Before the Environment Court
At Christchurch
I Mua I te Kōti Taiao
Ōtautahi Rohe
ENV-2022-CHC-

Under	the Resource Management Act 1991 (**RMA**)
In the matter of	an application for declarations under section 311 of the RMA
Between	**Nelson City Council**
	Applicant

Affidavit of Julie Clare Barton on behalf of Nelson City Council in support of the application for declaration

Affirmed: 11 July 2022

7352472.5

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I, **Julie Clare Barton**, of Nelson, Group Manager Environmental Management, affirm:

Introduction

1 My full name is Julie Clare Barton (I am known by Clare).

2 I am authorised to make this affidavit on behalf of Nelson City Council (**Council**).

3 I hold a Bachelor of Regional Planning (Honours) from Massey University (1989).

4 I am a full member of the New Zealand Planning Institute.

5 I have over 30 years' experience in the fields of resource consents, land use planning, resource management policy and reforms.

6 I have been employed by the Council for 7 years, in the role of Group Manager, Environmental Management.

7 In the role of Group Manager, I provide strategic advice to the Council, the Chief Executive and Group Managers in respect of the Council's environmental management activities. I lead a large team across Environmental Management, Science and Environment, City Development, Consents and Compliance, Enforcement and Monitoring, Building and Environmental Policy Planning.

8 I have a sound understanding of the operative Nelson Resource Management Plan (**Plan**) and the processes under the Resource Management Act 1991 (**RMA**), particularly relating to consenting and environmental policy.

Code of Conduct

9 I have read the Code of Conduct for expert witnesses in the Environment Court practice note. I agree to comply with this Code.

The evidence in my affidavit is within my area of expertise, except where I state that I am relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Scope of evidence

10 In my affidavit I will address the following matters:

10.1 A description of the area and the activities being undertaken.

10.2 The Council's involvement with this issue at Delaware Bay.

10.3 A description of the relevant Plan provisions and relevant historical context.

10.4 My interpretation of the Plan provisions.

11 In preparing my affidavit, I have considered:

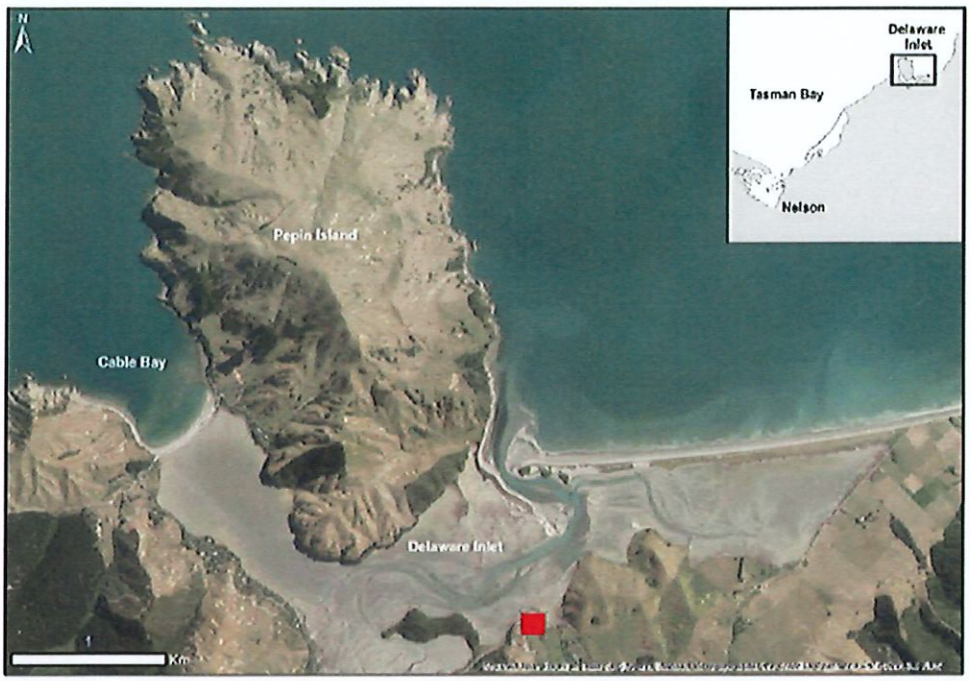
11.1 Historical records regarding the extension of the formed legal road.

11.2 The Plan in its present form and the background to the provisions at issue.

11.3 The New Zealand Coastal Policy Statement.

The area and the activities being undertaken

12 The area that is the subject of this application is Delaware Bay and the public access by vehicles to launch/ retrieve boats to the eastern side of the Delaware Inlet (approximately 15km northeast of Nelson), which is the estuary of the Wakapuaka River. It is separated from the adjacent Cable Bay by a narrow sandbar, which connects Pepin Island to the mainland. An aerial overview of the area is shown below, which is a plan taken from a Cawthron Report commissioned by Council (*Impacts of Vehicle Access at Delaware (Wakapuaka) Inlet*, 9 June 2017). The red square shows where vehicles access the estuary:



13 Vehicles towing boats (recreational and fishing boats) are driving across the estuarine flats at Delaware Bay to launch at the water's edge. The beach is usually accessed off an informal 'ramp' at the edge of Māori Pā Road. This informal 'ramp' is a formed dirt track and is contained within an area of legal road at Delaware Bay, which is adjacent to the coastal marine area.

14 The photograph attached and marked **Exhibit JB01** shows the "informal ramp" that is used to access the beach.

15 It is used by the public to access the beach area, below Mean High Water Springs (**MHWS**), to then drive across to launch and/or retrieve recreational boats/fishing vessels at the water's edge.

16 Attached and marked **Exhibit JB02** is a plan of the area showing the informal 'ramp', the legal road boundary, the beach area and the general location of MHWS (both in the operative Nelson Resource Management Plan and as updated in the new on-hold Draft Nelson Plan). This map has been prepared by the Nelson City Council GIS Team for the purposes of this application for a declaration. It was prepared on 12 January 2022.

17 Attached and marked **Exhibit JB03** is a flyer that was prepared by Council for consultation purposes, in developing the Council's new resource management plan (still in draft and currently on hold) and to enable options to be traversed with interested parties, including iwi and boat users. As a result of discussions with interested parties, a flyer was developed to show a potential indicative route across the estuary, with a low tide launching fan and high tide launching fan. The flyer in no way signalled that it was an activity that was provided for but was a method to explore potential provisions in the future resource management plan or alternatively exploring whether a resource consent could be applied for. The content of the flyer was ultimately not supported by iwi. The content of the flyer which was for the purposes of discussion, does not derogate from the current Plan provisions.

18 It may be possible in very high tide conditions to launch straight from the "launching ramp" although this has not been observed by Council officers or myself. Vehicles and trailers have however, been observed generally in the location of the "low tide launching fan" as shown in the flyer. The distance from the shore to this launching area is approximately 320 metres.

19 On the landward side of the informal 'ramp' there is a two-way sealed road (Māori Pā Road) with Delaware Estuary on one side and farmland on the other. In the area of the 'ramp' there is a dirt turnaround and parking area on the estuary side of the road. A short distance up the road is the end of the public road with cul-de-sac turning. There are a number of driveways off Māori Pā Road. On the farmland side of the road there is one house setback and elevated, one house at a much greater distance and elevated in the hills and one house on the flat, again well setback from the road. Various farm sheds are in the locale.

20 A Cawthron report commissioned by the Council in relation to the effects of this activity (detailed further below) summarises the area as follows:

> …Delaware Inlet is ecologically important and recognised as being significant within the Nelson Biodiversity Strategy… It retains areas of intact

> vegetation sequences form coastal forest through to salt meadows, salt marsh and intertidal flats containing seagrass (rimurēhia, eelgrass) beds. The tidal flats contain invertebrate communities including shellfish beds...Delaware Inlet is also an important breeding, feeding and nursery area for a variety of fish and bird species and is a site of national importance, primarily as habitat for banded rails...and banded dotterels...Variable oystercatchers...have been reported breeding along its coastal margins.
>
> In a wider context, the productive habitats of Delaware Inlet contribute to the food web of Tasman Bay by absorbing, processing and exporting terrestrial and marine nutrients...The stretch of coastline potentially influenced by estuary outwelling is recognised to have special importance with regard to the Horoirangi Marine Reserve to the west and the Taiāpure Management Area and recreational fishing grounds in Delaware Bay.

21 Attached and marked **Exhibit JB04** is a copy of the Cawthron report.

22 The reference to Taiāpure Management Area reflects an area from Delaware Bay to Glenduan, which became a Taiāpure (traditional fishery reserve) in 2002, established under the Fisheries Act 1993. It is managed by a committee of iwi, community and marine group representatives.

23 Technical work for the new Whakamahere Whakatū Nelson Plan has also identified the estuary as an outstanding natural landscape and an area of outstanding coastal natural character. While this plan has not been notified and has no legal effect, the technical information is still relevant to understanding the area these activities are occurring in. The plan is in draft, with many parts having been consulted on and it was to be notified in late 2022 or early 2023. A recent Council decision has been made however, to put the plan on pause awaiting the outcomes of the Resource Management Reform process. The timeframe for notification is now uncertain.

24 Historically, the Bay is famous for Huria Mātenga's rescue of the crew of The Delaware, which ran onto rocks at Wakapuaka in September 1863. From pre-European times to today, the estuary has always been an important site for gathering of kai moana within the estuary. It is also an important source for the Māori values of manaakitanga (hospitality) and kaitiakitanga (stewardship/guardianship).

Council's involvement with this issue at Delaware Bay

25 In 1999, Māori Pā Road was extended along the edge of the estuary, following a subdivision in the area. Anecdotally, some locals were crossing the beach to launch boats prior to 1999. However, following the extension of the public road, the number of vehicles crossing the estuary increased.

26 Some of those vehicles have been joyriders. Approximately 24 months ago I was shown photographs of a vehicle (with no boat trailer) that was inundated and having to be towed out. Predominantly however, the use of the area has been by vehicles towing boats across the estuary, to launch at the water's edge.

27 Over the last two summer periods compliance officers have been undertaking an education campaign at Delaware Bay with the boating community. When officers have been on site, I have been advised by them that there are vehicle tracks and marks in the estuary over a wide area. During those visits there were a range of vehicle numbers with the largest number having been observed at 14 vehicles with 10 vehicles having boat trailers.

28 I consider that driving vehicles across the beach is not a permitted activity under the Plan, and therefore, the activity requires resource consent. I explain why that is further below.

29 As Council did not consider this was a permitted activity there have been previous Council attempts at enforcement and these have been met with opposition from locals and recreational fishers. For example, when Council put up barricades to block a makeshift ramp around 2001, they were taken down again (without permission). The issue also featured in high profile news stories at the time, with some expressing the view this was an issue of public access to the coast. A padlocked gate was installed in 2003, which was subsequently vandalised and ultimately removed by the Council.

30 The issue has not been resolved and for approximately the last 3 years, Council officers have been engaging with iwi (including Ngāti Tama, through two Trusts based in the area, Huria Matenga Wakapuaka Trust and Wakapuaka 1B Trust, Ngāti Koata, Ngāti Kuia and Ngāti Toa) and stakeholders (including the harbourmaster, recreational fishers and residents of Delaware Bay) regarding a possible solution to the issue. This has been in conjunction with preparing for the new Whakamahere Whakatū Nelson Plan, as the Council wanted to work through various options relating to use of the foreshore for launching recreational and fishing boats.

31 As part of the engagement, Cawthron Institute were contracted by the Council to undertake a study on the effects of vehicles on the estuary. Their report was completed and provided in June 2017. The study included sediment cores, assessment of the extent of seagrass coverage, field observations of boat launches, a boat users' survey and interviews with iwi representatives and local residents.

32 A copy of that report is attached and marked **Exhibit JB04**. A summary of its conclusions are:

> In summary, there is good evidence of direct disturbance of seagrass from visible vehicle tracks and some evidence, albeit inconclusive, that vehicle traffic has caused a reduction in the extent of seagrass beds over time. Similarly, we consider that higher vehicle usage is likely causing some impacts in the midshore on sediment structure and the associated benthic animal community, including cockles.

33 To give an idea of usage of this area, the Cawthron Institute undertook field observations of the boat usage at the Delaware Inlet. Over a 5-week period in January and February 2017, there were 69 boat users surveyed at Delaware Inlet and most were frequent users (only 7 advised they were launching boats there for the first time).

34 From the Council's enforcement patrols, the Council holds some information about who is using the area at the time of those patrols. Between 25 January 2020 and 22 March 2020, 61 vehicles in total with trailers were present in the area during patrols at different times of the day. During 16 December 2020 and 26 March 2021, this number was 57

in total. The trailer on these vehicles indicates it was likely they were using the ramp at the time their presence was recorded.

35 The Council has considered options for addressing this usage, including education, formal enforcement, seeking a resource consent for use of the area, building a wooden ramp across the estuary, improving the nearby Cable Bay ramps, as well as identifying this location as an official launching ramp in the new draft Whakamahere Whakatū Nelson Plan. None of these options were seen as an optimal solution, particularly as there was debate around the interpretation of the Plan provisions and whether the activity is permitted or not. Hence the decision to proceed with this declaration application.

36 Since 2017 there has been periodic engagement with the Delaware Bay Boat Access Group, a self-formed group of recreational fishers. Specific periodic engagement has also occurred with iwi - that is, Ngāti Tama, through two Trusts based in the area, Huria Matenga Wakapuaka Trust and Wakapuaka 1B Trust, Ngāti Koata, Ngāti Kuia and Ngāti Toa. The Boat Access Group want to be able to continue to access across Delaware Bay estuary/beach and iwi are opposed to that access.

Relevant Plan provisions and historical context

37 The Planning Maps in the Plan identify 'launching ramps', through a symbol of a blue cross. Planning Map 37 of the Plan does not identify a 'launching ramp' at the Delaware Bay location.

38 A copy of Planning Map 37 is attached and marked **Exhibit JB05**.

39 To contrast, I have also attached and marked as **Exhibit JB06** a copy of Planning Map 36, which does show 'launching ramps' at Cable Bay. (which are identified through the blue cross symbol).

40 By way of background, the informal 'ramp' at Delaware Bay was originally marked with the 'launching ramp' symbol (which is shown as a small boat symbol -) on two versions of Map 32 of the Proposed

Nelson Resource Management Plan (**Proposed Plan**) contained in the attached and marked Exhibit **JB07**.

41 Various versions of Map 32 are contained in Exhibit JB07 and pre-date the operative version of the map shown in Exhibit JB05. Various working copies of the map are included to show progression in the pre-operative period with various hand-written notes and the small boat symbol versions.

42 The Proposed Plan was notified on 25 October 1996. There were then hearings between 1998 and 1999 and a decision was made around December 1999.

43 The Council's records show there was an amendment made by the Council to the Proposed Plan in approximately 2001 to correct an error and at that point, the launching ramp notation at Delaware Bay was deleted.

44 As of 1 May 2006, the Regional Coastal Plan became operative (other than those provisions relating to Port Noise). The provisions relating to Port Noise were made operative on 19 November 2012. The provisions that govern use of the beach area in question here are Regional Coastal Plan provisions and the relevant regional rule is CMr.33, particularly (d):

> Driving of vehicles on, and disturbance of the foreshore or seabed by vehicles, is permitted if the activity is associated with any of the following activities:
>
> a) surf life-saving operations, or
>
> b) emergency situations or special circumstances including oil spills, rescue operations, salvage of vessels or sea mammal stranding, or
>
> c) the removal of litter, nuisance matter, or debris which may affect navigation and safety, or
>
> d) <u>the launching or retrieving of recreational or commercial vessels at launching ramps, or</u>
>
> e) Council data collection, monitoring or enforcement activity, or
>
> f) beach grooming undertaken by the Council, its agent, or a consent holder as part of the conditions on a consent, or

g) activities undertaken in accordance with an Approved Conservation Management Strategy or Plan or Reserves Management Plan, or

h) legitimate research, law enforcement or military activities undertaken by either the police, customs, Government departments or New Zealand Defence Force or recognised educational institutes, or

i) use of the portion of Point Road below mean high water springs, or

j) the maintenance, construction or placement of network utility structures undertaken under a permitted activity rule of this Plan or authorised by way of a Resource Consent, or

k) the transportation of lawfully harvested aquatic organisms.

45 Foreshore' is defined in the Plan as:

> any land covered and uncovered by the flow and ebb of the tide at mean spring tides and, in relation to any such land that forms part of the bed of a river, does not include any area that is not part of the coastal marine area

46 'Coastal marine area' is defined in the Plan as:

> means the foreshore, seabed, and coastal water, and the air space above the water—
>
> (a) of which the seaward boundary is the outer limits of the territorial sea:
>
> (b) of which the landward boundary is the line of mean high water springs, except that where that line crosses a river,…

47 'Seabed' is not defined.

48 'Launching ramp' is not defined, although 'launching structure' is defined to mean 'any structure intended for the purposes of launching vessels.'

49 If launching is not permitted under Rule CMr.33, then it will need consent under Rule CMr.33.3 which states:

> Disturbance of the foreshore or sea bed that contravenes a permitted condition, and is not regulated under another rule, is discretionary.

50 In Chapter 13 introduction in the Plan (CMd1.iii) it states:

> The objectives and policies in this Chapter apply to the Coastal Marine Area and they are to be taken into account in regard to activities in the coastal environment that affect the Coastal Marine Area. The rules in this Chapter regulate activities in the Coastal Marine Area only.

51 And in CMd1.iv it states:

> The coastal environment is valued by Nelsonians and visitors alike for its diversity, beauty, productivity, recreational opportunities, cultural and spiritual associations.

52 Specifically relevant to Delaware is CMd1.4.i. It states:

> Delaware Inlet is a relatively unmodified inlet at the mouth of the Wakapuaka River, some 15km north of Nelson City. It provides a sheltered estuarine habitat for a wide range of species, including some rare or endangered bird species. The inlet is of national significance for nature conservation and estuarine values. A large number of archaeological sites exist around the margins of the Inlet. The Inlet is of high value to Maori for spiritual reasons and as a traditional food gathering area. Some significant forest remnants occur in the Wakapuaka River Valley. The area is sensitive to change due to its relatively unmodified state.

53 There are no objectives and policies that are specifically relevant to the interpretation of Rule CMr.33, but there are general policies that are relevant to the activities here. These include policy CM4.1 - 'activities within the coastal marine area should avoid significant adverse effects on amenity values and public safety'. One explanation and reason associated with that policy states:

> Certain types of structures and activities involving the disturbance of, or deposition of, substances on the foreshore or seabed fall into this category. Some structures can improve amenity values. The erection and operation of structures within the coastal environment have the potential for a range of adverse effects on amenity values, depending on their location, size and design. Coastal structures below, or straddling, mean high water springs include moorings, jetties, bridges, wharves, launching ramps, slipways, pipelines, cables, culverts, navigation aids, transmission lines, shoreline protection works (seawalls, groynes, and breakwaters).

54 In addition, there is policy CM5.2 which states that 'activities on the foreshore or seabed should avoid, remedy, or mitigate adverse effects on natural coastal processes'.

55 Public access is then addressed in policy CM7.1:

> Public access to and along the Coastal Marine Area should be maintained and enhanced, except where a restriction on access is necessary:
>
> a) to protect areas of significant indigenous vegetation or significant habitats of indigenous fauna, or both; or
>
> b) to protect Māori cultural values; or
>
> c) to protect the health and safety of the public; or
>
> d) to ensure a level of security consistent with the purpose of the resource consent; or
>
> e) in other exceptional circumstances sufficient to justify the restriction, notwithstanding the national importance of maintaining that access.

