



Fisheries New Zealand

Tini a Tangaroa

Review of commercial kina dredging in Tory Channel / Kura te Au, Marlborough Sounds

Fisheries NZ Discussion Paper No: 2022/24

ISBN No: 978-1-99-106241-3 (online)

ISSN No: 2624-0165 (online)

December 2022



Te Kāwanatanga o Aotearoa
New Zealand Government

Disclaimer

While every effort has been made to ensure the information in this publication is accurate, Fisheries New Zealand does not accept any responsibility or liability for error of fact, omission, interpretation, or opinion that may be present, nor for the consequences of any decisions based on this information.

© Crown Copyright – Fisheries New Zealand

Contents

Page

Area being reviewed for changes	1
1 Summary	1
2 Why the need for change?	2
3 Environmental interactions	2
3.1 Associated or dependent species	2
3.2 Biological diversity of Tory Channel	3
3.3 Habitats of particular significance for fisheries management	5
4 Fisheries information	5
4.1 Commercial	6
4.2 Customary Māori	6
4.3 Recreational	7
5 Treaty of Waitangi obligations	7
5.1 Input and participation of tangata whenua	7
5.2 Kaitiakitanga	8
6 Proposed options	8
6.1 Option 1	8
6.2 Option 2	9
6.3 Option 3	9
6.4 Economic considerations	10
7 Legal basis for managing fisheries in New Zealand	10
8 Relevant plans, strategies, statement, and context	10
8.1 Proposed Marlborough Environment Plan	10
8.2 Nelson Marlborough Conservation Management Strategy	11
8.3 Te Mana o te Taiao (Aotearoa New Zealand Biodiversity Strategy)	11
9 Questions for submitters	11
10 How to get more information and have your say	12
11 Referenced reports	12
Appendix One - Summary of information on Tory Channel ESMS	14
Appendix Two – Map and co-ordinates of proposed Tory Channel Commercial Dredge prohibition area	15

Area being reviewed for changes

Kina – Tory Channel/ Kura te Au area – Marlborough Sounds



Figure 1: Map of the proposed commercial kina dredging prohibition area (full map and co-ordinates in Appendix Two).

1 Summary

1. Fisheries New Zealand (FNZ) is seeking feedback on whether commercial kina dredging in Tory Channel should be prohibited under section 11 Sustainability Measures of the Fisheries Act 1996 (Fisheries Act). This prohibition would aim to avoid, remedy, or mitigate adverse effects of this fishing method on the aquatic environment and to maintain biological diversity in the area.
2. Rocky reefs and soft sediment areas in Tory Channel/ Kura te Au, Marlborough Sounds (see Figure 1) support significant benthic (seabed) marine communities, including bryozoans, sponges, hydroids and corals. These communities provide shelter, protection, and resources for important fishery and taonga species, such as blue cod, pāua, and rock lobster.
3. Small amounts of kina have historically been dredged from the Tory Channel, however, over the past few years there has been more use of this method by commercial fishers. Kina are not commercially targeted using dredging elsewhere and, with the exception of scallops which were historically dredged in this area prior to closure in 2015, no other species are targeted using dredging in Tory Channel.
4. FNZ welcomes feedback on options to reduce or prohibit commercial kina dredging as set out in Table 1.
5. The customary non-commercial, commercial, and recreational method of dive fishing for kina would not be impacted by the proposals.

Table 1: Proposed management options.

Option	Description
Option 1	Regulatory change to prohibit commercial kina dredging in Tory Channel (all areas).
Option 2	Regulatory change to prohibit commercial kina dredging in specified areas of Tory Channel, while allowing it in depths greater than 50 m, where dredging would be less impactful.
Option 3	No regulatory change. Commercial fishers may voluntarily agree not to dredge for kina in Tory Channel.

2 Why the need for change?

6. FNZ's primary objective of this consultation is to protect sessile benthic communities¹ from any adverse effects of fishing with mobile bottom-contact gear as these benthic communities provide ecosystem services such as shelter, protection and resources for other marine flora (plants) and fauna (animals), including for many fishery and taonga species.
7. As part of the proposed Marlborough Environment Plan (pMEP) investigations, Marlborough District Council (MDC) identified a number of Ecologically Significant Marine Sites (ESMS) along both sides of Tory Channel. These sites contain the best examples of biogenic habitat² remaining in Marlborough Sounds.
8. Small amounts of kina have historically been dredged from the Tory Channel, however, over the past few years there has been more use of this method by commercial fishers. This bottom-contact fishing method has been identified as the main threat to these important and sensitive biogenic habitats.
9. Section 11 Sustainability Measures of The Fisheries Act says that in setting sustainability measures the Minister must consider any regional or proposed regional plans under the Resource Management Act 1991, such as the pMEP ESMS.
10. Working together with MDC, FNZ is proposing to utilise the section 11 Sustainability Measures, and the section 9 Environmental Principle, *biological diversity of the aquatic environment should be maintained*, to put in place protections for these significant biogenic habitats.

3 Environmental interactions

11. There are three environmental principles under section 9 of the Fisheries Act that must be taken into account by the Minister when considering sustainability measures such as fishing method prohibitions. These are:
 - a) Associated or dependent species should be maintained above a level that ensures their long-term viability;
 - b) Biological diversity of the aquatic environment should be maintained; and
 - c) Habitats of particular significance for fisheries management should be protected.

3.1 Associated or dependent species

12. Dredging is considered to pose little to no risk to seabirds³ and no captures of marine mammals, seabirds or other protected species have been reported in kina dredges in Tory Channel over the last three fishing years.⁴
13. Based on the information FNZ holds on commercial fishing for kina in the Tory Channel area, common bycatch species from kina dredging include, in order of incidence: starfish, sea cucumber, seaweed, sea lettuce, and to a lesser extent, octopus. The proposed fishing method prohibition would mean that these species, and any other less common bycatch species, would no longer be caught as bycatch in the area, as effort potentially shifts to more selective methods such as diving.

