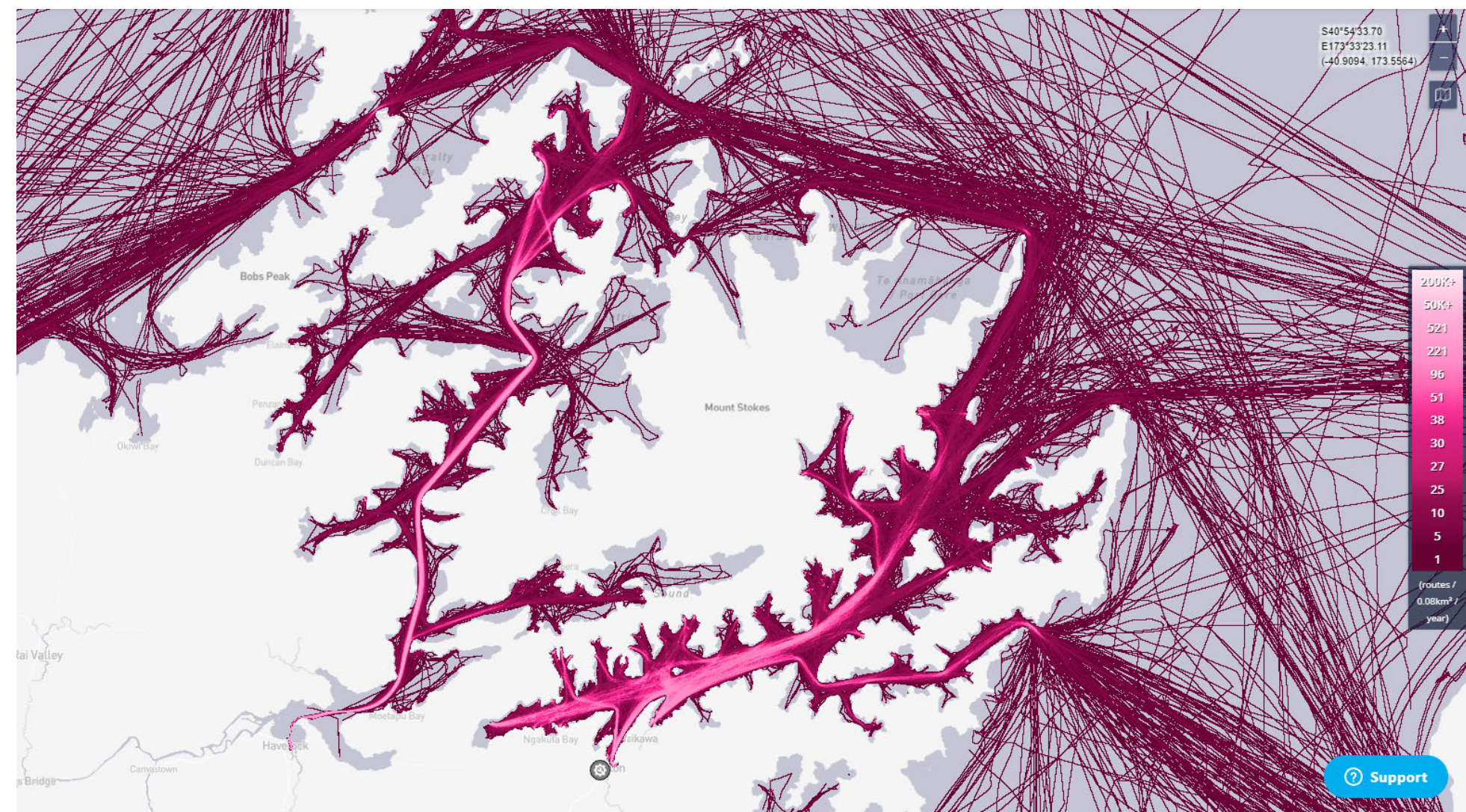


Figure 11: Mana Cruising Club (red) and Tasman Bay Cruising Club (yellow) moorings (sourced from club databases October 2021)