56 Chapter 13 of the Plan (objectives, policies and rules) is attached and marked **Exhibit JB08**.

57 Policy 20 in the New Zealand Coastal Policy Statement is also relevant:

> 1. Control use of vehicles, apart from emergency vehicles, on beaches, foreshore, seabed and adjacent public land where:
>
>   a. damage to dune or other geological systems and processes; or
>
>   b. harm to ecological systems or to indigenous flora and fauna, for example marine mammal and bird habitats or breeding areas and shellfish beds; or
>
>   c. danger to other beach users; or
>
>   d. disturbance of the peaceful enjoyment of the beach environment; or
>
>   e. damage to historic heritage; or
>
>   f. damage to the habitats of fisheries resources of significance to customary, commercial or recreational users; or
>
>   g. damage to sites of significance to tangata whenua;
>
>   might result.
>
> 2. Identify the locations where vehicular access is required for boat launching, or as the only practicable means of access to private property or public facilities, or for the operation of existing commercial activities, and make appropriate provision for such access.
>
> 3. Identify any areas where and times when recreational vehicular use on beaches, foreshore and seabed may

be permitted, with or without restriction as to type of vehicle, without a likelihood of any of (1)(a) to (g) occurring.

My interpretation of the relevant Plan provisions

58 Under Rule CMr.33(d), it is a permitted activity to drive vehicles on the foreshore and seabed for the purpose of launching or retrieving vessels at 'launching ramps', subject to conditions being met.

59 There are several issues with Rule CMr.33(d) of the Plan as it relates to Delaware Bay. These are:

59.1 'Launching ramp' is not defined to only be those identified on the Planning Maps or only ramps that include a structure.

59.2 'Launching structure' is defined in the Plan and therefore, if CMr.33(d) was only meant to only capture structures, then it would have used that phrase.

59.3 Rule CMr.33 is a regional rule and only applies to foreshore and seabed (ie, the coastal marine area). This is confirmed by CMd1.iii of the NRMP, which states the rules in the Chapter only regulates activities within the coastal marine area. This means that CMr.33(d) does not apply to activities on the informal 'ramp' at Delaware Bay, as it is outside the coastal marine area and entirely within legal road.

60 Accordingly, in my view, the issue here is not the launching of boats at the informal 'ramp', but that the public use the informal 'ramp' as access to the estuary/beach, which they then drive along to launch their boats from a suitable point further out, at the water's edge. This means they drive across the foreshore for the purpose of launching/retrieving their boats. The locations where they are launched contain no 'launching ramps', formal or otherwise. It is simply beach.

61 In my view, this means the activity of launching/retrieving a boat from anywhere along the beach is not permitted by CMr.33.1(d) as no

'launching ramp' is involved. This means resource consent is a discretionary activity under Rule CMr.33.3.

62 The discussions the Council has had over a number of years highlight that there are many competing interests and views, and the Council wants to have the interpretation issues determined by the Court so all parties are clear on what is permitted and what requires resource consent.

Conclusion

63 I consider that as the driving of vehicles across Delaware Bay to launch and retrieve recreational boats is not a Permitted Activity, then without resource consent being obtained, the activity is not provided for and the provisions of the Plan are capable of enforcement.

Affirmed at Nelson
on 11 July 2022 .....
before me: Julie Clare Barton

.....
(Deputy) Registrar
Solicitor of the High Court of New Zealand
Justice of the Peace

Jamie Bryan O'Meagher
Solicitor
Nelson

SCHEDULE 1 - Exhibits

Exhibit no.	Title	Date
JB01	Photograph	Undated
JB02	Nelson City Council - Plan of the area	July 2021
JB03	Delaware Estuary Proposal Flyer	Undated
JB04	Cawthron Report	9 June 2017
JB05	Nelson Resource Management Plan - Planning Map 37	1 Sep 2004
JB06	Nelson Resource Management Plan - Planning Map 36	1 Sep 2004
JB07	Nelson Resource Management Plan - Various drafts of the map prior to being made operative	
JB08	Nelson Resource Management Plan - Chapter 13	12 Nov 2012

Nelson City Council
Te Kaunihera o Whakatū

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"JBO 1"

~~"JCB1"~~

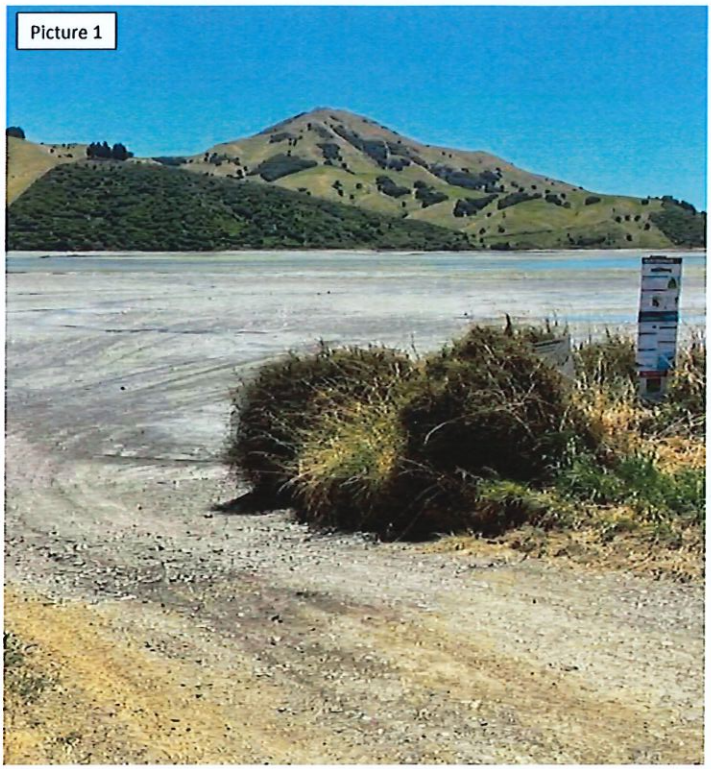
This is the document marked ~~"JCB1"~~ referred to in the annexed affidavit of **Julie Clare Barton** affirmed at Nelson this 11th day of July 2022 before me:

A Solicitor of the High Court of New Zealand

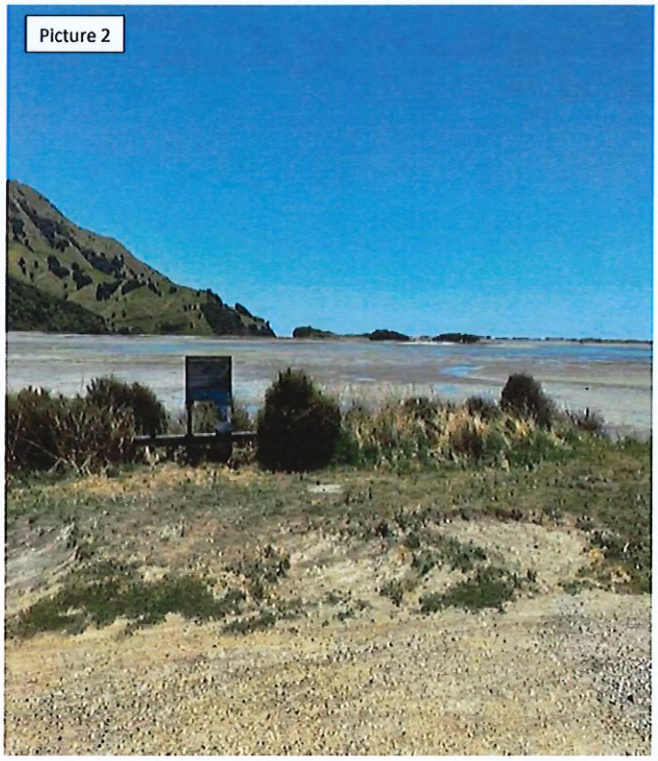
Jamie Bryan O'Meagher
Solicitor
Nelson

Four Photographs of Delaware Bay – showing the ramp and Bay/estuary at low tide

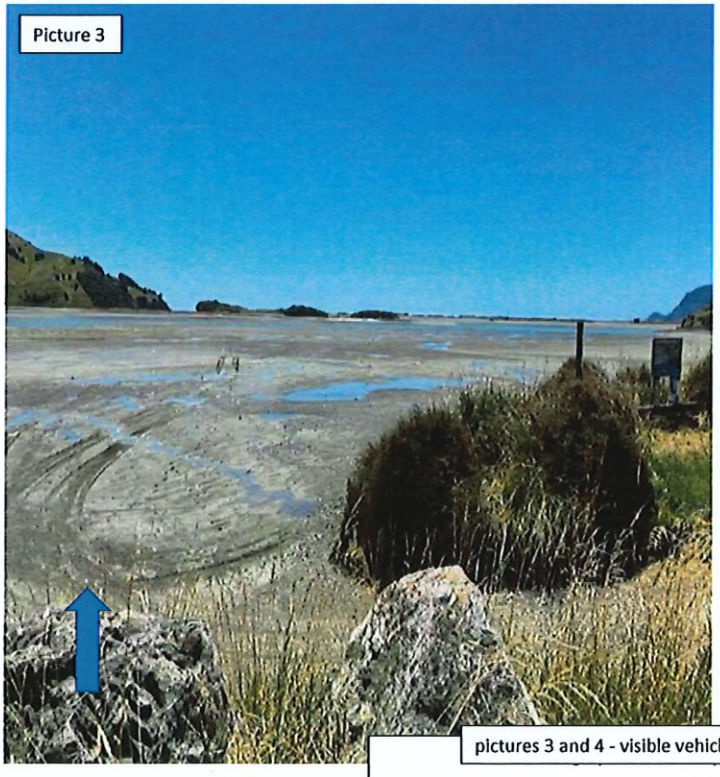
Picture 1



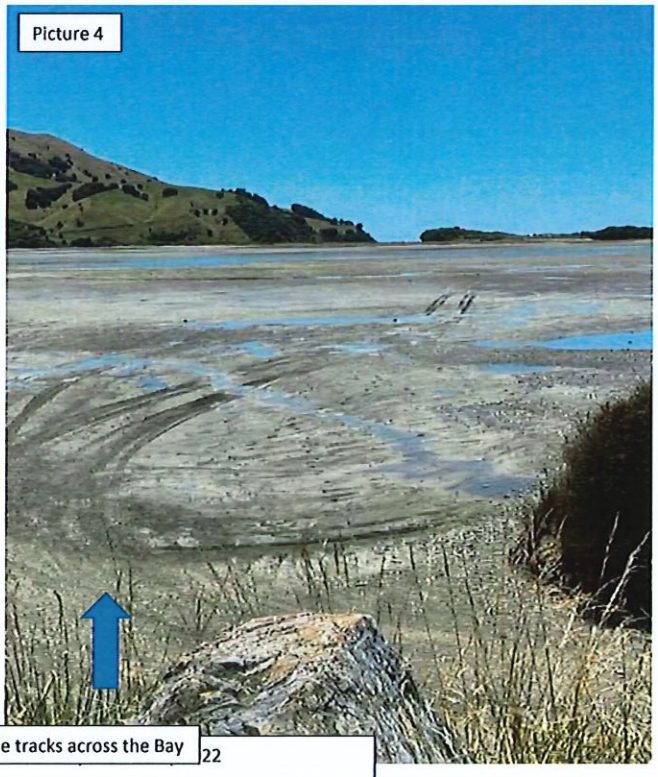
Picture 2



Picture 3



Picture 4

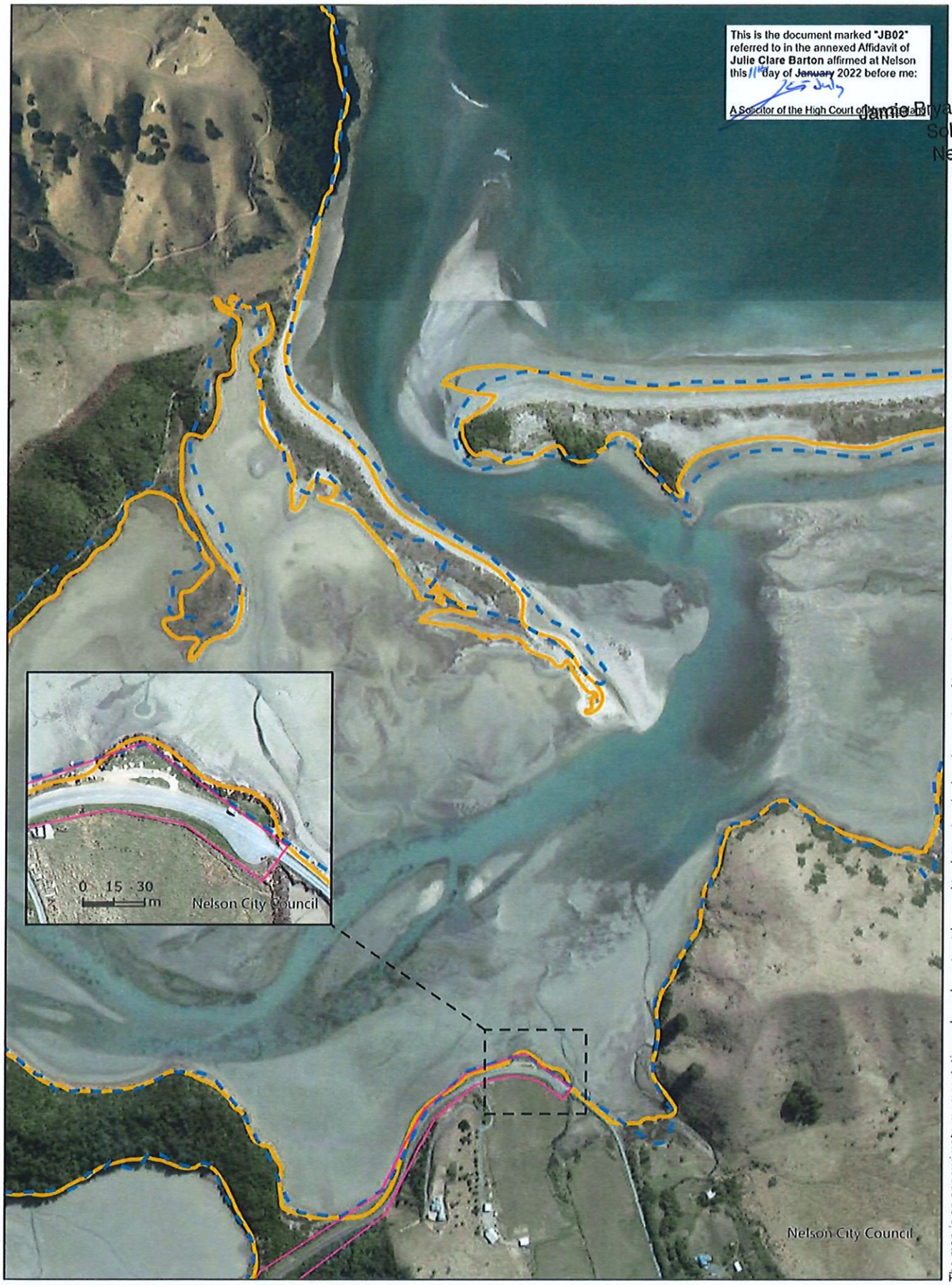


pictures 3 and 4 - visible vehicle tracks across the Bay

22

Photographs taken on a standard iPhone 12 with no change to lens setting

"JB02"



Delaware Bay

Attachment 1

Legal road boundary

Mean High Water Springs (operative Nelson Resource Management Plan)

Mean High Water Springs (as updated in the new on-hold Draft Nelson Plan)

N

0 50 100
m

Aerial Photography flown 14 & 17 Mar 2020 and 16 Jan & 3 Feb 2019 (north)
Coordinate System: New Zealand Transverse Mercator 2000.

This map has been prepared by the Nelson City Council GIS Team for the purposes of this application for a declaration. It was prepared on 12 January 2022.

Nelson City Council
Te Kaunihera o Whakatū

File Ref: A2687776
KS. Original map size A4.

PO Box 645 Nelson 7040 New Zealand PH 03 5460200 nelson.govt.nz

A PLACE WITH SPECIAL VALUES

Delaware (Wakapuaka) Estuary is rich in values and requires careful and respectful stewardship.

CULTURAL VALUES

Delaware (Wakapuaka) Estuary is of deep historic and cultural significance to Nelson's Ngāti Tama. Delaware (Wakapuaka) Bay, which is seaward of the Estuary, became a taiapure-local fishery on 19 March 2002, and is now managed and protected by Ngāti Tama's Manawhenua Ki Te Tau Ihu Trust.

Historically, the Bay is famous for Hùria Mātenga's rescue of the crew of the Delaware, which ran onto rocks at Wakapuaka in September 1863. Hùria first swam into the raging sea to pick up a lead thrown by the ship's captain, and then entered the surf again to help the crew ashore. Also helping with the rescue were her husband Hemi and three other men. All were saved and Hùria Mātenga became a national heroine.

(Gerard Hutching, 'Shipwrecks - Perils of the sea: 19th century', Te Ara - the Encyclopedia of New Zealand, http://www.TeAra.govt.nz/en/shipwrecks/page-2 (accessed 15 October 2018)

The first telegraph cable from Australia to New Zealand came ashore at Cable Bay, known to Māori as Rotokura, in 1876. A small settlement of about 30 people grew around the station. In 1917 the cable was moved to Tītahi Bay, north of Wellington.

ECOLOGICAL VALUES

The Delaware (Wakapuaka) Estuary is ecologically sensitive with populations of seagrass and cockle beds that support a number of commercial and recreational fish species during their juvenile stages.

The Estuary is also an important feeding ground for shorebirds, including banded rail, variable oyster catcher and royal spoonbill. Local community groups including Forest and Bird and the Paremata Flats Restoration Group have been actively involved in tree planting, pest trapping and weed control on land adjacent to the Estuary.

Users of the marked route will be provided with an opportunity to make a donation. Donated funds would be used for restoration work in the Estuary. In time, this could form a catalyst for the formation of a 'Friends of Delaware (Wakapuaka) Estuary' community group.

Council's Healthy Streams programme is funding a community project, Wakapuaka Bursting with Life, to restore the Wakapuaka catchment, of which Delaware Estuary is a key component. This project is encouraging North Nelson landowners and iwi to work together on riparian tree planting, pest control, erosion control and water quantity and quality issues within the catchment. These efforts will, long-term, improve the health of the Estuary as pollution and sediment being washed into the Estuary is reduced.