¹ Sessile benthic communities include species that live on the seafloor and do not move around as adults (e.g. sponges, corals, gorgonians, bryozoans, mussels, oysters, and barnacles).

² Biogenic habitats are habitats created by living plants or animals, where their three-dimension structure provides shelter, protection and resources for other marine flora and fauna.

³ FNZ (2022) - Aquatic environment and biodiversity annual review (AEBAR) 2021 – accessible at <https://www.mpi.govt.nz/science/fisheries-research-and-science/about-our-fisheries-research/aquatic-environment-and-biodiversity-annual-review-aebar/>

⁴ However, FNZ notes that there is some risk events have not been reported as commercial dredge vessels in Tory Channel are not monitored by observers or on-board cameras.

3.2 Biological diversity of Tory Channel

14. Tory Channel is a narrow, deep, high current and nutrient-rich environment that supports significant marine communities.
15. The MDC has commissioned surveys and monitoring of significant marine sites in this area since 2014 (National Institute of Water and Atmospheric Research (NIWA) and Davidson Environmental.⁵ This identification uses both qualitative and quantitative methods, such as drop cameras, side-imaging sonar, remotely operated vehicles, and diving.
16. Tory Channel's reef systems have notable amounts of biogenic covering, supporting a variety of habitat-forming species such as bryozoans, sponges, hydroids, bivalves, barnacles, jewel anemones, brachiopods, colonial anemones, cup corals, green-lipped mussels, tubeworms, molluscs (e.g. cockle beds), seagrass, drift macroalgae, as well as burrowing sea cucumbers and ascidians (Appendix One). In deep soft sediments (>55 m depth) high numbers of a new species of burrowing holothurian / sea cucumbers (*Thyone spA.*) were identified.
17. During a multi-disciplinary seabed survey of Queen Charlotte Sound / Tōtaranui and Tory Channel / Kura Te Au kelp beds were identified along both sides and length of the Tory Channel.⁶
18. These biogenic habitats are fragile and vulnerable to physical disturbance. Some of them are slow growing and develop over long periods of time and can take decades to re-establish from mobile bottom-contact gear such as dredges.
19. Tory Channel ranges in depth between 10 m and 200 m. Biogenic communities were found between 10-50 m⁴, with sea cucumbers also found at >55 m. Biogenic habitat can be found all along both the northern and southern coastline of Tory Channel.

Effects of dredging on biological diversity

20. Fishing with mobile bottom-contact gear, such as dredging, can have adverse effects on benthic communities and their habitat.⁷ These effects consist of destruction of organisms by crushing, their removal as bycatch, and physical disturbance to the habitat as fishing gear is dragged across the seafloor. Depending on the nature of the seabed, the action of dredging can cause turbidity to be increased through resuspension of sediment, which can lower oxygen levels. The physical structure of the seabed can also be altered through the action of dredging, leading to impaired ecosystem function. These effects can lead to reduced abundance and diversity of benthic habitat.⁸
21. Fishery Officers and FNZ data have noted that large hauls of bycatch such as seaweed (142 kg), sea lettuce (98 kg), sea cucumber (182 kg), octopus (17 kg), and starfish (289 kg) are taken at the same time as kina in dredges.⁹ Photos taken during a Fishery Officer's routine inspection of a kina dredge vessel in Tory Channel identify that bycatch haul is substantially larger than the volume of kina harvested (by volume, not weight), suggesting significant benthic disturbance has occurred during the harvest (Figure 2).
22. The southern scallop (SCA 7) fishery was fully closed in 2017 to all commercial and recreational scallop fishing to protect the sustainability of the resource. Scallops cannot be taken from the Marlborough Sounds, Golden Bay, Tasman Bay, or Port Underwood. Because scallops were primarily taken by dredge, this closure has effectively prohibited scallop dredging in Tory Channel. Commercial dredging does not occur for other species in Tory Channel, except for kina.

⁵ Davidson *et al* (2017-2020)

⁶ Land Information NZ (2016/17)

⁷ Rice (2006), Kaiser *et al.* (2006)

⁸ Brown (2008)

⁹Bycatch kg greenweights for the 2019/20 to 2021/22 fishing years.

23. Sites identified during these surveys are passed through the MDC Significant Marine Site Expert Panel who review the survey data, assess sites, and make recommendations for sites to be prioritised for investigation for ESMS using set criteria:
- Had limited or old biological information.
 - Were areas where additional information was needed for management purposes.
 - Were under threat or vulnerable to impacts.
 - Were suitable for monitoring.
 - May contain significant undocumented values.

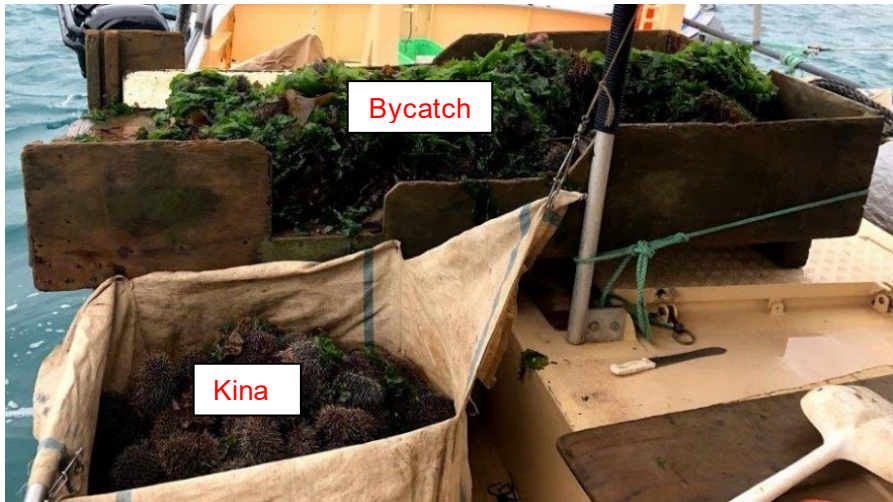


Figure 2. Fishery Officer's photograph of bycatch and kina caught during routine inspection.