For more information visit
nelson.govt.nz/ wakapuaka-bursting-with-life

Nelson City Council
te kaunihera o whakatū

Civic House, 110 Trafalgar Street, Nelson
enquiry@ncc.govt.nz • 03 546 0200 • **nelson.govt.nz**

This is the document marked "JB03" referred to in the annexed Affidavit of **Julie Clare Barton** affirmed at Nelson this 19th day of ~~January~~ July 2022 before me:

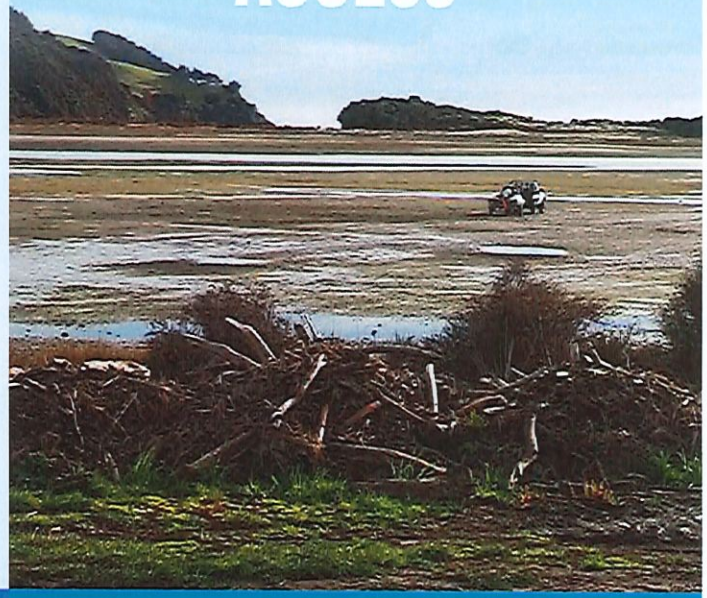
A Solicitor of the High Court of New Zealand

Jamie Bryan O'Meagher
Solicitor
Nelson

"JB03"

DELAWARE (WAKAPUAKA) ESTUARY

PROPOSAL FOR MANAGED ACCESS



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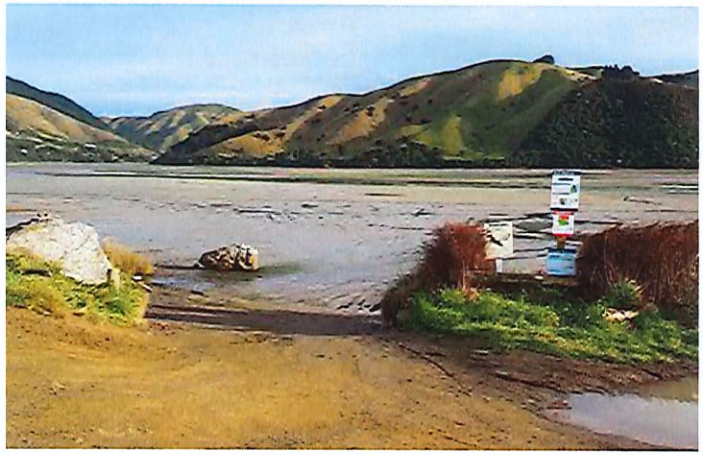


DELAWARE ESTUARY – THE ISSUES

Delaware (wakapuaka) Estuary – What's happening?

For some years, vehicles and trailers have been driven across the mudflats at the end of Māori Pā Road to launch and retrieve boats in the channel. This has impacted on the delicate estuarine ecosystem, and been in conflict with cultural values held by local iwi.

The Council acknowledges the popularity of Delaware (Wakapuaka) Estuary compared to other nearby sites (including Cable Bay) particularly with smaller boat owners and families, due to the ease and safety of access at this spot.

The Council has been working with local iwi, residents and the boating/fishing community to reach agreement over an appropriate way to manage access. The aim is to ensure small boats can still be launched and retrieved, while recognising and respecting the Estuary's cultural and ecological values.

We're now in a position to start preparing an access solution which is expected to be in place for the 2019-20 summer season.

PROPOSAL FOR MANAGED ACCESS

As shown on the map, we propose to create a 20m wide marked vehicle lane with wider fans at both the creek near the layby for high tide, and at the edge of the main channel in the Estuary for low tide launching and retrieval.

Vehicle access would be solely for boat launching and retrieval only, not for cockle harvesting, set-netting or any other purpose.

We also propose to set most of the lay-by aside for use by the general public, rather than just for car and trailer parking. Cars and trailers would park on the road shoulder.

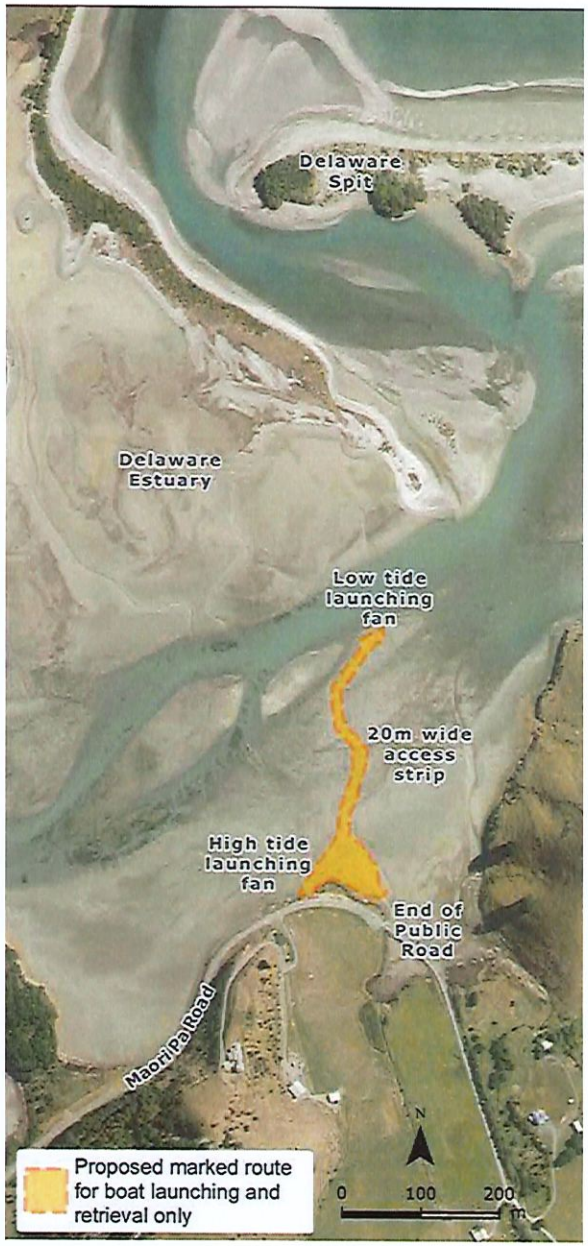
This proposal creates the smallest possible 'footprint' on the Estuary, while still providing for vehicle access.

Users would generally need to time launching and retrieval at higher or lower tides.

We're now seeking a short term (1-2 years) resource consent for a trial of this proposal. Assuming resource consent is obtained, we'll be monitoring the effects of activity and the behaviour of users during this period.

We also expect to to actively enforce restrictions on vehicle use outside the marked route during the trial. If the proposal is found to be successful a longer term consent would then be sought.

If you'd like more information, or to provide feedback, email nelson.plan@ncc.govt.nz or phone 03 546 0200



"JB04"

This is the document marked "JB04" referred to in the annexed Affidavit of Julie Clare Barton affirmed at Nelson this 11th day of ~~January~~ July 2022 before me:

A Solicitor of the High Court of New Zealand

Jamie Bryan O'Meagher
Solicitor
Nelson

Jamie Bryan O'Meagher
Sc
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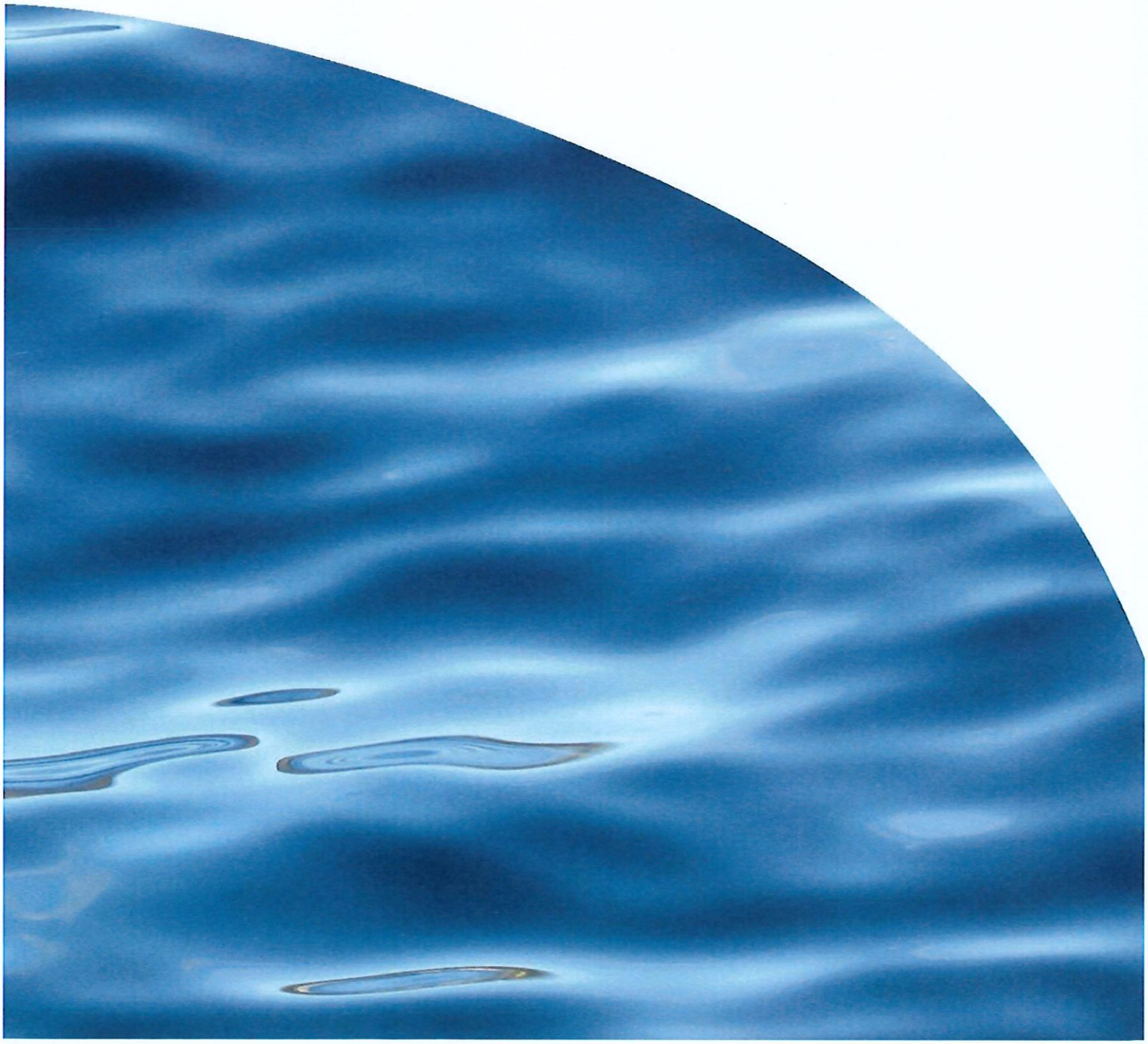
REPORT NO. 3015

IMPACTS OF VEHICLE ACCESS AT DELAWARE (WAKAPUAKA) INLET



IMPACTS OF VEHICLE ACCESS AT DELAWARE (WAKAPUAKA) INLET

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EXECUTIVE SUMMARY

In 1999 the opening of Maori Pa Road extended public vehicle access to the eastern side of Delaware Inlet (north of Nelson), which is the estuary of the Wakapuaka River. Since then an increasing number of vehicles have been using an informal boat launching site located on the south-eastern margin near the end of the public section of Maori Pa Road. Launching boats from this site involves vehicles driving across the tidal flats at low- and mid-tide levels. This has caused offence to the local hapū and Māori owners of the adjacent Wakapuaka 1B block. Nelson City Council commissioned Cawthron Institute to assess the ecological impact of vehicle traffic on the estuary and the nature and extent of boat usage, views of local residents and local hapū. The pros and cons of different options are then presented.

In 1998, the Māori Land Court recognised Te Huria Matenga Wakapuaka Trust as having freehold title to the Wakapuaka estuary in Delaware Bay. The Crown challenged the decision and in 2011 the Supreme Court subsequently dismissed the Trust's bid for freehold title. The debate contributed to the introduction of the Foreshore and Seabed Act in 2004, whereby the Crown vested ownership of the foreshore and seabed in the public domain.

Intertidal habitats associated with estuaries provide a link between terrestrial and marine environments. Delaware Inlet is recognised as being ecologically significant within the Nelson Biodiversity Strategy. It retains areas of intact vegetation sequences from coastal forest through to salt meadows, salt marsh and intertidal flats containing seagrass (rimurēhia, eelgrass) beds. The tidal flats contain invertebrate communities including shellfish beds. The inlet is also an important breeding, feeding and nursery area for a variety of fish and bird species and was listed as a site of national importance primarily as habitat for banded rail and banded dotterel. In a wider context, the productive habitats of Delaware Inlet contribute to the food web of Tasman Bay.

Physical disturbance of estuaries by vehicles can damage benthic habitats, including the plants and animals inhabiting them. In New Zealand, the area of seagrass beds has declined substantially for various reasons and damage caused by off-road vehicles can be a contributing factor in localised areas.

Assessment of ecological impacts

Cawthron assessed ecological impact of vehicle traffic on Delaware Inlet in two ways. First, we used aerial photography to assess changes in dominant habitat types relative to previous surveys and to identify any visible vehicle tracks. Second, using a fine-scale survey we looked for differences in sediment composition and benthic plants and animals (living both on and within the sediment) between areas with high and low vehicle usage.

Vehicle usage zones within the study area covered a relatively small amount (2%) of Delaware Inlet, yet accounted for around 16% of total seagrass beds within the estuary. Visible vehicle tracks showed direct physical damage to seagrass and other habitats in areas

subject to both higher and lower amounts of vehicle usage. Nearly complete loss of seagrass patches higher up the shore suggested a possible impact of vehicles, although this could not be confirmed due to differences in mapping methodologies from study to study and the possibility of changes due to natural fluctuation or other human stressors not related to vehicle impacts. Likewise, there was some evidence to suggest an historical (pre-1988) impact of vehicle usage on seagrass distribution, although the effects of this could not be separated from the influence of the type and distribution of sediments.

From the fine-scale survey, there were several apparent ecological impacts of higher vehicle usage in the midshore area, including sediment compaction, differences in infaunal community composition, lower infaunal abundance and reduced cockle numbers. The number of epifauna taxa was also lower within the higher vehicle usage zone in the low shore, although it was not possible to separate the effects of this from the influence of different sediment types.

In summary, there is good evidence of direct disturbance of seagrass from visible vehicle tracks and some evidence, albeit inconclusive, that vehicle traffic has caused a reduction in the extent of seagrass beds over time. Similarly, we consider that higher vehicle usage is likely causing some impacts in the midshore on sediment structure and the associated benthic animal community, including cockles.

Boat user counts and survey

We conducted site observations and a brief survey of boat users at Delaware Inlet and Cable Bay. Time lapse photography was used to count boat users at both sites.

Delaware Inlet was the more popular boat launching site, with an average of 68 boat launchings or retrievals per week, compared to 27 at Cable Bay. The highest weekly usage was 107 launchings or retrievals at Delaware Inlet during the week of 27 January 2017, with 49 at Cable Bay the same week. The highest vehicle count on a single day occurred on Saturday 25 February, with 33 vehicles at Delaware Inlet and 11 at Cable Bay. Numbers of vehicles dropped in early March.

Of the 62 people surveyed at Delaware Inlet, the most popular reasons for launching at that location were the proximity to good fishing grounds, safety, and qualities of the location such as quietness, wildness and beauty. Other reasons were the closeness to home, ease of access, suitability for small boats, suitability for children and families, fuel efficiency and no boat launching charge. Several respondents recounted incidents when they got into trouble while attempting to launch or retrieve boats at Cable Bay. Boats and vehicles needing to be towed at Cable Bay also create safety issues for others on the beach.

We asked 42 boat users about local ecology. Of these, 24% (n = 10) expressed some knowledge about the ecology of the estuary. Seven people said that they stayed on the main vehicle tracks on the estuary, avoided areas where seagrass is present, or only launched and retrieved their boats at high tide (to avoid driving over the estuary).

Views of local residents and iwi

Ten local residents were interviewed for their views on vehicle usage and boat launching at Delaware Inlet and Cable Bay. Many residents were attracted to the area for its natural beauty and recreational opportunities. Many of the interviewees (averaging 30 years residence) noted a substantial increase in vehicle numbers at Delaware Inlet since 1999 when Maori Pa Road became open to the public. Cable Bay had also increased in popularity in recent years. No residents were in favour of building a concrete ramp for boat launching at Cable Bay, citing factors that make this a challenging and sometimes dangerous place to launch a boat.

The majority of local residents interviewed supported the following: a marked route across the estuary to contain vehicles launching boats at low and mid-tides to a singular path, better signage with information and maps, and restrictions on boat size and a speed limit for motor boats. One couple opposed all vehicle and horse riding access at Delaware Inlet. Many residents mentioned the nuisance of 'joyriders' at Delaware Inlet who drive away from the main paths taken by vehicles launching boats, thereby extending areas of impact and sometimes getting their vehicles stuck. Harsher penalties were suggested by some local residents for those who deliberately deviate from a marked route, although others also noted the difficulty of enforcing regulations given the relative isolation of Delaware Inlet and Cable Bay.

A trustee of Ngāti Tama ki Te Waipounamu Trust and Te Huria Matenga Wakapuaka Trust was interviewed to gain the perspectives of the local hapū who are mana whenua of Wakapuaka. Unimpeded public access does not respect the concerns or mana of Ngāti Tama ki Te Waipounamu. Those concerns include the impacts of vehicles on the estuarine habitat and species, as well as increased access to other parts of Delaware Inlet, causing erosion of sand dunes on Delaware spit and disturbing wāhi tapu (sacred sites) such as urupa, where some interference with koiwi (bones) has occurred.

The Huria Matenga Trust remains opposed to all vehicle access on the tidal flats at Delaware. The Trust prefers that the recognised boat launching site at Cable Bay be improved. They consider that a marked route across the estuary for vehicles launching boats at Delaware Inlet would be ineffective at protecting the estuary. Instead, they suggested a single wooden ramp to protect the ecology of the estuary by ensuring that vehicles did not directly drive across and therefore impact the shellfish beds and eelgrass. Citing examples such as boat ramps at Kaiteriteri and Port Nelson, it was suggested that the cost of such a ramp could be met through user charges.

The table below summarises a preliminary assessment of options. A more complete assessment would require further consideration and consultation with affected parties.

Preliminary assessment of options for boat access at Delaware Inlet and Cable Bay:

Option	Pros	Cons
Status quo	Low financial cost (at least in short term).	Damage to estuary and associated cultural values continues. Rules in NCC coastal plan not being enforced.
No vehicle access to estuary at Delaware Inlet	No more damage to estuary (assuming rules can be enforced). Potential for seagrass rehabilitation.	Enforcement could be difficult and/or expensive. Safety issues for boat users. Renewed animosity between residents, iwi and boat users.
Marked route(s) at Delaware Inlet to limited number of launching points	Reduced damage to estuary. Potential for seagrass rehabilitation outside marked route(s).	Not all vehicles will stay on route. Some ongoing impacts to estuary. Some maintenance required of route markings.
Long wooden ramp at Delaware Inlet	Minimises on-going damage.	Cost. Structure would have visual effects, some shading effects and changes to currents. Possible damage to estuary during construction phase. On-going maintenance required.
Improve facilities at Delaware Inlet; booking system for parking	Improves experience for users.	Cost. Likely to lead to increased use and therefore more damage to estuary.
Improved signage about values of Delaware Inlet	Greater environmental awareness by boat users. With other measures, could help to reduce impact on estuary.	Unlikely to deter 'joyriders' and some boat users from inappropriate behaviour. Damage to estuary and associated values continues.
Restrictions on users of Delaware Inlet e.g. boat/trailer size limits; no jet skis	Reduced ecological and other impacts (depending on restrictions).	May be difficult to enforce.
Install concrete ramp and improve other facilities at Cable Bay	Safer and better experience for users. Some users diverted from Delaware Inlet so reduced impact to estuary.	Increased congestion at Cable Bay, conflict with beach users. Construction cost, with on-going maintenance. Cable Bay still not safe in some conditions.
Regular monitoring of Delaware Inlet	Provides basis for periodic review of approach.	Cost. May not provide definitive conclusions.

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1. INTRODUCTION

An increasing number of vehicles are using an informal boat launching site at Delaware Inlet that involves vehicles driving across exposed tidal flats (Figure 1). This has caused offence to the local hapū and Māori owners of the adjacent Wakapuaka 1B block who, among other things, are concerned about the damage caused by vehicles to the ecology of the estuary. The Nelson City Council (NCC) is reviewing its coastal plan and would like to include new provisions governing access to the estuary that address and, as far as feasible, reconcile the interests and concerns of local Māori, residents and boat users. The Council commissioned Cawthron Institute (Cawthron) to assess the nature and extent of boat usage, views of boat users, local residents and Māori, and the ecological impact of vehicle traffic on the estuary.

The report aims to:

- Assess the impact of vehicles on the ecology of the estuary, especially on seagrass and animals living in the sediments
- Gain an accurate account of vehicle numbers launching or retrieving boats at Delaware Inlet and Cable Bay
- Gather the perspectives of boat users at Delaware Inlet and Cable Bay
- Interview local residents and local hapū for their views on vehicle access at Delaware Inlet
- Provide a preliminary assessment of options for boat access at Delaware Inlet and Cable Bay.

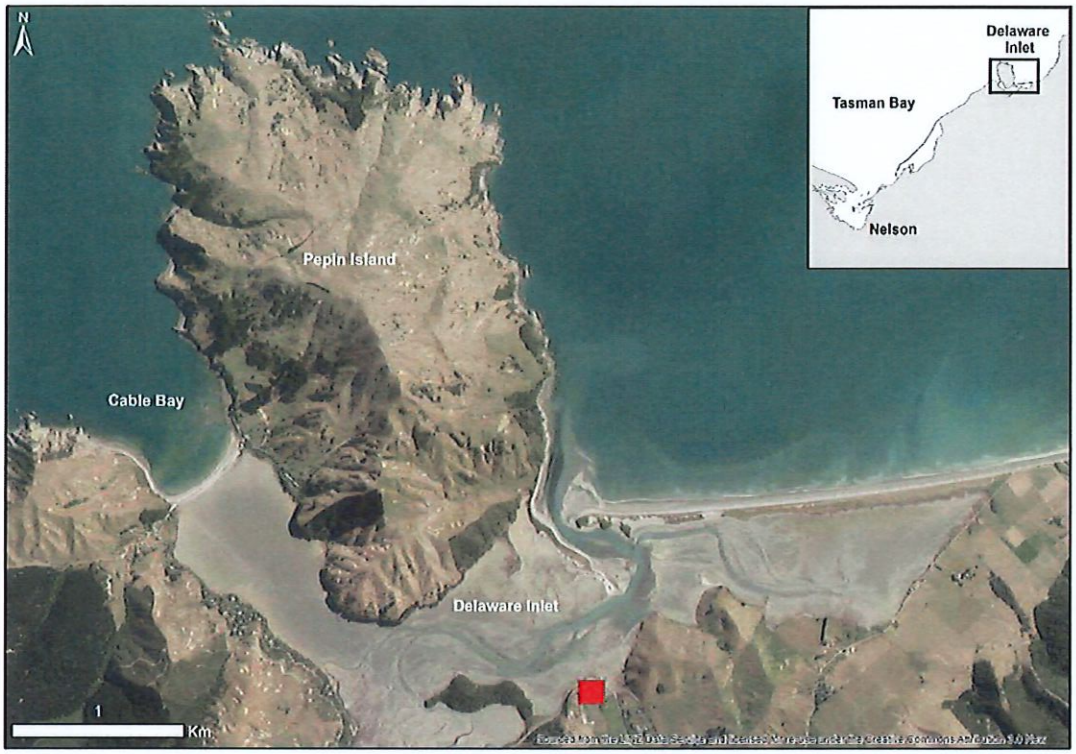

Figure 1. Delaware Inlet (pictured at low tide) and Cable Bay. Inset shows location relative to Nelson and Tasman Bay. The red area shows where vehicles can access the estuary.

1.1. Ecological significance of Delaware Inlet

Delaware Inlet is an estuary situated on the eastern side of Tasman Bay at the mouth of the Wakapuaka River and approximately 19 km northeast of the city of Nelson. It is separated from adjacent Cable Bay only by a narrow tombolo, which connects Pepin Island to the mainland. The inlet opens to Delaware Bay through a narrow channel and is classified as a permanently open tidal lagoon (Hume et al. 2016). It is approximately 353 hectares in size and mostly consists of estuarine tidal flats that are exposed at low tide (Figure 1).

Estuaries are dominated by intertidal habitats, which provide a link between terrestrial and marine environments. They perform important ecosystem functions, including primary and secondary production[1], nutrient retention/processing and sediment trapping. These roles contribute to the capacity of estuaries to function as a land/sea buffer that is critical to the sustainability of coastal ecosystems. Estuarine habitats are often of high ecological value and contain resources of significant cultural, recreational and commercial benefit.

[1] Primary productivity is the synthesis of new organic material from inorganic molecules e.g, photosynthesis. Secondary production is the generation of biomass of consumers, representing the quantity of new tissue created through the use of assimilated food.

Estuaries play an important role in the community for a diverse range of reasons. They are valued by Māori for the rich resources they provide in the form of timber for building materials, rongoa (medicine), harakeke (flax) for weaving, and many sources of kai (food).[2] Māori often established settlements near estuaries, and they were also a preferred site for European settlement—typically after clearing the 'swampy, forested, impenetrable edge of the land' (Park 1995, p. 236). Today estuaries are valued for various recreational opportunities and appreciated for their ecological values and the aesthetic enjoyment they bring to many.

Specifically, Delaware Inlet is ecologically important and recognised as being significant within the Nelson Biodiversity Strategy (Lawless & Holman 2006). It retains areas of intact vegetation sequences from coastal forest through to salt meadows, salt marsh and intertidal flats containing seagrass (rimurēhia, eelgrass) beds. The tidal flats contain invertebrate communities including shellfish beds (Gillespie et al. 2011b). Delaware Inlet is also an important breeding, feeding and nursery area for a variety of fish and bird species and is a site of national importance, primarily as habitat for banded rails (*Gallirallus philippensis assimilis*) and banded dotterels (*Charadrius bicinctus bicinctus*) (Davidson et al. 1994). Variable oystercatchers (*Haematopus unicolor*) have been reported breeding along its coastal margins (Boffa Miskell 2015).

In a wider context, the productive habitats of Delaware Inlet contribute to the food web of Tasman Bay by absorbing, processing and exporting terrestrial and marine nutrients (Gillespie 2008). The stretch of coastline potentially influenced by estuary outwelling is recognised to have special importance with regard to the Horoirangi Marine Reserve to the west and the Taiāpure Management Area and recreational fishing grounds in Delaware Bay.

1.2. Brief history of Ngāti Tama at Delaware Bay

Ngāti Tama hapū are mana whenua of Wakapuaka (Delaware Bay), and are part of Ngāti Tama ki Te Waipounamu who whakapapa to northern tribes from the Taranaki region through the common ancestor, Tama Ariki, the tupuna who was a tohunga and navigator on the Tokomaru waka. Ngāti Tama descend from Paremata—the stepson and nephew of Te Pūoho ki te Rangi who, in 1828/29, led a taua of approximately fourteen waka into Wakapuaka (*Interview* 8 March 2017). Ngāti Tama gained land in Te Tau Ihu (the top of the South Island) as a result of conquest, maintained by settlement and through occupation and use of '…lands, forests, waterways, foreshores, sea and other resources' (Walters Williams & Co 2003, p.8).

[2] https://www.niwa.co.nz/education-and-training/schools/students/estuaries

Starting in the 1830s, European settlement and Crown interventions affected Ngāti Tama occupation and use of their lands. In their Treaty of Waitangi claim (Wai 723), Ngāti Tama outlined grievances resulting from Crown breaches of the Treaty of Waitangi 1840, including: surveys by the New Zealand Company in the late 1830s, the Wairau Incident in June 1843, the Spain Commission from 1844–1845, and surveys of Ngāti Tama boundaries in 1845 and 1847. These interventions resulted in land loss that had a detrimental impact on Ngāti Tama's economic and social stability:

> The Crown's failure to properly monitor the [New Zealand] Company's surveys of the boundary between the Company lands and Wakapuaka lands provoked the skirmishes which arose in 1845 and 1847, and the consequent losses of land suffered by Ngati Tama (Walters Williams & Co 2003, p.14).

In 1998, the Māori Land Court recognised Te Huria Matenga Wakapuaka Trust as having freehold title to the Wakapuaka estuary at Delaware Bay; however, '…the Registrar-General of Lands in 1999 refused to register the court's orders' (Ansley 2003). The Crown took the Māori Land Court decision to the Court of Appeal that overturned the ruling, and in 2011 the Supreme Court subsequently dismissed the Trust's bid to reverse that decision (NZPA 2011). The Trust's claim to title of the Delaware Inlet sparked national debate, which contributed to the introduction of the Foreshore and Seabed Act in 2004, whereby the Crown vested ownership of the foreshore and seabed to the public domain.

1.3. History of vehicle access to Delaware Bay

During our work for this report, we heard anecdotal accounts of boat users driving on the estuary to launch boats at Delaware Inlet since at least the 1970s. Prior to 1999, Maori Pa Road was private and vehicle access to Wakapuaka east of the Wakapuaka River was restricted by a locked gate. Fishers who wished to launch boats required approval from the local property owners (Nelson City Council 2004, p. 1).[3]

In 1997, a subdivision in the area was approved by NCC, and by July 1999 the bridge over the Wakapuaka River had been improved to Council requirements. Following that, Maori Pa Road was redesignated a public road; the private road continues just beyond where vehicles are currently gaining access onto the estuary.

[3] In the Court of Appeal case (2008) Judge Isaac summarised evidence provided by Jack Harvey (b.1928): "…iron gates were erected and kept locked 'even after the Matenga Estate sold the property. If you wanted to go fishing …you had to get permission from Mrs Martin (Huria Matenga [Trust]) … That was for fishing in the inlet and out in the Bay too … In my Dad's time, he and his brothers used to do a lot of fishing down there and they always went and got permission…'" The Trustee of Te Huria Matenga Whakapuaka Trust interviewed for this study confirmed: "There was only a handful of vehicles that utilised the estuary for the purpose of launching boats prior to the public road" (pers. comm. 10 May 2017).

The accessibility of Maori Pa Road to the public from 1999 enabled more recreational fishers to use the informal boat launching site. Boat users gain entry to the channel at low- and mid-tide by driving over the tidal flats at Delaware Inlet. Ecological damage to the estuary has long been a concern to local hapū, and Te Huria Matenga Wakapuaka Trust requested NCC take action to prevent further damage by vehicles.

In 1999, the Council installed a padlocked chain barrier (authorised vehicles could still gain access subject to approval by the Trust), and in 2001 this was replaced with a gate that was then padlocked in 2003. The gate was vandalised by unknown parties and subsequently removed by the Council. There is currently no physical restriction to vehicles driving onto the tidal flats at Delaware Inlet; this remains an unresolved and hence contentious issue.

According to chapter 13 of the Nelson Resource Management Plan, driving of vehicles on, and disturbance of the foreshore or seabed by vehicles, is permitted only in specific circumstances, e.g. the launching or retrieving of recreational or commercial vessels at launching ramps, which are mapped in the plan. The Cable Bay launching point is mapped in the plan, whereas the access point to Delaware Inlet at Māori Pa Road is not. In practice, councils exercise discretion regarding enforcement of conditions on permitted activity rules.

2. LITERATURE REVIEW OF VEHICLE IMPACTS ON ESTUARIES

Estuaries are subject to a range of anthropogenic stressors that can compromise their health (Ellis et al. 2015). Physical disturbance of intertidal areas caused by vehicle traffic can damage benthic habitats, including the plants and animals inhabiting them. While a comprehensive literature review was outside the scope of this study, we briefly summarise the literature regarding the effects of vehicles driving over tidal flats. Due to limited research on vehicle impacts within estuaries, the review was supplemented with information based on sandy beaches as well as similar human activities, e.g. human trampling, horse riding, boating activities and scientific experiments. Salt marsh habitats were not included in this review because there are no such habitats in the study area affected by vehicles.

2.1. Impacts on seagrass

Seagrasses are flowering marine plants that inhabit both intertidal and subtidal coastal zones. *Zostera muelleri* (eelgrass) is indigenous and the only species of seagrass present in New Zealand. Seagrass meadows are an important natural attribute of many New Zealand estuaries and have high ecological value (Matheson et al. 2009; van Houte-Howes et al. 2004). Although their photosynthetic contribution can be relatively modest by global standards (McRoy & McMillan 1977; Gillespie & MacKenzie 1981), they provide a stable physical habitat and a localised food source to support a diverse community of animals including a variety of fish species (e.g. snapper, garfish, trevally) (Matheson et al. 2009). Seagrass beds are important foraging areas for certain shorebirds (e.g. variable oystercatcher). They also help filter nutrients and trap sediments, thereby maintaining water quality (Turner & Schwarz 2006), and they release oxygen from their leaves and roots, which is beneficial for other biota and stimulates nutrient cycling (Matheson et al. 2009).

Seagrass meadows are disappearing at a rapid rate worldwide (McCloskey & Unsworth 2015). In New Zealand, seagrasses have also experienced serious decline (Matheson et al. 2009) and examples of relatively recent declines include losses of up to 90% of subtidal seagrass beds in Tauranga Harbour (Turner & Schwarz 2006) and 58% in intertidal seagrass beds in Nelson Haven (Gillespie et al. 2011a). New Zealand seagrasses face a variety of pressures and are particularly vulnerable to anthropogenic disturbance associated with catchment land use activities, e.g. sediment and nutrient runoff, and coastal development (Turner & Schwarz 2006). Physical disturbance, including damage from off-road vehicles, is an example of a threat that can damage seagrasses in localised areas (Turner & Schwarz 2006; McCrone 2001).

Overseas, physical disturbance of seagrass has led to fragmentation, a reduction in shoot density, canopy height and coverage, and potential permanent loss of habitat (e.g. McCloskey & Unsworth 2015). In New Zealand, a study in Otago Harbour found that off-road vehicles, as well as human trampling and horse riding, had caused physical disturbance to estuarine habitats. Four-wheeled motorbikes and horse riding dislodged seagrass rhizomes and roots leading to the formation of large bare patches, while heavy trampling resulted in the decline of above-ground biomass of seagrass and the beginning of trench formation (Miller 1998; McCrone 2001).

Within the Nelson/Marlborough region, vehicle traffic in the Ngakuta estuary and Delaware Inlet has resulted in visible track marks within seagrass meadows (Gillespie et al. 2011b, Gillespie et al. 2012b). Although localised, it was noted that damaged seagrass could take several seasons to regenerate, with any repeated disturbances potentially resulting in long-term damage or mortality. Experimental seagrass patch disturbance on intertidal reef platforms in Kaikoura resulted in increased erosion followed by decreased growth rates and, in many small patches, mortality (Ramage & Schiel 1999). Seagrass damage and decline overseas has in some instances been attributed to boating-specific activities such as moving propellers, dragging boat hulls across the ground and anchor damage (e.g. Bell et al. 2002; Martin et al. 2008; McCloskey & Unsworth 2015).

Physical disturbance can also indirectly cause harm to seagrass populations by making them more susceptible to diseases such as *Labyrinthula*, a wasting disease that has caused a decline in the health of seagrasses both overseas and in New Zealand (Turner & Schwarz 2006).

Efforts to facilitate the restoration of declining seagrass meadows at previously productive sites have generally met with limited success worldwide (Campbell 2002; Orth et al. 2006; van Katwijk et al. 2016). However, Matheson et al. (2017) reported survival and growth of transplanted *Zostera muelleri* and successful rehabilitation of declining seagrass meadows in Whangarei Harbour. Their work suggests the potential for restoring *Z. muelleri* meadows by transplanting from donor sites to sites formerly occupied. Re-instatement of suitable growing conditions at former sites was thought to be critical for transplantation success and donor sites recovered within nine months. These findings suggest that, in conjunction with proactive management of vehicle disturbance, there may be potential for promoting recovery of seagrass meadows that have been previously displaced.

2.2. Impacts on organisms inhabiting the sediments

Benthic invertebrate populations living in tidal flats, including those occupied by seagrass, can comprise a wide range of epifaunal[4] and infaunal[5] species. Changes in these communities can have negative consequences for the delivery of ecosystem services such as the provision of food for higher trophic levels. Benthic invertebrates are vulnerable to physical disturbance caused by vehicles. In Cape Cod (USA), tidal flat areas driven over by off-road vehicles were considered severely impacted, with effects including reduced survival of marine infauna such as worms, amphipods, clams and other molluscs (Leatherman & Godfrey 1979). This potentially limited the ability of shorebirds and fish to feed in these areas and decreased the amount of organic material supplied to the food web as detritus. Off-road vehicles also modified the environment by compacting the substrate to a pavement-like surface, interfering with normal exchange of seawater within the sediments and creating anaerobic conditions in the substrate. This prevented clams from extending their siphons to the surface to obtain food and water at high tide, which eventually results in death of filter-feeding organisms.

Besides modifying population dynamics and distributions of mudflat animals, compaction of the sediment can also alter the exchange of nutrients and oxygen between the sediment and the overlying water, and change the sediment accumulation rate (Contessa & Bird 2004; Rossi et al. 2007). Fifty passes by vehicles per day over 20 days on the Cape Cod tidal flats resulted in severe degradation, with recovery predicted to occur only after complete vehicle exclusion (Leatherman & Godfrey 1979).

Most research regarding vehicle impacts on intertidal benthic invertebrates has been conducted on exposed sandy beaches. An Australian study found that even low-level vehicle traffic could negatively impact the beach environment, with compaction, rutting and displacement of the sand matrix observed over a large area (Davies et al. 2016). This resulted in significant decreases in diversity and density of invertebrate species, and measurable shifts in community structure. Other overseas studies on sandy beaches have shown that vehicle impacts can cause mortality of surf clams, as well as sub-lethal effects such as impairment of burrowing performance and a reduction in body mass (e.g. Schlacher et al. 2008; Sheppard et al. 2009).

In New Zealand, vehicle damage was considered a cause of reduced adult toheroa (*Paphies ventricosa*) abundance along a considerable portion of the Oreti Beach in Southland (Moller et al. 2014). Around 4% of juvenile toheroa were found to be damaged (and presumed killed) each time they were driven over by a car or motorbike, and 2% killed per pass by utilities and four-wheel drive vehicles. Vehicle traffic also caused substantial mortality to toheroa on Ninety Mile Beach (Northland)

[4] Small invertebrates living on top of benthic (seafloor) habitats.
[5] Small invertebrates living within the sediment.

with mortalities (crushed shells) of up to 14% in small toheroa following heavy vehicle traffic associated with a recreational fishing contest (Hooker & Redfearn 1998; Morrison & Parkinson 2001).

Benthic invertebrates living within seagrass beds can also be affected by physical disturbance, either directly or indirectly as a response to damaged seagrass habitat. In overseas studies, it has been reported that intense human trampling in seagrass beds has reduced seagrass biomass as well as abundances of some invertebrate taxa (e.g. Eckrich & Holmquist 2000), and reduction in seagrass cover resulted in changing community composition and reduced species richness (McCloskey & Unsworth 2015).

2.3. Impacts on other animals

Vehicle impacts can extend to non-benthic animals, such as birds, although a review of this is not provided here. Impacts on birds can be direct, e.g. damage to nests and disruption of foraging, as well as indirect, e.g. reduction in a food source or quality of important habitats. In the Nelson region, vehicle traffic has been identified as having potentially adverse impacts on shorebirds (Schuckard & Melville 2013).

3. METHODS

3.1. Study area

The study area for the ecological assessment was located on the eastern side of Delaware Inlet and adjacent to a car pull-off area on Maori Pa Road from which vehicles drive onto the tidal flats (Figure 2). This area was chosen to encompass the intertidal habitat being driven over by vehicles, largely for the purpose of launching and retrieving boats. Immediate surrounding areas subject to low (or possibly no) vehicle usage were also included for the purpose of providing survey comparisons.