24. As part of the proposed pMEP, MDC have proposed a number of new Ecologically Significant Marine Sites (Figure 3). These new ESMS are currently being progressed through a Plan change, Variation 2, which went before the Council Environment and Planning Committee on 24 November 2022. If adopted, public notification will likely occur mid to late January 2023.
25. Working with MDC, FNZ have identified sites within or near these ESMS in Tory Channel where commercial kina dredging is occurring.

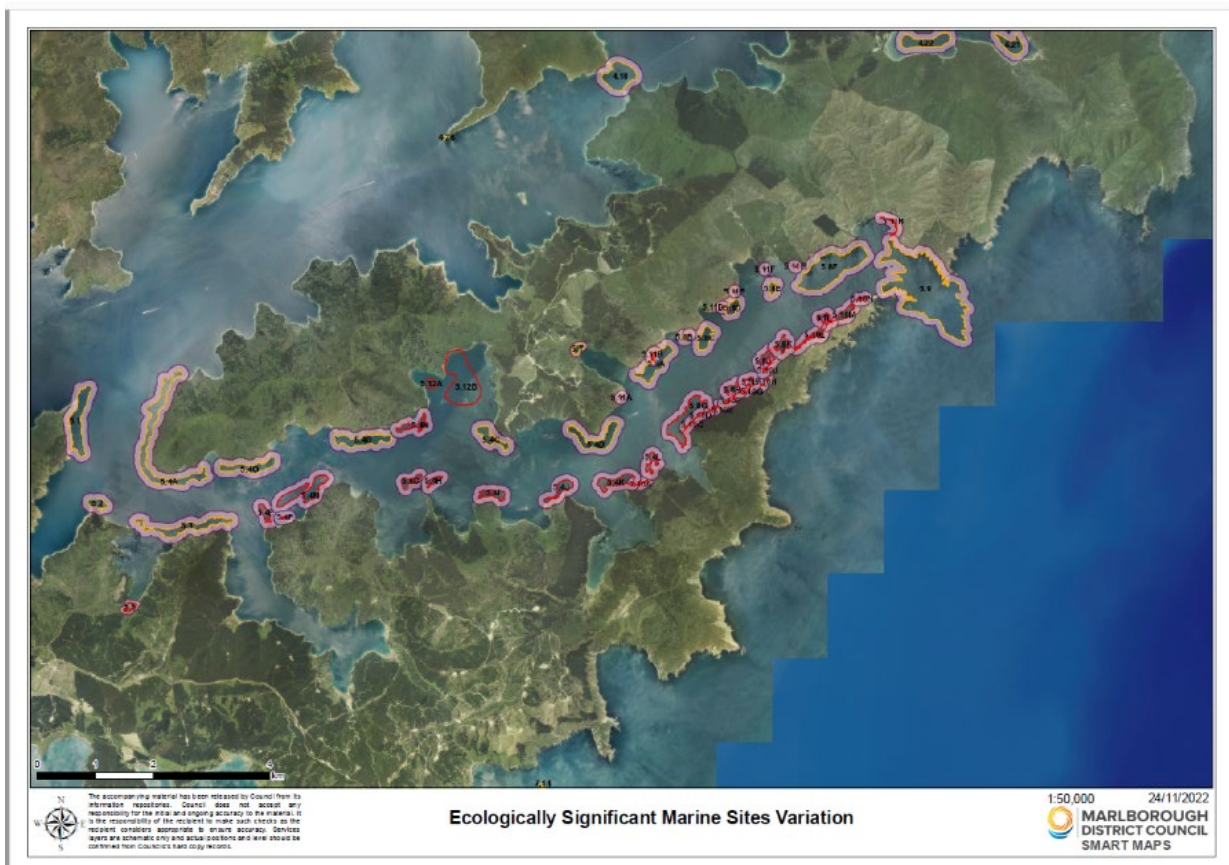


Figure 3: Map of the MDC Ecologically Significant Marine Sites boundary adjustments and proposed ESMS - Tory Channel.



26. Taking Section 9 of the Fisheries Act into account, FNZ considers that a dredge prohibition in this area would align with the principle that biological diversity of the aquatic environment should be maintained. This is because any potential adverse effects of these fishing methods on the aquatic environment will be avoided or mitigated in the Tory Channel area through the proposed prohibitions.

3.3 Habitats of particular significance for fisheries management

27. Habitats of particular significance for fisheries management are not defined in the Act. FNZ recently consulted on guidance for defining, identifying, and managing habitats of particular significance for fisheries management and for how FNZ takes into account that these habitats should be protected when preparing fisheries management advice.¹⁰
28. Although no specific habitats of particular significance for fisheries management have been identified in the Tory Channel area at this time, the proposed method prohibitions would help to avoid any adverse effects from fishing on any significant habitats that might exist in this area, given that the prohibition aims to protect significant benthic communities which provide shelter and resources for many marine species (whether they are fished or not).

4 Fisheries information

29. The Tory Channel kina fishery is located within the wider SUR 7A (Nelson/Marlborough) Quota Management Area (QMA). There is currently a Total Allowable Catch (TAC) of 238 tonnes,

¹⁰ The habitat of particular significance for fisheries management consultation material is available at: <https://www.mpi.govt.nz/consultations/guidance-for-identifying-a-habitat-of-particular-significance-for-fisheries-management/>.

consisting of 135 tonne Total Allowable Commercial Catch (TACC), 80 tonne customary, 20 tonne recreational, and 3 tonne other mortality allowances. These TAC settings have remained the same since October 2002, when South Island kina stocks were introduced into the Quota Management System.¹¹ We are not reviewing TAC settings as part of this paper.