The boat users' survey and fixed camera-based vehicle count focused on the study area for Delaware Inlet as well as the northern end of the tombolo at Cable Bay, both marked in red in Figure 2. Local residents of Maori Pa Road and Cable Bay were included in the study interviews.

Figure 2. Delaware Inlet in relation to Tasman Bay, showing the ecological study area and Cable Bay boat launching location (marked with red square).

3.2. Habitat mapping

Field-verified habitat mapping of the intertidal environment was based on standardised methodologies outlined in the Estuarine Monitoring Protocol (EMP) (Robertson et al. 2002). These methods were modified slightly to provide more accurate measures (i.e. quantitative assessment of percentage cover categories) of vegetation to better suit the purposes of the current work.

3.2.1. Aerial photographs

High resolution aerial photographs of the study area in Delaware Inlet were collected from an altitude of 60 m by a Phantom 4 Pro drone at low tide on 28 January 2017. The photos were aligned to produce an orthophoto[6] that comprised 53659 x 46894 pixels with a pixel distance of 17 mm.

3.2.2. Ground-truthing and map digitisation

A field team of Cawthron scientists ground-truthed[7] the aerial orthophoto by identifying and delineating dominant habitats at low tide on 2 February 2017 (Figure 3). They recorded boundaries between areas of dominant substrata or biota using GPS tracking and sketched these directly onto a laminated orthophoto. They classified these areas by describing the dominant substrate types and the presence and density of vegetation. The classification system was based on an interpretation of the Atkinson (1985) system and the estuarine national classification system developed by Ward and Lambie (1999). Habitat types were coded according to EMP protocols and, where applicable, habitat names were aligned with previous mapping efforts that also followed EMP protocols within Delaware Inlet (e.g. Gillespie et al. 2011b). Substrate classification was based on surface layers only and did not consider underlying substrate (e.g. gravel fields covered by sand would be classed as sand). To reduce subjectivity, soft sediment substrates were categorised as either soft (grouping together 'soft' and 'very soft') or firm.

[6] An orthophoto is an aerial photograph geometrically corrected ('orthorectified') such that the scale is uniform i.e. the photo has the same lack of distortion as a map.

[7] Ground-truthing involves verifying features identified from an aerial photo (or potentially from a model) by physically inspecting a sample of these features on the ground and, where errors are found, correcting the identification.

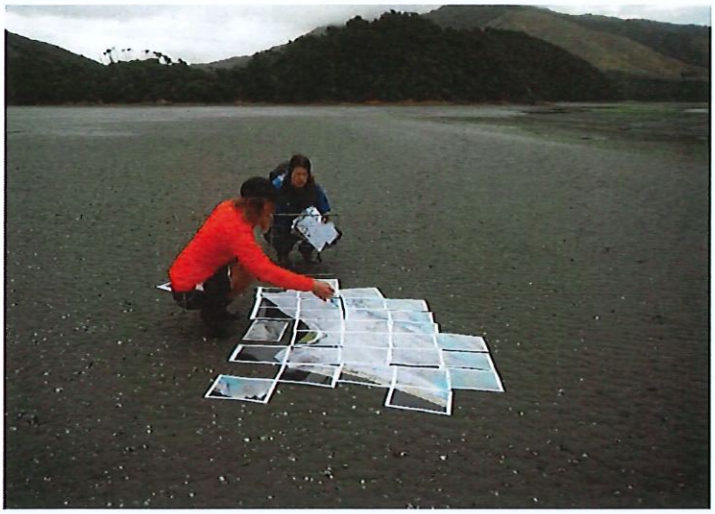

Figure 3. Cawthron scientists conducting ground-truthing for habitat mapping in the Delaware Inlet.

To standardise percentage cover estimates of vegetation, field team members took photoquadrats of seagrass and macroalgae randomly throughout the study area using a quadrat (of size 0.25 m^2) divided into 36 equally sized squares. They determined percentage cover by counting the number of gridline intersections (49 in total) that overlapped vegetation and converted the result to a percentage as in Robertson et al. (2002). The results were then classified into four categories of cover: < 20%, 20%–50%, 50%–90% and > 90%.

The field team conducted ground-truthing for the majority of the study site (red area in Figure 2), but restricted this to habitats exposed by the low tide on the boat launching (south-eastern) side of the main channel. A Cawthron scientist used GIS software (ArcMap 10.4) to digitise habitat features with reference to the ground-truthing exercise explained above.

Vehicle usage

Where possible, vehicle tracks noted in the orthophoto were verified by the field team during ground-truthing. The longevity of visible vehicle tracks within the study area was unknown and likely dependent on substrate type and the amount of interstitial water present. Therefore, in order to determine the boundaries of zones subject to differing amounts of vehicle usage, the abundance of vehicle tracks, a photographic time series from a fixed camera, and field observations of boats being launched were all used in our calculations. We digitised the vehicle tracks and created polygons to represent five vehicle usage zones, for use in planning the positioning of fine-scale survey sites (Figure 4). Vehicle usage intensity zones (considered for the intertidal region only) were categorised using an inverse scale, with Zone 1 having the highest vehicle usage and Zone 5 the lowest (Figure 4). The zones represent usage intensity

at the time of the 2017 survey (6 January to 9 March); it is possible that usage intensity was distributed differently in previous years.

3.2.3. Comparisons of key habitats

We made comparisons of the area cover of key habitats within the vehicle usage zones between regions subject to differing vehicle usage intensities during the current study, as well as against historical habitat maps by Franko (1988) and Gillespie et al. (2011b). The lack of pre-vehicle usage baseline data, or a suitable control area within the current study, generally limited the interpretation of vehicle impacts in this report to the effects of higher versus lower vehicle usage rather than a comparison with no vehicle usage at all.

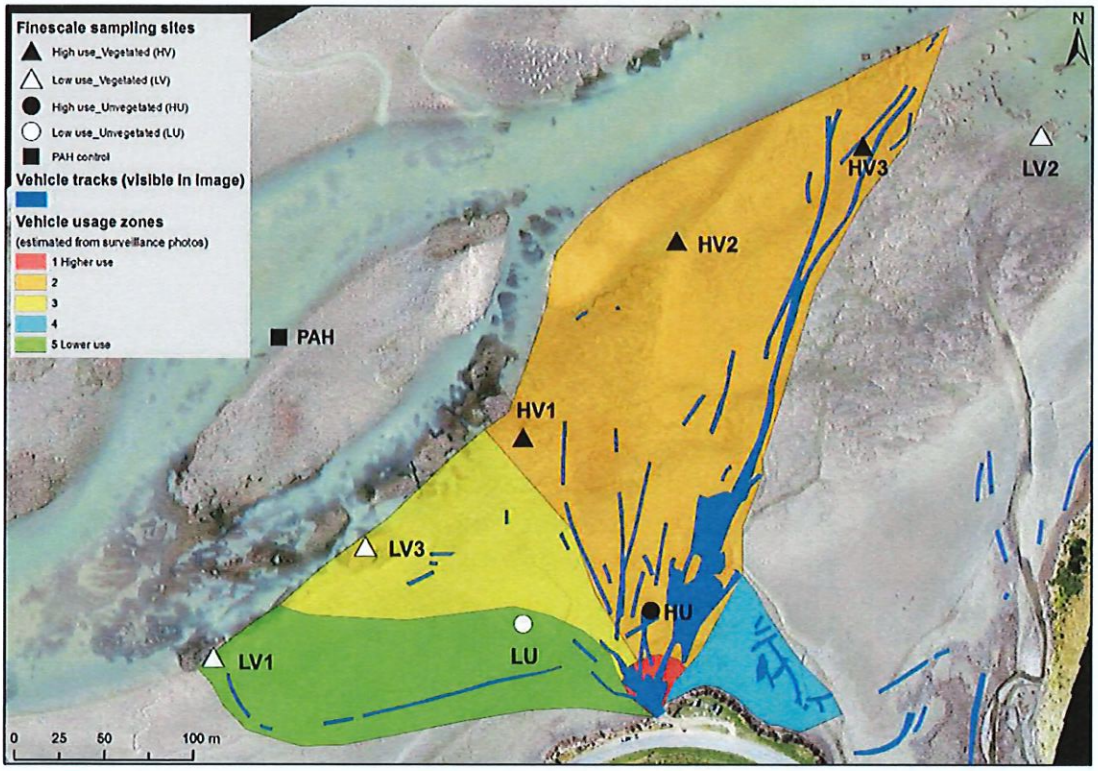

Figure 4. Map of the study area in Delaware Inlet showing the position of the eight main fine-scale sites, as well as the polycyclic aromatic hydrocarbon (PAH) control site, and vehicle usage zones. Visible vehicle tracks are also displayed.

3.3. Fine-scale survey

The field team conducted a fine-scale ecological survey at low tide on 15 March 2017, and sampled eight main sites overall (Figure 4). They positioned six sites in

vegetation (seagrass beds) within the low shore (Table 1). Three of these sites were in the high vehicle usage zone positioned at or nearby visible vehicle tracks (see sites labelled HV), and three in the low vehicle usage zone (see sites labelled LV). They positioned the other two sites on unvegetated substrate within the midshore, with one subject to high and the other to low vehicle usage (sites labelled HU and LU respectively). Note that, for the purposes of the fine-scale survey, we simplified vehicle usage into two zones overall: high (Zones 1 and 2), and low (Zones 3–5 plus the one site located outside the zones).

Table 1. Description of the fine-scale survey design in regards to the locations of the eight main study sites.

Usage	Vegetated (V) (low shore)	Unvegetated (U) (midshore)
High vehicle usage (H) (located in Zones 1 and 2)	3 sites (n = 3 for each site) (HV)	1 site (n = 3) (HU)
Low vehicle usage (L) (located in Zones 3 and 5, as well as outside the vehicle usage zones)	3 sites (n = 3 for each site) (LV)	1 site (n = 3) (LU)

Infauna (including cockles), epibiota[8] and sediment samples were collected and/or surveyed within a 2 metre radius from the centre of the main fine-scale sites. One sediment core profile was also collected at each site.

3.3.1. Sediment

Core profiles

At each site, we collected one sediment core in a random location using a 62 mm diameter Perspex tube pushed to a depth of at least 150 mm into the substrate. We described sediment colour, stratification and texture profiles and paid particular attention to any black (anoxic) regions. Where anoxic regions occurred, we recorded the average depth of the lighter-coloured surface layer as the depth of the apparent redox discontinuity layer (RDL)—defined as the transitional zone between aerobic (oxygenated) sediments and anaerobic (deoxygenated) sediments. Any noticeable sulphide odours were also noted as further indication of anoxic conditions.

Grain size and polycyclic aromatic hydrocarbons (PAH)[9]

At each site, we scraped three sediment samples for grain size analysis from the top 20 mm of sediment and mixed them together to form one composite sample. We also

[8] Plants and animals living on top of benthic habitats.
[9] PAHs are a group of complex hydrocarbons that are common constituents of fuels and lubricating oils but most typically arise from the incomplete combustion of organic materials.

collected sediment samples for PAH analysis from all sites within the high vehicle usage zone and mixed these into one composite sample. Another sample was also collected at a control site outside the vehicle usage zones (site PAH in Figure 4). All sediment samples were chilled prior to analysis by Hill Laboratories (see Appendix 1 for analysis methods).

3.3.2. Epibiota and infauna

At each site, we identified and recorded all visible epifauna within three 0.06 m^2 quadrats (0.25 x 0.25 m). We also estimated the percentage cover of macroalgae and seagrass within each quadrat using the method described in Section 3.2.2. The percentage of seagrass with darkened (as opposed to green) leaves was estimated by eye in each quadrat and categorised as either uncommon, common or abundant.

At each site, we collected three infauna samples by inserting a 130 mm diameter core to a depth of 100 mm into the sediment. Core contents were gently washed through a 0.5 mm mesh sieve and the residual preserved with 95% ethanol (plus 5% glyoxal) in seawater. Cawthron taxonomists later stained infauna with rose-bengal solution before identifying and counting them. In addition, they sieved cockles (tuangi, *Austrovenus stutchburyi*) in each core through 10 mm and 15 mm sieves and recorded the numbers for the three resulting size categories (< 10 mm, 10–15 mm, > 15 mm).

We evaluated infauna and epifauna data according to the number of taxa and the number of individuals (abundance). Differences in benthic animal (epifauna and infauna) communities between replicate samples from sites within the low shore, and between replicate samples from sites within the midshore, were visualised using non-metric multidimensional scaling (nMDS; Clarke & Warwick 1994) based on Bray Curtis similarities (Bray & Curtis 1957). This method places sites in a two-, three- or multi-dimensional space according to their similarities and differences. If a two-dimensional (2-D) representation explains a sufficient proportion of the sample differences observed, these can be assessed spatially on a 2-D plot, where the distance between sample points corresponds to the degree of difference observed between benthic communities. A stress statistic provides a measure of how well the plot represents the differences between all of the individual samples. We applied a square-root transformation to the data during this process to reduce the influence of the most dominant species (Clarke & Warwick 1994). For infauna communities, the major taxa contributing to the similarities and differences were identified using the similarity percentages routine (SIMPER) based on Bray-Curtis similarity and 70% contribution cut-off (Clarke & Warwick 1994). We conducted all multivariate analyses using the software package PRIMER v.7 (Clarke & Gorley 2006).

Cockles

At each of the two midshore sites (HU and LU), the field team collected all cockles within three 0.25 m^2 quadrats to a depth of approximately 6 cm using a rake and small trowel. They sieved the cockles through two mesh sizes (10 mm and 15 mm) and recorded the numbers for each of the three resulting size classes (< 10 mm, 10-15 mm and > 15 mm). Infauna cores from each of the eight sites (see Section 4.3.1) also provided cockle abundance information, although the core size was likely too small to provide reliable data regarding the abundances of larger-sized cockles.

Statistical analyses

We compared average values for epibiota, infauna and cockle data between the high and low vehicle usage zones at both vegetated (low shore) and unvegetated (midshore) tidal heights. Note that a difference was considered unlikely if there was an overlap between average values ± 2 x standard error (SE) (Altman & Bland 2005).

3.4. Boat users' survey

Cawthron employed a graduate student from the University of Canterbury from 9 January until 3 March 2017 on a Cawthron summer scholarship. The student observed boat users and their use of vehicles to launch or retrieve boats at Delaware Inlet and Cable Bay (Figure 5). Over a period of five weeks, the student was present in the field for 13 days at either or both locations to observe characteristics of vehicle use and, where possible, to conduct a short survey with those boat users.[10]

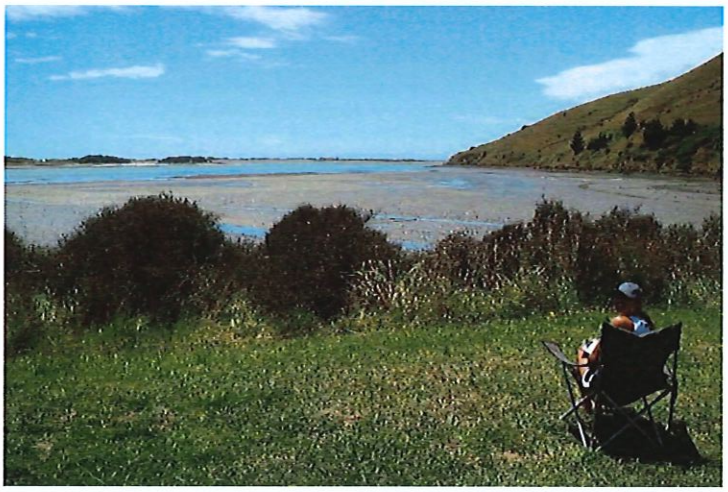

Figure 5. Cawthron scholarship student stationed on site to observe boat users at Delaware Inlet.

[10] The student was in the field on the following days: 11, 13, 14, 17, 20, 21, 24, 28, 29 and 30 January, and 5 February. She was also in the field two days earlier in January, but no boat users were available to be surveyed.

An observation chart (Appendix 2) was developed to record attributes of each boat user, including the type of boat (e.g. motorised launch or kayak), number of occupants, length of boat, horsepower of the boat, and size class of the vehicle (e.g. 2WD, 4WD or van). We also recorded locational information, such as the date and time, tidal information taken from the Land Information New Zealand (LINZ) website (rounded to the nearest five minute interval), weather conditions and wind speed (e.g. calm, light, moderate or strong).[11]

In addition to the observation chart, the student approached boat users with an invitation to take part in a short boat user survey in the form of a qualitative questionnaire (Appendix 3). The questionnaire sought to gather further information on user demographic, type of use, behaviour and attitudes with respect to the estuary. The questionnaire was voluntary and took between 1-5 minutes. Most boat users happily accepted the invitation.

The boat user survey was originally planned for four intervals of five consecutive days, but after the student spent two days in the field with no survey results the field days were decided on a day-by-day basis. Factors affecting that decision were weather forecast, incoming/outgoing tides, wind speed and swell. Websites (including metservice.com, swellmap.co.nz and marineweather.co.nz) were consulted in order to ascertain sea conditions that would be favourable for boat users at either Delaware Inlet or Cable Bay on any given day.

The busiest periods for launching and retrieving boats were later in the week and during weekends, early in the morning (around 0600 h), and two hours either side of high tide. It was evident that Delaware Inlet was more popular for launching and retrieving boats than Cable Bay which was quieter, especially during weekdays. As a result, the student adjusted her days in the field to spend the majority of survey days at Delaware Inlet, on weekdays and weekends between the hours of 6 am and 12 noon, and on statutory holidays (which included Nelson Anniversary and Waitangi Day). The student continued to check at Cable Bay and to interview boat users she encountered. If there was a boat trailer there, she left a note informing the boat user of the study and providing contact details should they wish to participate.

3.5. Photographic capture

In order to obtain an accurate record of vehicle usage, cameras were mounted overlooking the boat launching sites at Cable Bay and Delaware Inlet. Both cameras were located on private property with permission of landowners.

[11] Note that the tides in Delaware Inlet are delayed by about one hour from those predicted for Nelson due to flow restriction at the narrow tidal entrance. We accounted for this adjustment in our records.

The cameras recorded a continuous series of images, at five minute intervals, for nine weeks from Friday 6 January until Thursday 9 March 2017. No individual vehicle or boat registration details were identifiable from the photographic images recorded.

Images were downloaded every two weeks and boat user numbers were recorded at both sites. In addition, the student plotted the launching and retrieval locations on an image taken from the fixed camera. By cross-checking the time with tide information, we were able to identify which locations were popular at high, mid and low tides. This information was used in the ecological habitat mapping work to identify zones subject to different intensities of vehicle usage within the Delaware Inlet study area.

3.6. Interviews with local residents

Nelson City Council notified a number of local residents who live along Maori Pa Road and Cable Bay Road of this study by letter in December 2016. Cawthron researchers contacted these residents in January 2017, inviting them to be interviewed as part of the study. A Social Research Ethics Application was completed to ensure appropriate interview protocol and conduct. Each interviewee was given an Information Sheet and a Consent Form. Written consent was obtained from each interviewee before proceeding with the interview and audio recording. A Cawthron social scientist attended the first three interviews along with the student, and thereafter the student completed the remaining five interviews alone. A total of eight interviews involving ten participants were completed between 31 January and 15 February 2017.[12] Interviews took place at the resident's home with each lasting no more than an hour.

The interviews established the residents' history in the area; explored the issues concerning protection of the estuary and environs (values, changes observed, feelings, and their personal recreational use); and enquired about ways of finding a solution acceptable to local iwi, local residents and recreational boat users (Appendix 4).