4.1 Commercial

30. Commercial diving is the main method of harvesting kina across NZ and has been reported as such since 2011.¹² There was a voluntary ban on kina dredging implemented in the 2004/05 fishing year (SUR 1B and SUR 7A), that was still in place in 2011, as almost all (bar one) fishers agreed dredging was destructive to both kina and the image of the kina fishery. In 2011, commercial fishers were said to dive at depths of 4-18 m. Commercial dredging for kina has already been prohibited as a fishing method in other Fisheries Management Areas in the North Island.¹³
31. Approximately 90% of kina harvested across the whole SUR 7A QMA over the last three October fishing years (2019-2022) was collected by divers. Commercial dredging for kina in SUR 7A is largely limited to Tory Channel. Fishers have previously said that dredging for kina is undertaken due to it being located too deep for diving (e.g. in depths at 50-60 m). However, recent FNZ data shows that around 75% of Tory Channel kina dredge fishing in the last three October fishing years has occurred in depths of less than 20 m.
32. Table 2 provides a summary of commercial kina fishing activity in Tory Channel over the last three fishing years. This is based on the electronic reporting (ER) data which FNZ holds on commercial fishing and recorded fishing event start positions.

Table 2: Summary of dredge and other kina catch events in Tory Channel area from 2019/20-2021/22.

Fishing Method	3 Year Total (2019-2022)		Annual Average	
	Est. Catch (kg)	# Fishing Events	Est. Catch (kg)	# Fishing Events
Dredge	37,874	92	12,625	31
Diving	50,953	142	16,984	47
Total	88,827	234	29,609	78

33. Within the Tory Channel, approximately 43% of the total estimated kina catch weight was harvested by commercial dredge fishers over the last three fishing years.
34. Under the Fisheries (Challenger Area Commercial Fishing) Regulations 1986, there are restrictions on the commercial dredge harvesting of oysters and scallops. Commercial trawling in the Queen Charlotte Sound and mechanical harvesting of seaweed are also prohibited under these regulations. The Marlborough Sounds have been closed to all scallop fishing (including dredging) since 2017.

4.2 Customary Māori

35. In Marlborough Sounds, customary Māori catch of kina is provided for by regulation 50 of the Fisheries (Amateur Fishing) Regulations 2013 for the purposes of hui and tangi. There has been no reported customary kina take from the Tory Channel area in the last five years under these regulations. However, this information is considered incomplete because customary take that occurs under the Amateur Regulations for the purposes of hui and tangi is not required to be reported.

¹¹ For more information about the QMS go to <https://www.mpi.govt.nz/law-and-policy/legal-overviews/fisheries/quota-management-system>

¹² Miller and Abraham (2011).

¹³ Fisheries Central Area Commercial Fishing regulations 1986 (clause 14B).

4.3 Recreational

36. It is understood that a small amount of recreational catch has occasionally been taken in the past by a few fishers in Tory Channel. FNZ is not proposing to prohibit recreational kina dredging in Tory Channel at this time, given the low number of events assumed, but welcomes input from fishers on this to inform advice.

5 Treaty of Waitangi obligations

37. Section 5 of the Fisheries Act requires that the Act be interpreted and people making decisions under the Act to do so in a manner that is consistent with the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (the Settlement Act). The Settlement Act provides that non-commercial customary fishing rights continue to be subject to the Principles of the Treaty of Waitangi and give rise to Treaty obligations on the Crown.
38. Section 10 of the Settlement Act requires the Minister to develop policies and programmes to give effect to the use and management practices of tangata whenua. Consistent with this section, the Ministry has worked with Iwi to develop engagement processes that enable Iwi to work together to reach a consensus where possible and to inform the Ministry on how tangata whenua wish to exercise kaitiakitanga¹⁴ in respect of fish stocks in which they share rights and interests and how those rights and interests may be affected by sustainability measures proposed by the Ministry.

5.1 Input and participation of tangata whenua

39. Section 12 (1)(b) of the Fisheries Act requires that, before undertaking any sustainability process, the Minister shall provide for the input and participation of tangata whenua who have a non-commercial interest in the stock or an interest in the effects of fishing on the aquatic environment in the area concerned. In considering the views of tangata whenua, the Minister is required to have particular regard to Kaitiakitanga.
40. Input and participation of tangata whenua into the sustainability decision-making process is provided mainly through Iwi Fisheries Forums, which have been established for that purpose. Each Iwi Fisheries Forum can develop an Iwi Fisheries Forum Plan that describes how the Iwi in the Forum exercise kaitiakitanga over the fisheries of importance to them, and their objectives for the management of their interest in fisheries. Iwi Fisheries Forums may also be used as entities to consult Iwi with an interest in fisheries.
41. Te Tau Ihu Iwi Forum comprises representatives from all eight top of The South Island Iwi. This proposal was tabled at the Te Tau Ihu forum on 31 October 2022. Iwi agreed dredging for kina was an issue of concern and were supportive of our proposal to gauge whether a voluntary option was feasible through initial discussion with the fishers concerned. Iwi also supported the need for regulatory intervention if required.
42. Te Waka a Maui Forum comprises representatives from these Iwi as well as Ngāi Tahu. This proposal was tabled at the Te Waka a Māui forum on 21 November 2022 where it was discussed and supported, but no further specific feedback was received.
43. FNZ will continue to engage with Iwi Fisheries Forums during consultation to seek input on the options outlined in this proposal. FNZ also welcomes any input and submissions from tangata whenua outside of this planned engagement.

¹⁴ The Fisheries Act defines Kaitiakitanga to mean “the exercise of guardianship; and, in relation to any fisheries resources, includes the ethic of stewardship based on the nature of the resources, as exercised by the appropriate tangata whenua in accordance with tikanga Māori”, where tikanga Māori refers to Māori customary values and practices.

5.2 Kaitiakitanga

44. FNZ is seeking input from tangata whenua on how the proposed options for Tory Channel may or may not provide for kaitiakitanga as exercised by tangata whenua, and how tangata whenua consider the proposal may affect their rights and interests in this stock.

6 Proposed options

45. FNZ welcomes feedback and submissions on three options to reduce or prohibit kina dredging (regulatory or voluntary) in all or part of the Tory Channel area under section 11 of the Fisheries Act. These options aim to avoid, remedy, or mitigate any adverse effects¹⁵ of these fishing methods on the aquatic environment¹⁶ and to maintain biological diversity in Tory Channel.¹⁷
46. A full map of the proposed Tory Channel prohibition area for all options is shown in Appendix Two.
47. The method prohibition is proposed to be in place indefinitely, to protect the vulnerable benthic communities against dredging.
48. The customary non-commercial, commercial, and recreational method of dive fishing for kina would not be impacted by the proposals. The management options will therefore continue to meet the purpose of the Act, to 'provide for utilisation while ensuring sustainability.'

6.1 Option 1

Option 1	Regulatory change to prohibit commercial kina dredging in Tory Channel (all areas).
-----------------	---

49. Option 1 proposes to prohibit commercial kina dredging in Tory Channel as a sustainability measure under section 11 of the Fisheries Act.
50. The proposed prohibition under Option 1 recognises the significant marine biodiversity, the species diversity, and the benthic communities identified in the area by the MDC.

Impacts and benefits

51. Option 1 would provide the most protection to benthic habitat from the adverse effects of kina dredging throughout the whole of Tory Channel.
52. Option 1 could have greater impacts on commercial fishers in comparison to Option 2. Dredge operators would not be able to dredge for kina anywhere in Tory Channel.
53. Some commercial fishing effort could be displaced into other areas because of Option 1, but FNZ considers that this would be minimal. Current levels of kina harvest by dredge are around 38 tonnes, with approximately 30% of that taken at depths greater than diving range. Other local areas fished for kina are harvested by free diving and hand gathering, which is less impactful on the marine environment and biogenic habitats.
54. Tory Channel holds the best quality kina available in the Sounds¹⁸, the majority of which is currently harvested using hand gathering while free diving. It is therefore unlikely that any of the Options would result in effort shift to alternative areas.
55. Option 1 would protect both the soft sediment communities and the rocky reef communities.

¹⁵ Section 2(1), effect means the direct or indirect effect of fishing; and includes any past, present, or future effect; and any cumulative effect which arises over time or in combination with other effects.

¹⁶ Section 2(1), aquatic environment – (a) means the natural and biological resources comprising any aquatic ecosystem; and (b) includes all aquatic life and the oceans, seas, coastal areas, inter-tidal areas, estuaries, rivers, lakes, and other places where aquatic life exists.

¹⁷ Section 2(1), biological diversity means the variability among living organisms, including diversity within species, between species, and of ecosystems.

¹⁸ (Miller 2011)

6.2 Option 2

Option 2	Regulatory change to prohibit commercial kina dredging in specified areas of Tory Channel, while allowing it in depths greater than 50 m, where dredging would be less impactful.
-----------------	---

56. Option 2 proposes to prohibit commercial kina dredging in areas of significant habitat at depths of 50 m or less. This recognises the significant biodiversity identified by MDC and the species diversity and rich benthic communities identified in both rocky reef and sandy bottom areas to 50 m depth.

Impacts and benefits

57. Option 2 would provide protection from the adverse effects of kina dredging for shallower benthic communities (<50 m), but would not protect deeper benthic communities (>50 m).
58. Option 2 would have less impact on commercial fishers than Option 1 and would be less likely to cause much fishing effort displacement into other areas. Based on the information FNZ holds on commercial fishing for this area, over the last three fishing years there have been on average 31 dredge events per year in the Tory Channel area.
59. Under this option, dredge operators would retain the ability to dredge for kina on the soft sediments of deeper sandy bottom areas >50 m in depth. However, continuing to allow dredging on soft sediments under this option means continued risk of adverse impacts from dredging on deeper biogenic communities, such as the newly identified species of burrowing holothurian / sea cucumber (Thyone spA.) at >55 m depth.
60. The benefit of this option would be reduced impact to kina dredge commercial fishers.
61. The impact of this option would be continued adverse effects to benthic habitats located at >50 m depths.

6.3 Option 3

Option 3	No regulatory change (however, commercial fishers may voluntarily agree not to dredge for kina in Tory Channel).
-----------------	--

Impacts and benefits

62. Option 3 proposes no regulatory change, however commercial fishers could voluntarily agree not to dredge for kina in Tory Channel.
63. The benefit of Option 3 is to provide protection to vulnerable benthic communities.
64. The impact of Option 3 is that it is reliant on all kina fishers agreeing to a voluntary dredge prohibition. Without full agreement the vulnerable benthic community is still at risk of adverse effects of dredging from those that do not sign up to any agreement.
65. This option would also retain the future risk that new entrants into the fishery may not agree to be part of the voluntary agreement. This could result in future adverse effects on vulnerable benthic communities.
66. Under this option, FNZ would work with iwi and Quota and Annual Catch Entitlement (ACE) holders to obtain agreement on components for a voluntary agreement and use its reporting systems to monitor adherence to any agreement.
67. The fragile, sensitive and vulnerable benthic communities found in Tory Channel are the best examples still found within Marlborough Sounds. Much of the benthic community has been lost from the rest of the Sounds area due to land use and other impacts, with small pockets still remaining that are now identified as ESMS. It is important, therefore, that these significant benthic habitats are protected from future adverse effects from the kina dredge fishing method.

6.4 Economic considerations

68. Commercial kina dredging in Tory Channel under Option 1 has the potential to result in a loss of annual revenue to the catching sector of approximately \$101,400. This is assuming the annual average estimated catch by dredging within Tory Channel (12,625 kg from the last three fishing years - see Table 2) is not caught by other means, at the 2021/22 port price average of \$8.03/kg. Option 3 (voluntary prohibition) could result in a similar loss of annual revenue as Option 1, dependent on all fishers voluntarily agreeing to the prohibition.
69. It is unlikely, however, that annual revenue or ACE value losses would be fully realised under either option, as opportunities would remain for ACE to be caught using other fishing methods (diving), or through dredging outside of the proposed area.
70. Of the options proposed, Option 2 has the smallest predicted negative financial impact on the commercial sector.