3.7. Interview with Trustee of Ngāti Tama ki Te Waipounamu Trust and Te Huria Matenga Wakapuaka Trust

A Cawthron social scientist interviewed a Trustee of Ngāti Tama ki Te Waipounamu Trust and Chair (also a trustee) of Te Huria Matenga Wakapuaka Trust at the Cawthron Institute on 8 March 2017. The interview took one hour and followed a similar social research ethics protocol to that outlined above (for interviews with local residents), obtaining the interviewee's oral permission before recording the interview. The interview was subsequently transcribed, checked by the interviewer, and then

[12] Three interviews with four residents took place on 31 January 2017; other interviews were conducted on 5, 7 and 9 February, and two more interviews (with three residents) were completed on 15 February 2017.

sent to the interviewee for verification and/or amendment on 31 March 2017. See Appendix 5 for the interview questions.

4. RESULTS AND DISCUSSION

4.1. Habitat mapping results

Unvegetated habitats within the study area were covered largely by firm shell/sand and gravel field (Figure 6). The area covered by all vehicle zones was 6.6 ha out of a total of 353 ha comprising Delaware Inlet. Zones 1 and 2 covered 3.9 ha and all other zones combined covered 2.7 ha. Visible vehicle tracks imprinted into the substrate covered approximately 58% of Zone 1, 11% of Zone 2, and 1.5–8.8% for all other zones (Figure 4, Figure 7).

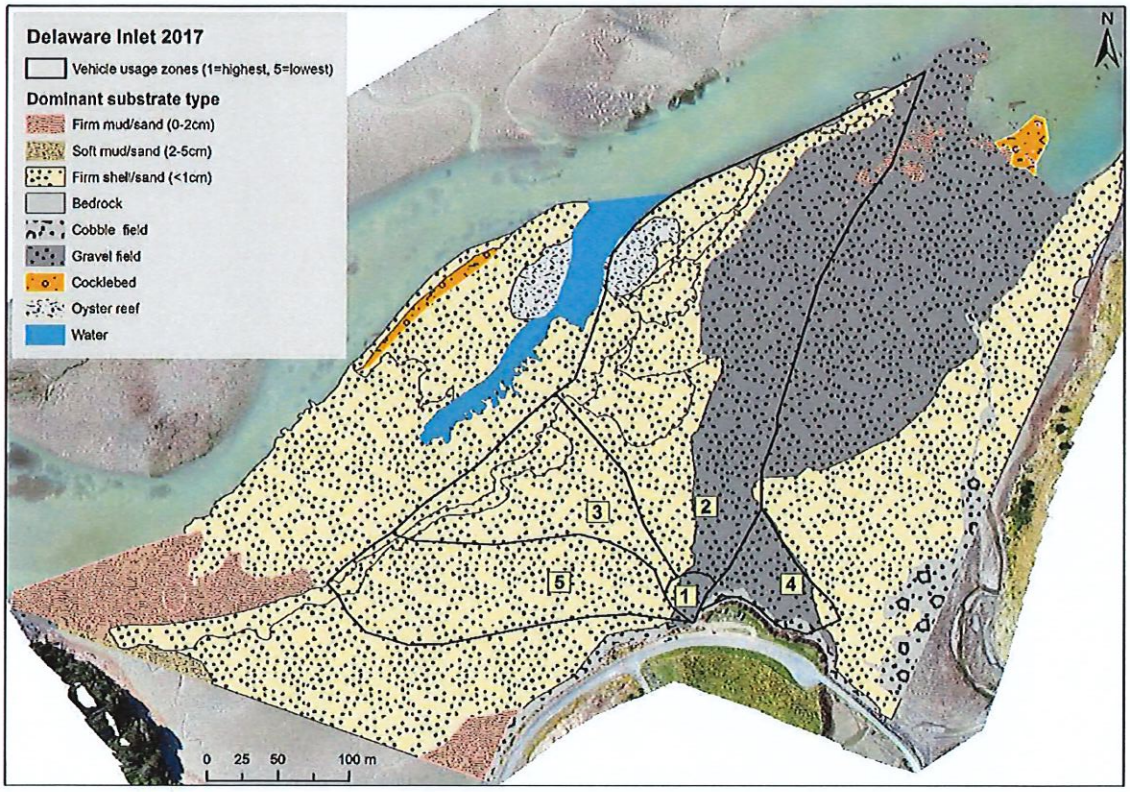

Figure 6. Unvegetated substrate, showing only dominant categories, within the Delaware Inlet study area in 2017. Boundaries for vehicle usage zones (1–5) are also shown and numbered.

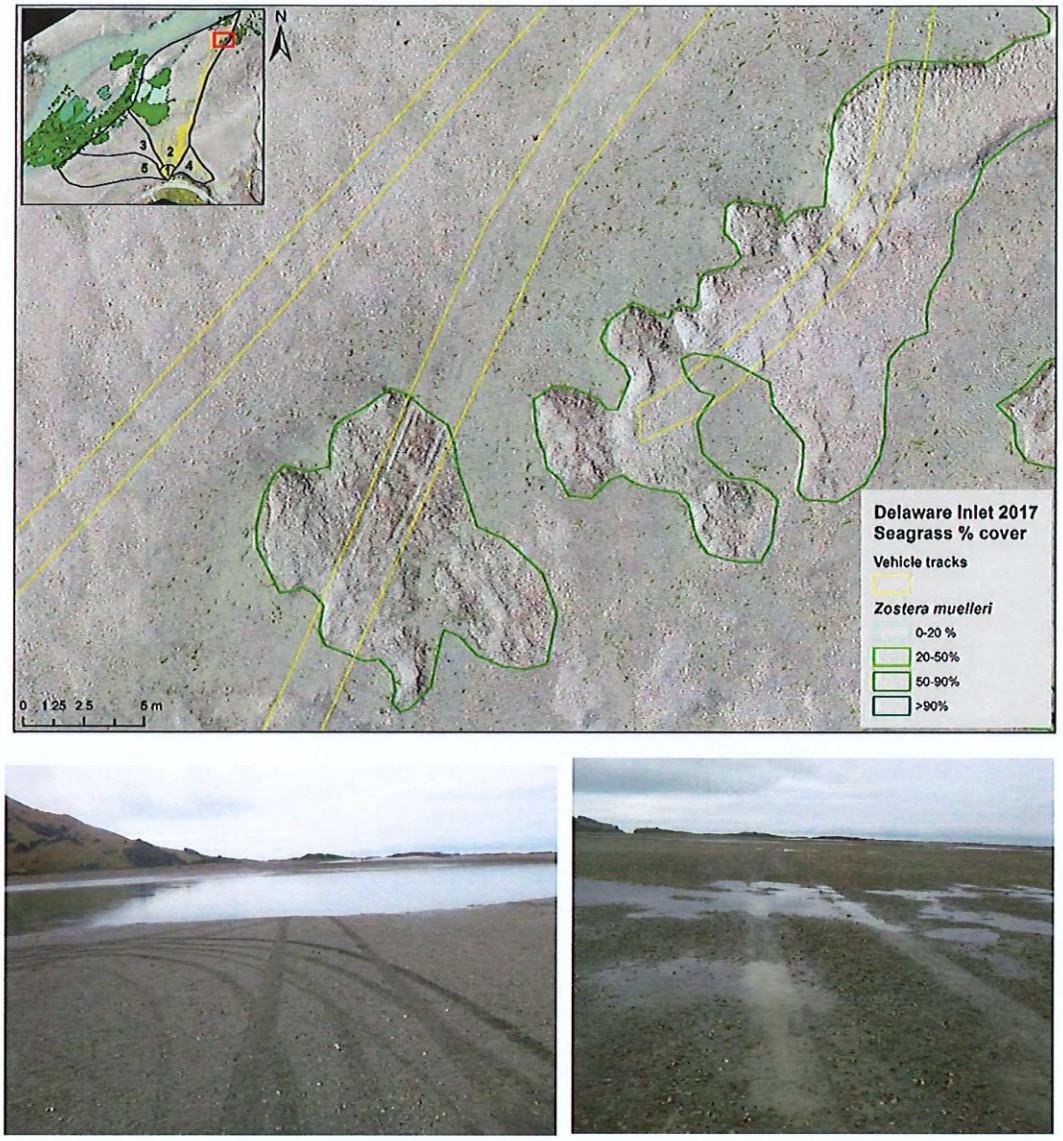

Figure 7. Vehicle tracks on benthic substrates in the vehicle usage zones in Delaware Inlet. Aerial image taken by drone with accompanying map (top), and photo taken by camera (bottom), during habitat mapping 2017.

4.1.1. Vegetation

Seagrass

In 2017, seagrass was present in all vehicle usage zones that extended down to the low shore, and covered 1.0 ha of the 6.6 ha total area of all zones (Figure 8, Figure 9). Vehicle tracks were visible in seagrass habitat (Figure 7). An area generally devoid of seagrass ran along the eastern side of Zone 2 and was subject to relatively high vehicle usage (Figure 8). This area coincided with a dominant surface substrate of gravel field (Figure 6), as well as being an area with a relatively high number of visible

vehicle tracks (Figure 4). Comparisons of seagrass cover in the study area in 2017 (Figure 8) against historical maps from 1988 (Figure 10) and 2009 (Figure 11) indicated that seagrass beds have contracted and expanded over time, both within and beyond the area subject to vehicle traffic. In Zone 2, there was nearly complete loss of some seagrass patches higher up on the shore (approximately 0.14 ha in combined size in 2009); these were present historically (1988 and 2009) but barely observed in 2017.

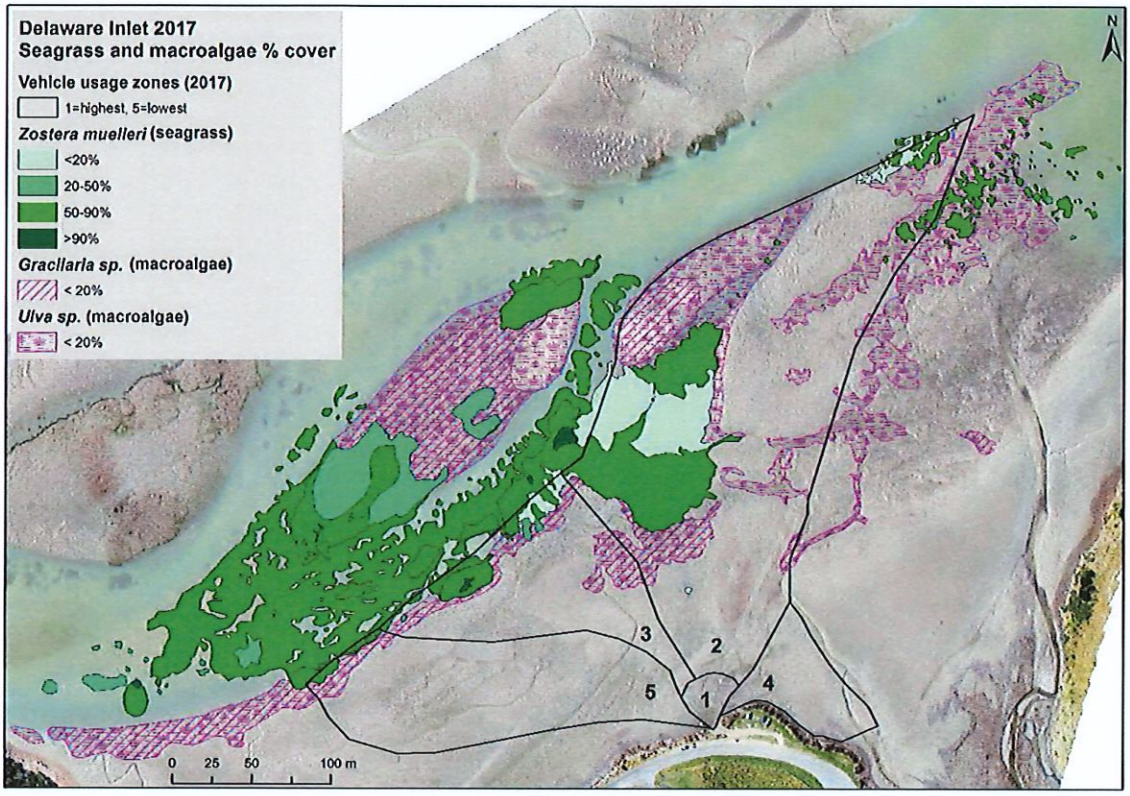

Figure 8. Percent cover of vegetation (seagrass beds and macroalgae) within the Delaware Inlet study area in 2017. Boundaries for vehicle usage zones (1–5) are also shown and numbered.

Figure 9. Seagrass beds within the Delaware Inlet study area, 2017.

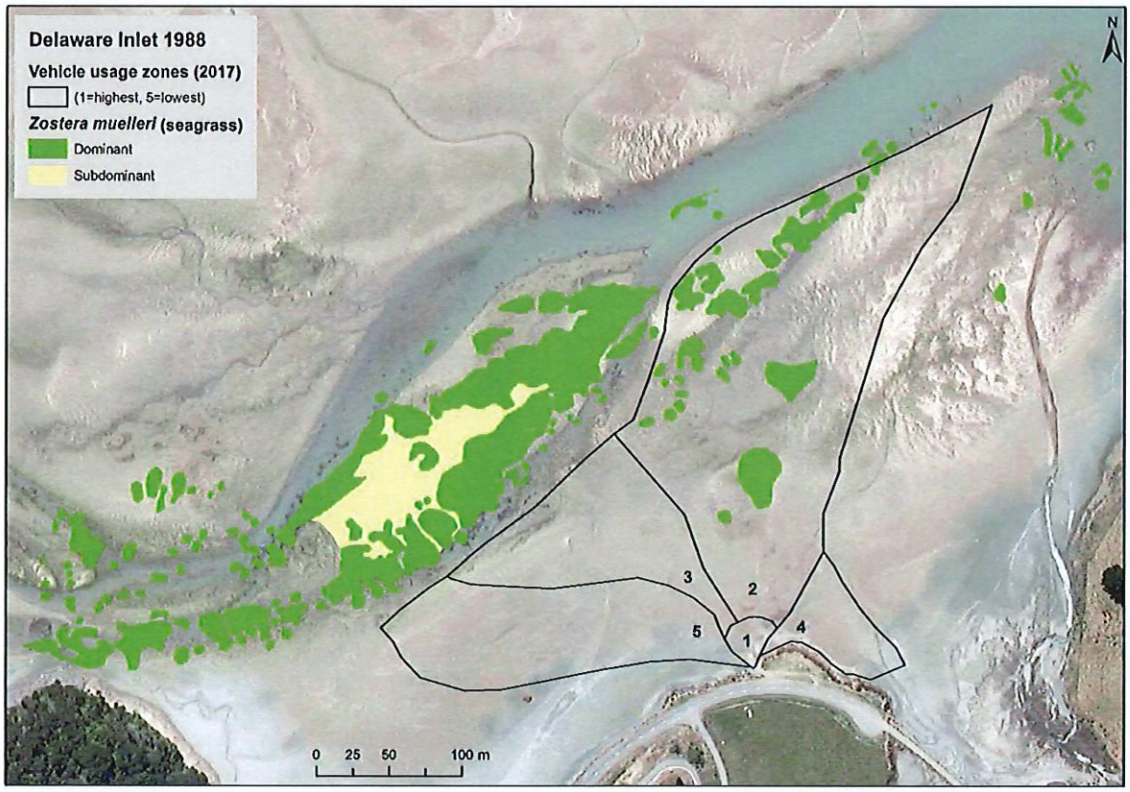

Figure 10. Location of seagrass beds in 1988 (Franko 1988) within the study area. Boundaries for vehicle usage zones (1–5) in 2017 are also shown and numbered.

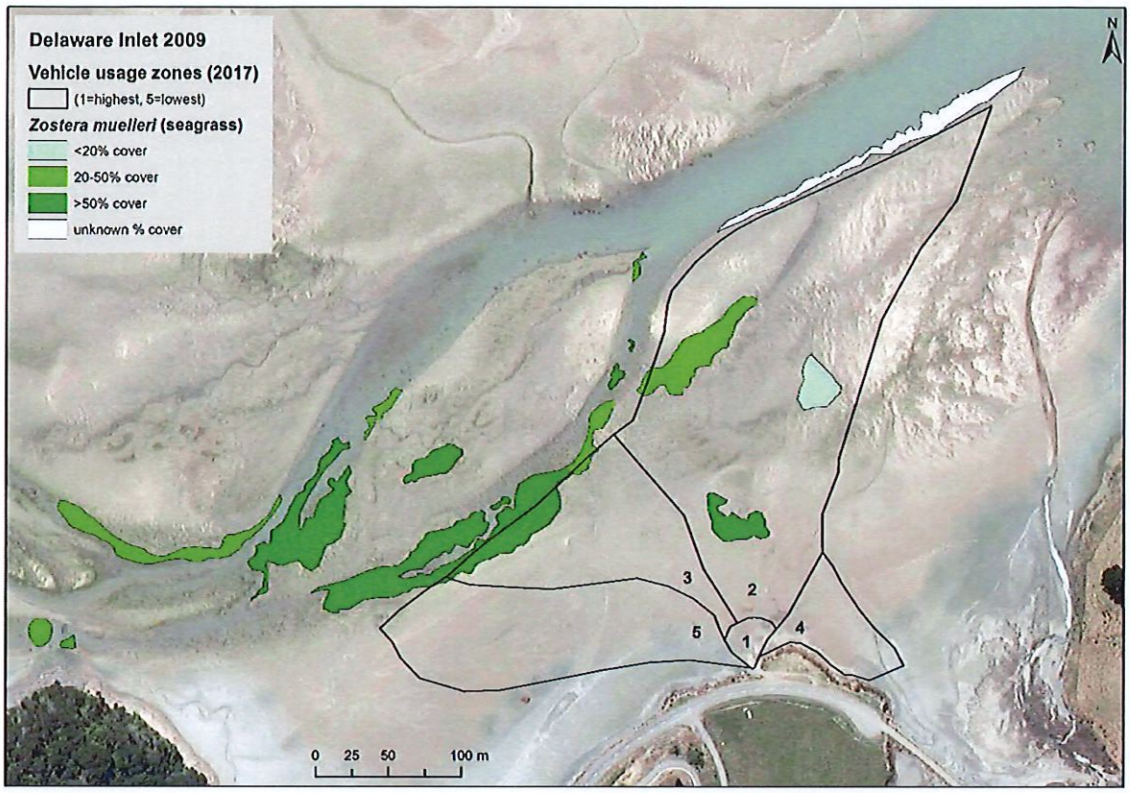

Figure 11. Location of seagrass beds in 2009 (Gillespie et al. 2011b) within the current study area. Boundaries for vehicle usage zones (1–5) in 2017 are also shown.

Macroalgae

Sea lettuce (*Ulva* sp.) and agar weed (*Gracilaria* sp.) were present at low levels (< 20% cover) throughout the study area (Figure 8). An area containing limited macroalgal cover (and also lacking seagrass) was located along the eastern side of Zone 2 (relatively high vehicle usage).

4.2. Changes to area of key habitats

4.2.1. Seagrass

Seagrass within the vehicle usage zones represented 16% of the total 6.3 ha of seagrass recorded in Delaware Inlet in 2009 (Gillespie et al. 2011b)[13], even though the vehicle usage zones represent only approximately 2% of the Inlet. The 2009 coverage of 6.3 ha was a reduction from 8.9 ha of seagrass estimated in 1988[14], although the 1988 estimate included some subtidal seagrass beds that may have

[13] These figures for seagrass coverage include areas where seagrass was subdominant vegetation as well as areas where it was dominant.
[14] Map created in 1988 based on photographs taken in 1983.

accounted for some of the temporal difference (Gillespie et al. 2011b). In addition, historical contraction and expansion of seagrass beds was apparent outside the vehicle usage areas. This may have been due to natural variation (e.g. Turner & Schwarz 2006), deterioration caused by non-vehicle related pressures (e.g. sedimentation) (Gillespie et al. 2011b), and/or differences in mapping methodologies.