7 Legal basis for managing fisheries in New Zealand

71. The Fisheries Act provides the legal basis for managing fisheries in New Zealand, including the Minister's responsibilities for setting and varying sustainability measures. See the separate document *Overview of legislative requirements and other considerations* at <https://www.mpi.govt.nz/dmsdocument/54622> for more information.
72. Under section 11(3)(d) of the Fisheries Act the Minister may set or vary the fishing methods that can be used in any area.
73. Section 11 of the Act sets out various matters that the Minister must take into account or have regard to when setting or varying any sustainability measures. This includes any effects of fishing on the aquatic environment (as outlined in the sections above), any existing controls under the Act that apply to the area concerned (see *Fisheries information* section), and any relevant planning instruments, strategies, or services¹⁹.
74. It is proposed that the commercial fishing method prohibitions discussed in this document would be progressed using section 11 sustainability measures.

8 Relevant plans, strategies, statement, and context

75. The following plans and strategies are relevant for kina dredging in Tory Channel / Kura te Au.

8.1 Proposed Marlborough Environment Plan

76. The proposed Marlborough Environmental Plan is relevant to the proposals presented to prohibit commercial kina dredging in the Tory Channel area. Data collection in preparation for the proposed Plan identified the Ecologically Significant Marine Sites which FNZ are now seeking to put additional protection measures in place for.
77. The provisions of the proposed Marlborough Environment Plan that might be considered relevant can be found in a separate document titled *Regional plan provisions and policy statements*, accessible at <https://www.mpi.govt.nz/dmsdocument/54625>.
78. Of particular relevance to this proposal is the provision that applications must be made for discretionary activities, which includes any dredging, bottom trawling, anchoring, deposition and reclamation within any Category A or Category B Ecologically Significant Marine Site listed within Appendix 27 of the Plan.

¹⁹ Sections 11 (2) and (2A).

79. FNZ consider that the proposed management options to prohibit dredging are in keeping with the relevant provision and rules of the pMEP for the ESMS.

8.2 Nelson Marlborough Conservation Management Strategy

80. The [Nelson Marlborough Conservation Management Strategy 1996 - 2006](#) was a 10-year plan that provided direction for the management of public conservation land and waters, and species for which DOC has responsibility.²⁰ The Strategy provided guidance for the Department of Conservation's (DOC) work in the form of a vision, objectives, outcomes for places, policies, and milestones; translating DOC's strategic outcomes to Nelson/Marlborough. The strategy also recognised Tory Channel for its coastal marine habitats requiring protection.
81. The protection strategy for coastal marine areas promoted that protection for coastal marine habitats may be established through advocating protection under the RMA, the Fisheries Act, or other suitable mechanisms.
82. FNZ considers that the proposed dredge prohibition for Tory Channel area will contribute to enhanced protection for the significant marine biodiversity present, in keeping with this protection strategy.

8.3 Te Mana o te Taiao (Aotearoa New Zealand Biodiversity Strategy)

83. [Te Mana o te Taiao – the Aotearoa New Zealand Biodiversity Strategy](#) is also relevant to the proposals in this document. Te Mana o te Taiao sets a strategic direction for the protection, restoration and sustainable use of biodiversity, particularly indigenous biodiversity in Aotearoa New Zealand. The Strategy sets several objectives and goals across three timeframes. The most relevant to the proposed commercial kina dredging prohibitions are objectives 10 and 12:

Objective 10: Ecosystems and species are protected, restored, resilient and connected from mountain tops to ocean depths.

Objective 12: Natural resources are managed sustainably.

84. [Te Mana o Te Taiao – Aotearoa New Zealand Biodiversity Strategy Implementation Plan](#) sets out a pathway for achieving the outcomes of Te Mana o te Taiao over the next 30 years. As part of this plan, we will identify areas of focus for FNZ in delivering Government biodiversity objectives including progression to a more integrated ecosystem-based approach to managing fisheries. The proposed dredging prohibitions are a practical demonstration of embracing a move towards an ecosystem-based approach.

9 Questions for submitters

- Which option do you support for reducing or prohibiting commercial kina dredging in the Tory Channel area? Why?
 - If you do not support any of the options listed, what alternative(s) should be considered for the Tory Channel area? Why?
 - Do you think these options adequately avoid, remedy, or mitigate any adverse effects of fishing on the aquatic environment for the Tory Channel area?
85. We welcome your views on these proposals. Please provide detailed information and sources to support your views where possible.

²⁰ This is a relevant management strategy under section 11(2)(b) of the Fisheries Act.

10 How to get more information and have your say

86. FNZ invites you to make a submission on the proposals set out in this discussion document. Consultation closes at 5 pm on 8 February 2023.
87. Please see the FNZ sustainability consultation webpage (<https://www.mpi.govt.nz/consultations/review-of-sustainability-measures-2023-april-round>) for related information, a helpful submissions template, and information on how to submit your feedback. If you cannot access to the webpage or require hard copies of documents or any other information, please email FMSubmissions@mpi.govt.nz.