In this study, we found visible vehicle tracks on benthic habitats (including seagrass) in all vehicle usage zones, as well as outside the zones in some areas, indicating direct physical damage caused by vehicles. Vehicle tracks were also observed in Delaware Inlet in seagrass beds by Gillespie et al. (2011b).

The eastern side of Zone 2 had a relatively high number of vehicle tracks and hence may be an area of possible impact on seagrass. In this zone, small seagrass patches higher up the shore were present in 1988 and 2009 but barely observed in 2017, an impact that may have been caused by vehicle usage. However, the possible impact of vehicle usage on seagrass in this area was confounded by the presence of gravel field substrate (and possibly other unmeasured environmental variables, such as elevation). Little is known about the sediment grain size preference of seagrass (*Z. muelleri*) in New Zealand. In Australia, *Zostera capricorni* has generally been found to grow better in coarse (i.e. sandier in comparison to fine) sediments, although coarse sediments are generally lower in nutrients and organic matter and, in some cases, increasing grain size was considered likely to be detrimental to the distribution and biomass of seagrasses (Turner & Schwarz 2006). In Europe, *Zostera* species can grow on gravel as well as mud (Greve & Binzer 2004).

There did not appear to be much (if any) seagrass growing on gravel field substrate outside of the vehicle usage zones in Delaware Inlet, suggesting that seagrass may be favouring other substrates. The prevalence of visible vehicle tracks indicates that gravel field was possibly targeted for driving over. However, the eastern side of Zone 2 also lacked seagrass in 1988 and 2009. Therefore, if vehicle damage was the cause, it would be historical (i.e. prior to 1988) and related to low vehical usage during that time.

Further results regarding seagrass cover are found in the results of the fine-scale survey (see Section 5.3.2).

4.2.2. Macroalgae

Due to the ephemeral nature of macroalgae, it was not considered appropriate to use changes in their distribution to assess vehicle impacts.

4.3. Fine-scale survey

4.3.1. Sediment results

Core profiles

There were no obvious differences in sediment core profiles between the high and low vehicle usage zones at the vegetated (low shore) sites. Cores were generally light brown/medium grey to a depth of 3–8 cm with darker sediment (sometimes becoming black with a slight hydrogen sulphide odour) below this depth (Figure 12). The unvegetated (midshore), sediment cores were light brown in the top 2–3 cm with light grey sediment (from cores taken in the low vehicle usage zone), and medium grey (high vehicle usage) below this depth, with no distinct hydrogen sulphide odour. At the high vehicle usage/unvegetated (midshore) site, sediment was highly compacted, preventing the collection of a core profile below 4 cm.

Figure 12. Photograph of a sediment core from one of the vegetated (low shore) sites.

Grain size and PAH

Sediments at all sites comprised largely sand (from 73–98%) (Table 2). Levels of mud and gravel/shell within sediments were generally low, although some variability existed with a relatively high amount of mud at site LV1, and relatively high amounts of gravel/shell at sites LV2 and LU. No PAHs were detected from sites within the high vehicle usage zone or the control site outside the vehicle usage zones.

Table 2. Sediment grain size composition at the vegetated low shore (V) and the unvegetated midshore (U) survey sites subject to low (L) and high (H) vehicle usage in Delaware Inlet.

Sediment (g/100g dry wt)	HV1	HV2	HV3	LV1	LV2	LV3	HU	LU
Gravel/shell (Fraction ≥ 2 mm)	1.7	0.6	0.2	0.5	17.9	0.05	9.2	19.5
Sand (Fraction < 2 mm, ≥ 63 µm)	93	97.8	94.6	84.2	77.4	96.1	84.3	73.4
Mud (Fraction < 63 µm)	5.3	1.7	5.2	15.3	4.7	3.8	6.5	7.2

4.3.2. Epibiota results

Epifauna

Overall, 18 epifauna taxa were recorded from the fine-scale survey with the small gastropod *Micrelenchus tenebrosus* (topshell) and cockle the most abundant (Appendix 6 and Figure 13). Average epifauna abundance was similar between sites within the vegetated (low shore) and between sites within the unvegetated (midshore) (Table 3). In the low shore sites, the number of taxa was slightly higher within the low, compared to the high, vehicle usage zone, with the opposite pattern occurring in the midshore, although very low numbers were present. Multivariate analysis (non-metric MDS) indicated considerable overlap (i.e. no obvious differences) in composition between epifauna communities from the low and high vehicle usage zones from both vegetated and unvegetated sites (Figure 14).

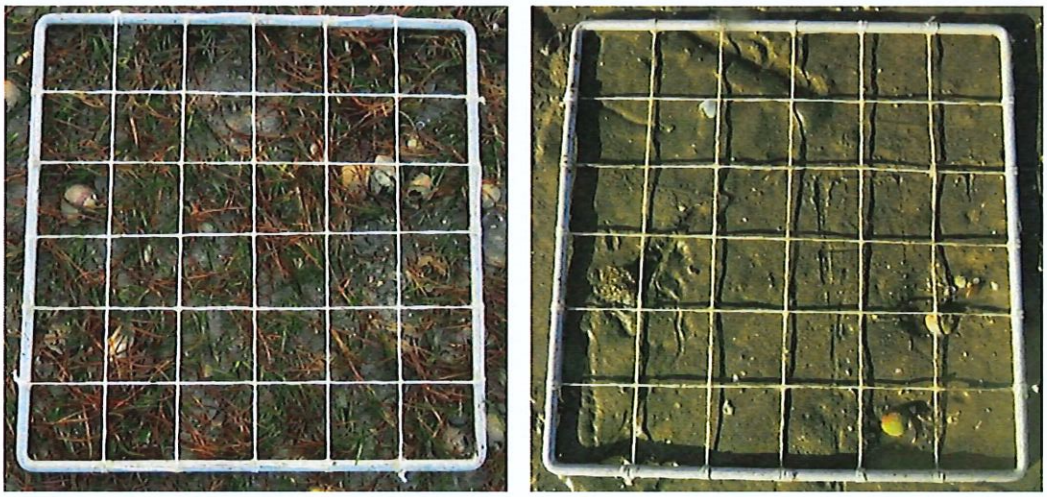

Figure 13. Examples of quadrats from vegetated and unvegetated sites within which epibiota were quantified.

Table 3. Average (± 1 SE) total number of taxa and total abundance for epifauna communities in the high vehicle usage (H) and low vehicle usage (L) zones at vegetated low shore (V) (shaded cells, n = 9) and unvegetated midshore (U) (unshaded cells, n = 3) site groupings in Delaware Inlet.

	Number of Taxa (Taxa per core)	Abundance (individuals per core)
LV	6.1 ± 0.6	48.9 ± 7.0
HV	3.8 ± 0.5	36.4 ± 13.6
LU	2.3 ± 0.3	5.3 ± 1.5
HU	4.0 ± 0	6.0 ± 0.6

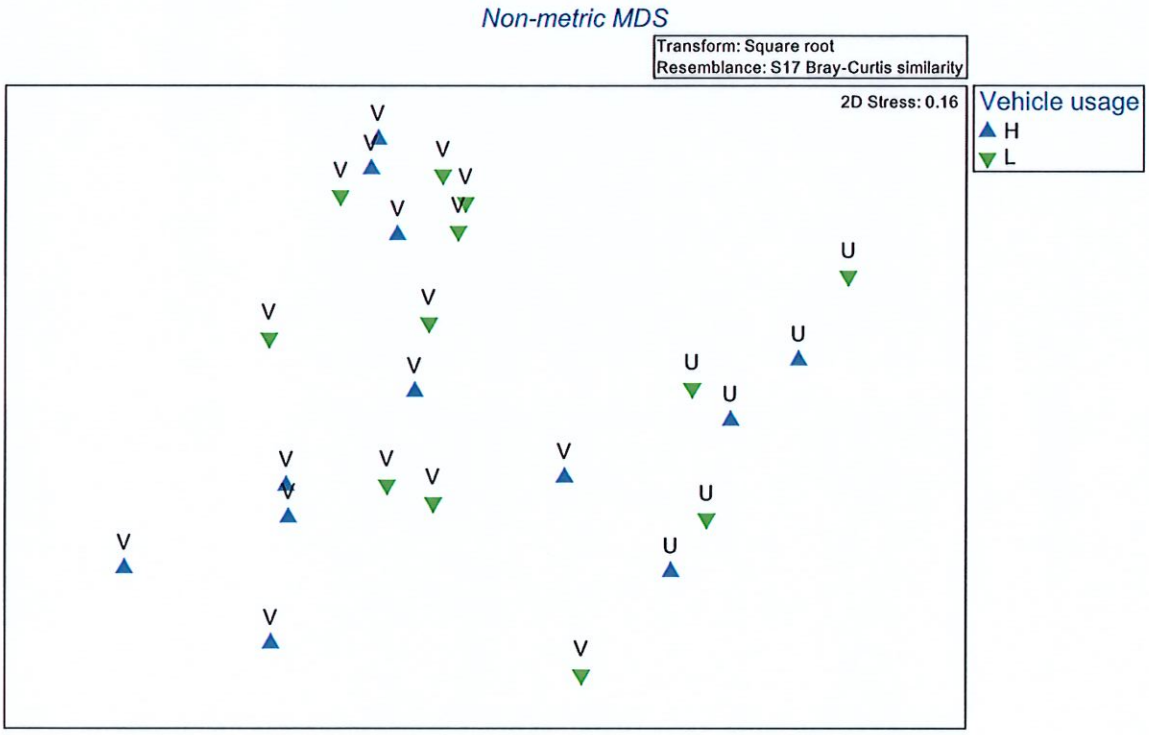

Figure 14. Non-metric MDS showing epifauna communities from vegetated low shore (V), and unvegetated midshore (U) sites subject to high (H – blue triangle) and low (L – green triangle) vehicle usage in Delaware Inlet.

Seagrass

The average percentage cover of seagrass (low shore), at 81% (± 2.4 SE), was consistently high and much less variable within the low vehicle usage zone, in comparison to the high vehicle usage zone (58% ± 10.0 SE) (Appendix 6). However, this difference falls short of the statistical test for significance, so we are not able to conclude that there is a statistically significant difference in the cover of seagrass between these two zones. Seagrass with darkened leaves (Figure 15), indicative of partial decay likely due to *Labyrinthula* (wasting disease) infection, was common at all

vegetated (low shore) sites, with no obvious differences observed between sites at the high and low vehicle usage zones.

Figure 15. Seagrass from Delaware Inlet showing patches of darkened leaves likely caused by *Labyrinthula* infection.

Macroalgae

Sea lettuce, the most commonly occurring macroalga recorded during the fine-scale survey, was observed only within the high vehicle usage zone, although in very low abundance (< 1% cover in any one quadrat) (Appendix 6). Two other macroalgal taxa (agar weed and an unidentified red alga) were also present although extremely low in abundance.

4.3.3. Infauna results

Overall, 67 infauna taxa were recorded from the fine-scale survey, with polychaetes (e.g. capitellids and *Prionospio aucklandica*) and bivalves (e.g. *Arthritica bifurca* and cockle) the most abundant (Appendix 7). At the vegetated (low shore) sites, the average number of taxa and total abundance were similar between the high and low vehicle usage zones with relatively high variation in total abundance (Table 4). At the unvegetated (midshore) sites, the average number of taxa was similar although total abundance was somewhat higher within the low vehicle usage zone.

At the vegetated (low shore) sites, multivariate analyses (MDS and SIMPER) indicated relatively high variability in community structure within the high and low vehicle usage zones but there was evidence for some slight compositional differences

between the zones. As shown by the spatial separation in Figure 16, at the unvegetated (midshore) sites, community differences were apparent. The SIMPER analysis revealed that *Prionospio* sp. (a polychaete) contributed proportionally more to the infauna community in the high vehicle usage zone whereas *Arthritica bifurca* (a bivalve) contributed proportionately more in the low vehicle usage zone (further details in Appendix 8).

Table 4. Average (± 1 SE) number of taxa and total abundance for infauna communities in the high vehicle usage (H) and low vehicle usage (L) zones at unvegetated midshore (U, n = 3, unshaded cells) and vegetated low shore (V, n = 9, shaded cells) site groupings in Delaware Inlet.

	Number of Taxa (Taxa per core)	Abundance (individuals per core)
LV	20.6 ± 1.9	170.0 ± 29.2
HV	18.8 ± 1.4	135.1 ± 33.6
LU	10.0 ± 1.5	77.0 ± 10.0
HU	6.0 ± 1.0	31.3 ± 5.7

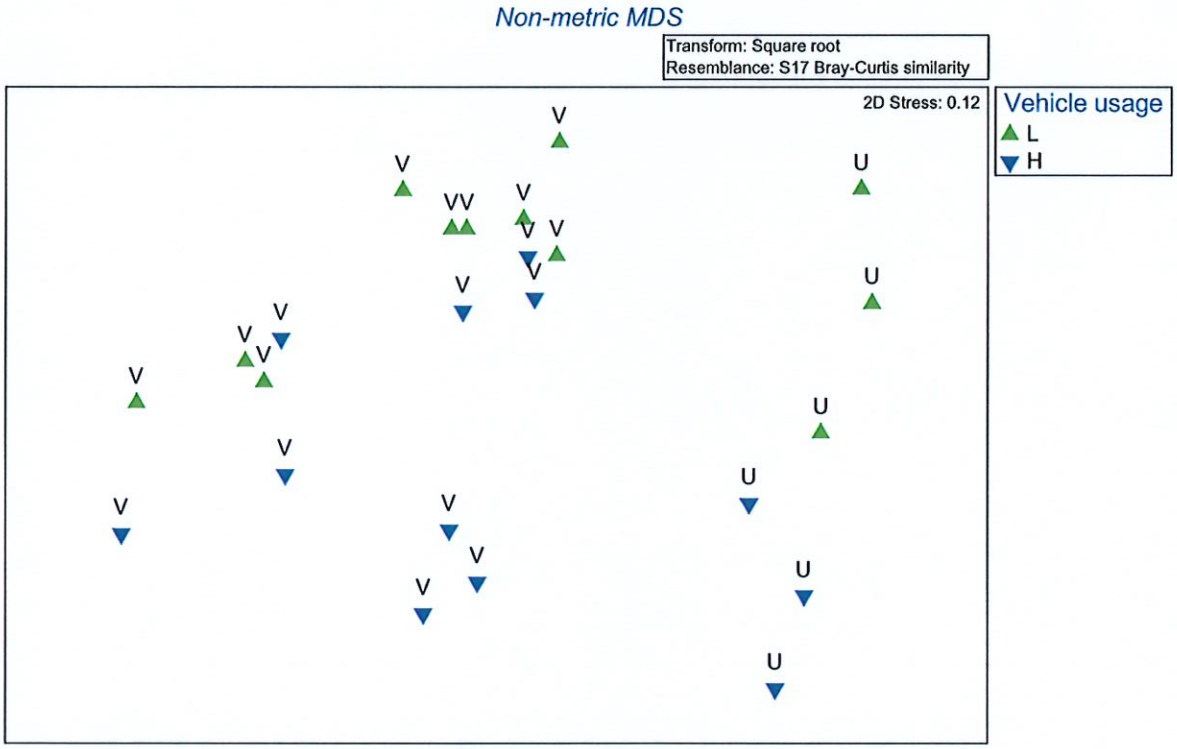

Figure 16. Non-metric MDS showing infauna communities from vegetated low shore (V), and unvegetated midshore (U) sites subject to high (H – blue triangle) and low (L – green triangle) vehicle usage in Delaware Inlet.

Cockles

At the two unvegetated (midshore) sites, the average abundance of cockles (Figure 17) from the quadrats was higher in all three size classes within the low, compared to the high, vehicle usage zone (Table 5). Cockle numbers in cores from the two unvegetated sites were similar within the < 10 mm and 10–15 mm size classes, and slightly higher within the size > 15 mm size class, at the low versus high vehicle usage zones. At the vegetated sites (cores only), average abundance cockle in all size classes was comparable between the high and low vehicle usage zones.

Figure 17. Image of a cockle (tuangi, *Austrovenus stutchburyi*).

Table 5. Average abundance (± 1 SE) of cockles in three size classes collected from 0.25 m² quadrats (shaded cells, n = 3) and from (130 mm diameter and 10 mm deep) cores (unshaded cells, n = 3 for U and n = 9 for V) in the high vehicle usage (H) and low vehicle usage (L) unvegetated midshore (U) and vegetated low shore (V) sites in Delaware Inlet.

Cockle size classes	< 10 mm	10-15 mm	>15 mm
HU Quadrat	18.0 ± 6.1	24.3 ± 10.7	2.7 ± 1.2
LU Quadrat	95.7 ± 28.8	333.7 ± 32.0	108.0 ± 13.6
HU Core	16.0 ± 3.5	4.0 ± 2.1	2.0 ± 1.5
LU Core	31.7 ± 16.3	17.7 ± 4.8	10.0 ± 4.4
HV Core	10.7 ± 3.4	6.1 ± 1.6	0.4 ± 0.2
LV Core	11.2 ± 3.5	3.1 ± 0.9	0.6 ± 0.8

4.4. Fine-scale survey discussion

In New Zealand estuaries, the taxonomic composition of sediment-dwelling invertebrate communities is well known to be strongly influenced by sediment grain size, although most studies look specifically at the amount of mud present (e.g. Hewitt et al. 2005; Ellis et al. 2015; Robertson et al. 2015). In this study, the possible impacts

of higher vehicle usage were at least partially confounded by varying sediment grain size composition (as well as possibly other unmeasured variables unrelated to vehicle usage). This was particularly so at the unvegetated (midshore) sites, where the proportion of sand was approximately 10% higher (and consequently gravel/shell 10% lower) at the high versus low vehicle usage site.

That said, differences in sediment composition and structure may also be related to vehicle traffic. For example, sediment compaction within the unvegetated (midshore) high vehicle usage site was likely to have been caused by higher vehicle usage, as visible vehicle tracks were present at this site and it was positioned relatively close to Zone 1, the highest usage zone, where nearly all vehicles entered the estuary.

The vegetated (low shore) sites within the low vehicle usage zone also exhibited variation in sediment composition. At the vegetated (low shore) sites within the high vehicle usage zone, grain size was relatively uniform, although the surface substrate[15] indicated by habitat mapping, i.e. the gravel field at site HV3, may be influencing epibiota.

Lack of statistical significance of results may have also partially been due to the relatively small number of replicates in the current survey.

4.4.1. Biotic communities

For epifauna, the overall evidence does not support a conclusion of an impact of higher vehicle usage on average abundance or number of taxa. At the vegetated (low shore) sites, the number of epifauna taxa was slightly lower at sites subject to higher vehicle usage, but this was confounded by varying sediment grain size. In the midshore sites, there were slightly higher numbers of epifauna taxa and abundance at the high vehicle usage site, but only a relatively small number of taxa were recorded overall.

For infauna, abundance was somewhat lower at the unvegetated (midshore) site subject to higher vehicle usage, and community differences between the low and high vehicle usage sites were apparent. It is possible that this was caused by differing sediment grain size composition, although sediment compaction, and other vehicle impacts such as mortality through direct crushing, at the midshore high vehicle usage site were considered likely to be having a detrimental effect on the composition of infauna communities.

There was little statistical evidence of an impact of higher vehicle usage on the total number of infauna taxa at any of the sites, or on infauna abundance at the vegetated (low shore) sites. At these sites, there was evidence of only slight community

[15] Note that the surface substrate recorded during habitat mapping does not necessarily reflect the grain size of the underlying sediment measured from sediment samples collected during the fine-scale survey.

differences between high and low vehicle usage zones, insufficient to attribute to possible vehicle impacts.