11 Referenced reports

- Brown, S. 2008. Potential ecological effects of a proposed dredge fishing exclusion zone in Tasman Bay. Prepared for Nelson City Council. Client report no. NEL2008-28.
- Davidson, R. J; Baxter, A. S; Duffy, C. A. J; Handley, S; Gaze, P; du Fresne, S; Courtney, S. 2019. Expert panel review of selected significant marine sites surveyed in 2018-2019. Prepared for Marlborough District Council and Department of Conservation. Survey and monitoring report no. 1008.
- Davidson, R.J; Baxter, A. S; Duffy, C. A. J; Handley, S; Gaze, P; du Fresne, S; Courtney, S. 2019. Expert panel review of selected significant marine sites surveyed during the summer of 2019-2020. Prepared for Marlborough District Council and Department of Conservation. Survey and monitoring report no. 1064.
- Davidson, R.J.; Richards, L.A.; Duffy, C.A.J.; Kerr, V.; Freeman, D.; D'Archino, R.; Read, G.B.; Abel, W. 2010. Location and biological attributes of biogenic habitats located on soft substrata in the Marlborough Sounds. Prepared by Davidson Environmental Ltd. for Department of Conservation and Marlborough District Council. Survey and monitoring report no. 575.
- Davidson, R.J.; Richards, L.A.; Rayes, C. 2017. Benthic biological survey of central and south-eastern Tory Channel, Marlborough Sounds. Prepared by Davidson Environmental Limited for New Zealand King Salmon Limited. Survey and monitoring report no. 857.
- Davidson, R.J.; Richards, L.A.; Rayes, C.; Scott-Simmonds, T. 2019. Significant marine site survey and monitoring programme (survey 5): Summary report 2018-2019. Prepared by Davidson Environmental Limited for Marlborough District Council. Survey and monitoring report number 943.
- Davidson, R.J.; Richards, L.A.; Rayes, C.; Scott-Simmonds, T. 2020. Significant marine site survey and monitoring programme (survey 6): Summary report 2019-2020. Prepared by Davidson Environmental Limited for Marlborough District Council. Survey and monitoring report number 1023.
- Durrieu de Madron, X., Ferre, B., Le Corre, G., Grenz, C., Conan, P., Pujol, M., Buscail, R., and Bodiot, O. (2005). Trawling-induced resuspension and dispersal of muddy sediments and dissolved elements in the Gulf of Lion (NW Mediterranean). *Continental Shelf Research*, 25: 2387-409.
- Fisheries New Zealand (2022). Fisheries Assessment Plenary, May 2022: stock assessments and stock status. Compiled by the Fisheries Science and Information Group, FNZ, Wellington, New Zealand. 663 p. Accessible at: <https://www.mpi.govt.nz/science/fisheries-research-and-science/about-our-fisheries-research/>
- Fisheries New Zealand (2022). Aquatic Environment and Biodiversity Annual Review (AEBAR) 2021. Compiled by the Aquatic Environment Team, Fisheries Science and Information, Fisheries New Zealand, Wellington New Zealand. 779 p.

- Kaiser, M. J., Clarke, K. R, Hinz, H., Austen, M. C. V., Somerfield, P. J., and Karakassis, I. (2006). Global analysis of response and recovery of benthic biota to fishing. *Marine Ecology Progress Series*, 311: 1–14.
- Land Information New Zealand. (2016/17). Queen Charlotte Sound / Tōtaranui and Tory Channel / Kura Te Au multidisciplinary seabed survey. Prepared for Marlborough District Council. Accessible at: https://www.linz.govt.nz/sites/default/files/hydro_case-study_habitat-mapping-queen-charlotte-sound-totaranui-tory-channel-kura-te-au_20210805.pdf
- Miller, S.L.; Abraham, E.R. (2011). Characterisation of New Zealand kina fisheries New Zealand Fisheries Assessment Report 2011/7.
- New Zealand Government (2020). Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020. Accessible at: <https://www.doc.govt.nz/nature/biodiversity/aotearoa-new-zealand-biodiversity-strategy/>
- Rice, J.C (2006). Impacts of Mobile Bottom Gears on Seafloor Habitats, Species, and Communities: A Review and Synthesis of Selected International Reviews. Canadian Science Advisory Secretariat Science Advisory Report, 39.

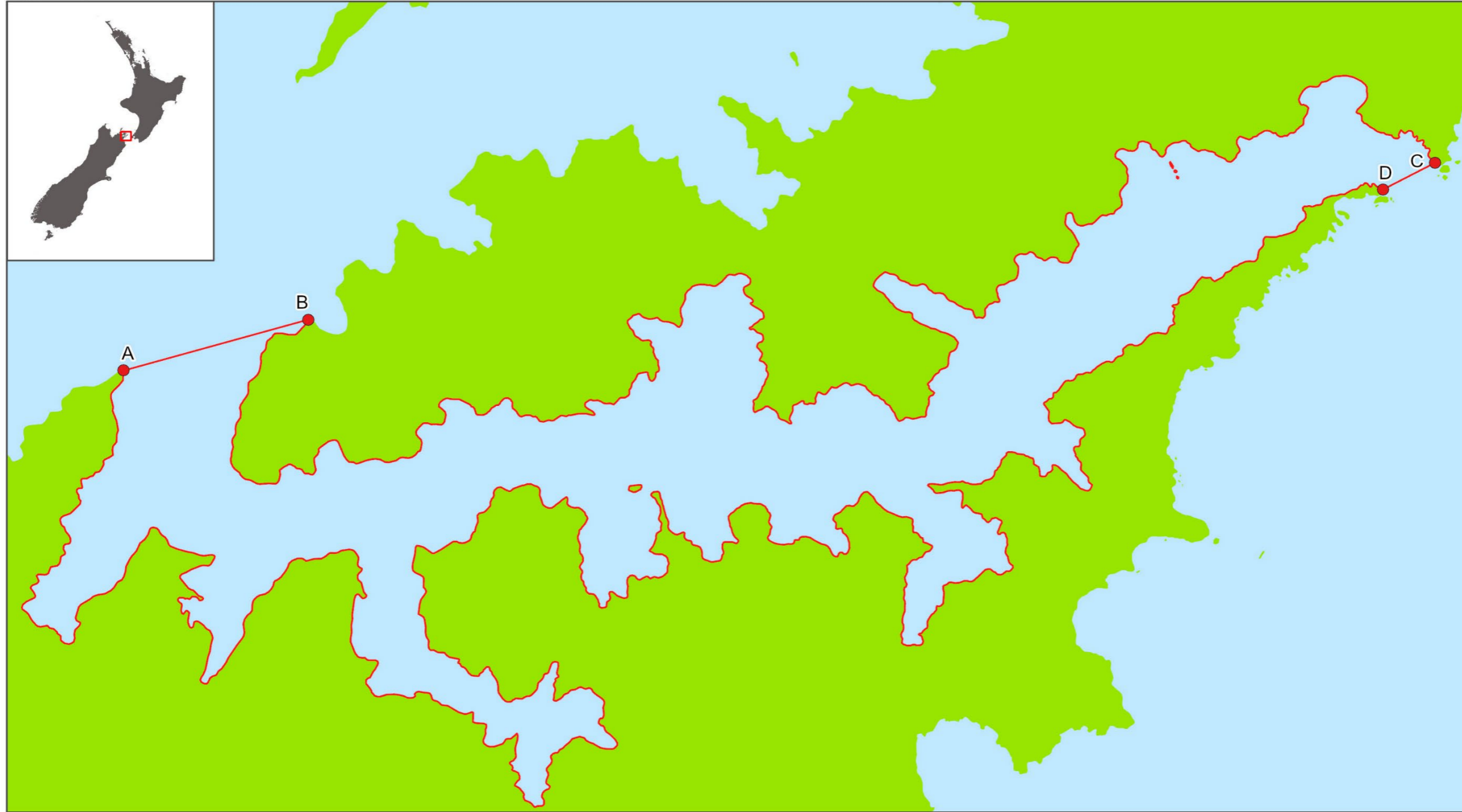
Appendix One - Summary of information on Tory Channel ESMS

ESMS	Attributes of habitat	Reasons for significance	Risks/Threats
5.1a-5.1n	Subtidal seagrass (<i>Zostera capricorni</i>)		
5.11a – 5.11h	Subtidal seagrass (<i>Zostera muelleri novozelandica</i>)		
5.12a-5.12b	Subtidal seagrass (<i>Zostera muelleri novozelandica</i>)		
5.4e – 5.4r	<ul style="list-style-type: none"> — deep reefs, extremely steep and jagged rock walls, ledges and fissures, notable conglomerate/biogenic covering: — bryozoans (encrusting and erect) — epiphytic bivalves — barnacles — rock walls and ledges densely covered by invertebrate communities: — white barnacles — anemones — brachiopods — ascidians — hydroids — sponges — cup corals — green-lipped mussels — deep soft sediments (>55 m depth) — high numbers of a new species of burrowing holothurian (<i>Thyone</i> spA.) 	<p>Strong and regular tidal currents, supporting a variety of biogenic habitat-forming species.</p> <p>The functions provided by biogenic habitats are diverse: elevation of biodiversity, benthopelagic coupling, sediment baffling, protection from erosion, nutrient recycling, the provision of shelter and food for a wide range of other organisms.</p> <p>Biogenic habitats can also directly underpin fisheries production for a range of species, through:</p> <ul style="list-style-type: none"> the provision of shelter from predation; the provision of associated prey species; the provision of surfaces for reproductive purposes e.g. the laying of elasmobranch egg cases; <p>indirectly in the case of primary producers through trophic pathways.</p>	Dredge fishing Anchoring Sedimentation
5.5	Cockle beds and seagrass		
5.8a – 5.8l	<p>Variety of biogenic habitat-forming species:</p> <ul style="list-style-type: none"> — Hydroids — bryozoans, — sponges — ascidians — hydroid trees (<i>Solanderia</i> sp.) — rocky reef and biogenic-reef structure supporting diverse and colourful filter-feeding communities a — variety of small fern-like and fan morphology hydroids 		
5.8g - 5.10n	Subtidal seagrass (unmapped)		
5.9	<p>Sponge gardens:</p> <ul style="list-style-type: none"> — <i>Polymastia</i> cf <i>massalis</i>, — <i>Stellata</i> crater — <i>P. sinclairii</i> — <i>Crella</i> — <i>Aaptos</i> sp. — <i>Psammocinia beresfordae</i> — <i>Latrunculia</i> sp. — <i>Axinella</i> sp. — <i>Darwinella gardineri</i> — <i>Polymastia</i> cf <i>crocea</i> — <i>P. hirsuta</i>. 	One of the best Marlborough examples of a very strong tidal current habitat	Dredge fishing Anchoring Sedimentation

Appendix Two – Map and co-ordinates of proposed Tory Channel Commercial Dredge prohibition area



Disclaimer: This map and all information accompanying it (the "Map") is intended to be used as a guide only, in conjunction with other data sources and methods, and should only be used for the purpose for which it was developed. The information shown in this Map is based on a summary of data obtained from various sources. While all reasonable measures have been taken to ensure the accuracy of the Map, MPI: (a) gives no warranty or representation in relation to the accuracy, completeness, reliability or fitness for purpose of the Map; and (b) accepts no liability whatsoever in relation to any loss, damage or other costs relating to any person's use of the Map, including but not limited to any compilations, derivative works or modifications of the Map. Crown copyright ©. This map is subject to Crown copyright administered by Ministry for Primary Industries (MPI).

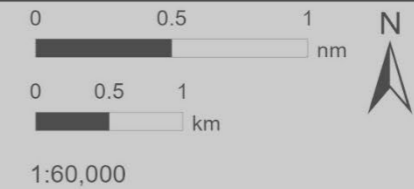


Tory Channel Proposed Dredge Closure

Date: 21/11/2022
 Produced by: Spatial Intelligence
 Reference: r220203
 Coordinate System: WGS 1984 Mercator 41

- Proposed Dredge Closure
- Proposed Dredge Closure Coordinates

Point	Latitude	Longitude
A	41°13.906'S	174°08.777'E
B	41°13.590'S	174°10.268'E
C	41°12.613'S	174°19.367'E
D	41°12.779'S	174°18.948'E



Data Attribution:
 This map uses data sourced from LINZ under CC-BY.