4.4.2. Cockles

In New Zealand, cockles are present within soft mud to fine sand although they tend to be more abundant in sediments with larger grain size (Michael 2008). Bivalve shellfish can also be affected by sediment compaction, which can prevent them from extending their siphons to the surface to obtain food (Leatherman & Godfrey 1979). Vehicles also can cause direct mortality through crushing and sub-lethal effects.

In our study, at the two unvegetated (midshore) sites subject to higher vehicle usage, cockle abundance from the quadrats was lower than at the sites with lower vehicle usage. This could be explained by the preference of cockles for coarser grain size, although the presence of sediment compaction at the site suggests that vehicle traffic is likely to be contributing to reduced cockle numbers at this site.

Unlike the results from the quadrats, average cockle numbers measured from the smaller cores were not consistently higher at the lower vehicle usage sites. However, it is possible that the cores were not large enough in size to accurately reflect cockle abundances, particularly for larger sized cockles.

4.4.3. Seagrass

There was inconclusive evidence of an impact of higher vehicle usage on the percentage cover of seagrass. The higher usage zone had greater variation in seagrass cover and lower average cover (although the difference in average cover was not statistically significant). It is possible that surface substrate type was the cause of the greater variation (see Section 5.2) although there was no evidence for this in the site-level data. With regard to the disease detected in the Delaware Inlet seagrass, *Labyrinthula*-infected seagrass beds have also been detected in other estuaries within the Nelson region (e.g. Gillespie et al. 2012a, 2012b).

Due to the ephemeral nature and low abundance of sea lettuce (a macroalga), it was not considered appropriate to use it as an indicator of possible impacts of higher vehicle usage.

The lack of detection of any PAHs within the sediment suggested that vehicles were not causing this type of contamination within the study sites.

4.5. Field observations of boat usage

The Cawthron summer scholarship student was stationed in the field at Delaware Inlet and Cable Bay boat launching locations for a total of 13 days over a five week period in January and February 2017. She kept a logbook for noting factors that influenced vehicle use at both locations. Noteworthy observations included the following:

- There appeared to be a large number of natural factors [i.e. weather, tide, swell] that determined the volume of use. For example, over the Nelson Anniversary and Waitangi Day holiday weekends, besides the fact that they were public holidays, the weather was good and there was little wind or swell. With high tide around midday, people could launch in the morning and come back around lunch time before the afternoon sea breeze picked up. In contrast, ordinary weekends were a lot quieter when the weather was bad, or if there was a moderate amount of wind (this would usually mean it was even windier out in the bay).
- The majority of boat users launched early in the morning between 5:00 am and 7:00 am, regardless of the tide. However, families and more casual users who were more concerned with safety and convenience would launch at mid tide and return on high tide.
- Very few boat users were encountered on weekdays between Monday and Thursday, or on bad weather days.
- A couple of times people were observed launching in a second location, roughly 100 metres east of the main launching point, where a stream emerges into the estuary (Zone 4). When queried, they explained that they didn't want to wait for other boat users trying to launch or load at the main launch location. However, this was a rare occurrence.
- Apart from the abovementioned, everyone we observed used similar routes. Although tracks were visible in other parts of the estuary, these were not necessarily from vehicles launching a boat and no one was observed launching in unusual locations or driving to random places in the estuary.
- A couple of people were observed gathering cockles, etc. They did not drive out onto the estuary; however, in the photographs several vehicles can be seen parked on the estuary without boats. It is unclear what activities they were engaged in: gathering food, walking or something else.
- One man drove down to the estuary especially to speak to our student, as he had heard from others that we were interviewing and wanted to have his say. He wanted the estuary to remain open to boat users. Three people also telephoned the student in response to the notice she left on their windscreen at Cable Bay.
- One man sailed his small sailboat in the estuary almost every day. He had a hand trolley that he used to launch his boat without driving on the estuary.

- Cable Bay attracted very few boat users on weekdays. However, on weekends when the weather was good, the beach was very crowded and the car park very full, mostly with swimmers and other beach users.
- At Cable Bay, one boat user was observed getting into trouble while attempting to load his boat. The waves crashed over into the boat and nearly submerged it. He needed help from several other adults to get his boat on the trailer. When interviewed afterwards, he said he would never launch or load at Cable Bay again.
- At Cable Bay, another boat user was observed getting his vehicle stuck in the sand while trying to pull his boat back up the beach. Another boat user towed him to stable ground.

4.6. Boat users' survey

The Cawthron student spoke to 77 boat users out of a total of 115 observed sightings of users while on site at Delaware Inlet (n = 69) and Cable Bay (n = 8). Some users were encountered more than once. Most boat users were frequent users of the area; in fact, only seven at Delaware Inlet were launching boats for the first time at that location. Similarly, only two at Cable Bay were new to that boat launching site. At Delaware Inlet, several of the first-time users expressed uncertainty about where and how to launch their boats safely.

Asked how many times they had used the site over the past month, the average response at Delaware Inlet was 2.4 times (with a maximum of 16 times, by a resident of Cable Bay), whereas at Cable Bay (from a much smaller sample) only one user surveyed had used the site more than once in the past month.

Of the 77 users surveyed, 17 were from the local area (Cable Bay, Delaware Bay or Hira), 49 came from Nelson or Richmond, 10 from elsewhere in Tasman District and one from Havelock.

The majority of users launched small motorised boats (typically for the purpose of recreational fishing) at either Delaware Inlet or Cable Bay, thereby driving over the estuary or beach (respectively) to launch and retrieve their boat. However, not all users used vehicles to launch their crafts: kayakers and paddle boarders typically walked their vessels across the estuary.

Boat users were asked about the following (see Appendix 3 for the actual questions):

- reasons for use
- preference for Delaware Inlet or Cable Bay
- boat users' knowledge of the ecology, history and cultural heritage of the area
- suggestions for improving boat access in the area.

4.6.1. Reasons for using Delaware Inlet and Cable Bay

The student asked respondents: "Why do you use this particular location?" Of the 62 people interviewed at Delaware Inlet (excluding first-time users who did not offer responses as they considered they didn't have enough prior knowledge of the area), the most popular reasons for launching at that location were the proximity to good fishing grounds, safety, proximity to home, and qualities of the location such as quietness, wildness and beauty. Other reasons were the ease of access, suitability for small boats, suitability for children and families, fuel efficiency and no boat launching charge. Of the six people interviewed at Cable Bay (excluding the two first-time users), the most popular reason for launching boats at that location was proximity to good fishing grounds (or in one case, diving). The other reasons mentioned were safety, closeness to home, suitability for children and families, and the beautiful location.

Note that numbers in Table 6 indicate the number of times that reasons were mentioned by boat users (not the number of users per se).

Table 6. Count of boat users' reasons for launching at Delaware Inlet and Cable Bay.

Reasons for use	Delaware Inlet	Cable Bay
Proximity to good fishing grounds	30	5
Safety	20	1
Quiet, wild and beautiful location	16	1
Close to home, accessible	16	1
Ease of access	12	0
Suitable for small boats	11	0
Suitable for children and families	3	1
Fuel efficient	3	0
Free (no boat launching charge)	2	0

4.6.2. Preference for Delaware Inlet or Cable Bay

The student asked boat users whether they used other boat launching locations in the area and to assess what made those boat launching locations better or worse. Specifically, she asked why they chose to launch at Delaware Inlet over Cable Bay, or vice versa.

Of the 62 people interviewed at Delaware Inlet (excluding first time users for the same reason explained above), 25 (37%) claimed that Cable Bay was "too dangerous" or that Delaware Inlet was "safer". Several respondents recounted incidents when they had been "caught out" or got into trouble while attempting to launch or retrieve boats

at Cable Bay. Likewise, 13 respondents (19%) said that Cable Bay is "too difficult" to launch/retrieve boats or that Delaware is "much easier".

Figure 18. Soft sand at the Cable Bay boat launching area.

One user explained that he had been using Delaware Inlet for 20 years, but prior to that he had used Cable Bay and had "got stuck" three times. A local resident confirmed that boat users at Cable Bay frequently get their vehicles stuck in the soft sand (Figure 18) when trying to tow their boat back up the beach. This was also observed during fieldwork for this study (see Section 4.8.4). Towing boats and/or vehicles with high tension ropes creates safety issues for boat users, swimmers and other beach users—who include families with small children. Another boat user recounted an experience at Cable Bay wherein his friend was attempting to load his boat onto the trailer, but the incoming swell was too strong and his boat smashed through the car's back window.

One boat user at Cable Bay explained that he never launches his boat at Delaware Inlet, but instead always brings a tow rope to Cable Bay in case he or others encounter difficulties. Another boat user, after getting his vehicle stuck in the sand, stated that he will never launch there again because it was too difficult to retrieve the

boat and load it onto the trailer due to waves and the sandy slope. He intended to use Delaware Inlet next time he wished to launch in the vicinity.

4.6.3. Knowledge of local ecology, history and cultural heritage

Questions in the qualitative questionnaire were reviewed and then updated from 28 January 2017 to include the following: "How much do you know about the area's history and cultural heritage?" and "How much do you know about the estuary's ecology?" In both cases, a further question was then asked: "Has this knowledge affected the way you use the estuary? Why/why not?"

Of the 42 boat users who were asked this question (post-28 January), 64% (n = 27) claimed to know something about the history and cultural heritage of the area. When asked whether this knowledge affected the way they used the estuary in any way, 67% (n = 28) were mindful of their use, whether that be through respecting culturally sensitive areas, being conscious of noise, looking after nature or sticking to the main vehicle routes, with 30% (n = 13) specifically mentioning the latter. Of those who claimed to know something about the history and cultural heritage of the area, 27% (n = 11) said that knowledge didn't affect the way they used the estuary in any way.

Of the 42 people interviewed at both locations, only 24% (n = 10) expressed some knowledge about the ecology of the estuary. This was despite there being a recently erected information board at Delaware that explains the ecological importance of the Delaware Bay ecosystem (Figure 19). When asked whether that knowledge affected the way they used the estuary, seven people explained that as a result they stuck to the main vehicle tracks on the estuary, avoided areas where seagrass is present, or only launched and retrieved their boats at high tide (to avoid driving over the estuary).

Figure 19. Cawthron summer scholarship student beside Nelson City Council signage at the Delaware Inlet, informing visitors of the importance of estuaries in terms of ecological, recreational and heritage values.

4.6.4. Suggestions for improving boat access in the area

Out of the total of 77 boat users who responded to the questionnaire at both locations, 42% (n = 32) asserted that they wanted boat access in the area to "remain the same" (Table 7). Many of those respondents expressed their attraction to the area as a wild, relatively untouched and isolated recreational location.

Other popular suggestions were to mark a vehicle route (or routes) across the estuary to guide vehicles (17%, n = 13) and to build a ramp at Cable Bay (16%, n = 12). Less frequently mentioned was a suggestion to provide more signage and information at the boat launching sites (6%, n = 5) and to provide more parking space (5%, n = 4). Other suggested alterations to the Delaware Inlet were to widen and smooth out access points onto the estuary, to build a concrete slip, and to provide facilities (such as a toilet).

Others were adamantly opposed to any suggestions for improving boat users' access at Delaware Inlet, claiming that such improvements would likely attract more people to the area and thereby detrimentally impact the natural character of the area.

Table 7. Summary of boat users' suggestions for improving boat access in the area.

Suggestions	Frequency suggested
Keep as is	32
Marked route/s in estuary	13
Ramp at Cable Bay	12
More signage and information	5
More parking space	4
Widen and smooth out access point to Delaware Inlet	3
More facilities at Delaware Inlet	3
Breakwater at Cable Bay	2
Concrete slip at Delaware Inlet	1
Get rid of Cable Bay as a launching location	1
Restrict access	1
Hard fill the shoreline around Delaware Inlet	1
Address boat traffic at Port Nelson	1
Build a boat ramp at the Glen (Glenduan)	1

4.7. Vehicle and boat counts

Fixed cameras were set up at locations overlooking boat launching sites at Delaware Inlet and Cable Bay. Photographic images collected over a period of nine weeks were downloaded and then analysed to tally up the total number of vehicles driving on the beach at each location over a continuous 24-hour, nine week period (Table 8). Note that boat user numbers included kayakers only if a vehicle was used to launch them.

In all but one week (20–26 January 2017), Delaware Inlet was a more popular boat launching site than Cable Bay—averaging more than twice the volume of traffic. Counts were especially high when long holiday weekends coincided with good weather and fishing conditions (Nelson Anniversary on Monday, 30 January and Waitangi Day on Monday, 6 February). The highest count on a single day occurred on Saturday, 25 February, with 33 vehicles at Delaware Inlet and 11 at Cable Bay. A drop-off in vehicle numbers was noted going into March.

Table 8. Number of boat launchings and retrievals at Delaware Inlet and Cable Bay as recorded from time-lapse photography. See paragraph below regarding possible double-counting.

Week	Dates (Friday 12am to Thursday 11.59pm)	Delaware	Cable Bay
1	Friday 6 – Thursday 12 January 2017	61	13
2	13 – 19 January	41	*
3	20 – 26 January	28	38
4	27 January – 2 February	107	49
5	3 – 9 February	82	35
6	10 – 16 February	83	26**
7	17 – 23 February	72	24**
8	24 February – 2 March	99	12
9	3 – 9 March	40	18
Average occurrences per week		**68**	**27**

* No photos were obtained from Cable Bay during this period.

** The fixed camera at Cable Bay was interfered with on 14 February and later corrected on 21 February. During this period the altered field of view may have caused some vehicles to be missed.

The following caveat should be taken into account when considering the data in Table 8. If both launching *and* retrieval of a boat occurred at low or mid tides, then double-counting is likely. Given that individual vehicle data (e.g. registration plates) were not identified from the photographs, it was impossible to determine and hence eliminate instances of double-counting. At high tide at Delaware Inlet, a boat can be either launched or retrieved in only a few minutes from Maori Pa Road and the camera is less likely to have recorded the event (depending on the time-lapse sequencing). Such a boat was likely to be counted only once.

4.8. Interviews with local residents

Eight interviews were conducted with ten residents of Maori Pa Road and Cable Bay to gather their views on boat launching activities at Delaware Inlet and Cable Bay. The interviews established the residents' history in the area; explored the issues concerning protection of the estuary and environs (values, changes observed, feelings, and their personal recreational use); and enquired about ways of finding a solution acceptable to local iwi, local residents and recreational boat users (Appendix 4). The overall results are summarised in Table 9.

Table 9. Summary of interviews with local residents of Maori Pa Road and Cable Bay.

Resident Number	Location	Boat user	What they value about the estuary	Changes in the estuary or people's use	Concerns for estuary	Driving over the estuary	Has rescued stuck vehicles	Build a ramp at Cable Bay?	Open/ close vehicle access
1 & 2	Maori Pa Road	No	Uniqueness, feeling of remoteness	Number of people has increased, more trespassers	Damage to DOC reserve, fires, litter, people not respecting private land	Strongly disagree	No	No answer	Close
3	Maori Pa Road	Yes	Beauty, history, wildlife, recreation	Number of people has increased, end of beach is eroding	Not enough signage, not enough parking at Delaware	Agree	Yes	Disagree	Leave open
4	Cable Bay	No	Beauty, changing views	Number of people has increased, silt and debris from 2012 flood	Not enough parking at Cable Bay, safety of beach users	Agree	Yes, lots at Cable Bay	Strongly disagree	Leave open
5	Maori Pa Road	Yes	Tranquillity, views, access to fishing	None	Maintaining access to Delaware Inlet	Strongly agree	No, but has told them off	Strongly disagree	Leave open
6	Maori Pa Road	Yes	Changing views, recreation	None	Ill-informed people driving over estuary	Agree, but with restricted access	Yes	Strongly disagree	Leave open
7	Cable Bay	No	Naturalness, history	Number of people has increased, spit on Delaware Bay is eroding	Quality of Cable Bay road, noise pollution	Agree, but need to find a compromise	Yes	Disagree	Leave open
8	Maori Pa Road	No	Recreation	Number of people has increased, silt from floods	None	Agree	Yes, one instance where she was asked for help and refused	Disagree, but thinks it would divert people from the estuary	Leave open
9 & 10	Cable Bay	Yes	Access, nature	Increase in sediment from logging in the valley, increase in number of people	None	Strongly agree	Yes	Disagree	Leave open

4.8.1. What local residents value most about Delaware Inlet

The interviews with local residents characterised the community as non-transient, with interviewees residing in the area for an average of 30 years (ranging from 10 to 55 years' residence). When asked "What do you value most about Delaware estuary and why?" most interviewees expressed appreciation for the outstanding natural character of Delaware Inlet: "I value the nature of it, the wildlife, the history, and the opportunity to recreate…" (*Interview* 31 January 2017). Others also appreciated aesthetic and amenity values, commenting on "the pristine, the quietness", the "tranquil" and "ever-changing views", the "beauty", and its ecological uniqueness: "Its naturalness. There's very little human impact on the estuary at this point compared to other estuaries in the area. It's quite unique" (*Interview* 9 February 2017).

Recreational activities were also mentioned by local residents who valued opportunities for multiple recreational uses including swimming, surfing, wind surfing, kayaking, paddle boarding, boating, fishing, horse riding, beach walking and collecting shellfish. Safety for boat launching and fishing with children and families was noted by one interviewee. For another resident, fishing was paramount: "That's the sole reason why we live here; because we love our fishing and we've got access" (*Interview* 5 February 2017). He explained that his boat was custom-built 30 years ago for the sole purpose of launching at Delaware Bay.

Value for the natural history of the Delaware Inlet was mentioned by one resident: "There's a mix of archaeology, so you've got the history. You've got the birds that breed out there, there's fish stock. Occasionally there's surf, which I love to do [surfing] out here. It's just a really beautiful, peaceful place. There's good wildlife" (*Interview* 31 January 2017). A resident of Cable Bay explained: "Because we've been here so long, we also value the history" (*Interview* 9 February 2017).

4.8.2. Residents' observations of changes to Delaware Inlet and Cable Bay

Regarding changes to the estuary at Delaware and to the way that people are using it, a number of interviewees commented on the increased number of people launching boats at Delaware Inlet and the related increase in traffic. That observation included kayakers as well as those using power boats. The increase was explained as a consequence of opening Maori Pa Road to the public in 1999 following approval by Nelson City Council for a subdivision development.

One Cable Bay resident of 42 years commented that the population had doubled in her time of residence, and that the increasing number of people using the area to access the coast was putting pressure on the area. Another long-time resident of Cable Bay confirmed that the number of visitors to Cable Bay had increased rapidly. He explained that parking during peak seasons had become an issue, sometimes requiring the towing of vehicles that blocked facilities on privately owned land. Parking

at Delaware Inlet was also mentioned: "Down the track, there will be issues with where they park; there's only so many vehicles that can fit" (*Interview* 31 January 2017).

Vehicles used to launch boats and 'hoons' getting stuck on the mudflats were specifically mentioned by a number of interviewees with regard to impacts on the estuary. However, disrespectful behaviour also extended to other recreationists and tourists who might assume unrestricted access and thereby trespass on the private road (despite signage) and cross private land without seeking prior permission. As one interviewee summed up: "People think they can come and go out here as they like" (*Interview* 31 January 2017). Concern about the spit (which is partly privately owned) at Delaware Bay included trespassing on private land, people setting fires and littering, and damage to the Department of Conservation reserve. One long-term resident had even been threatened and physically attacked by a trespasser who he had approached to evict from his land.

Some interviewees pointed out concern for erosion at the end of the beach and on the spit at Delaware Bay, but acknowledged that natural processes play a part in that. Other interviewees commented on the impact of floods on the estuary ecosystem, with increased amounts of siltation and debris at times discolouring the estuary.

4.8.3. Residents' views about people driving over the estuary

As summarised in Table 9, most residents (with the exception of two residents interviewed together) agreed that driving over the estuary at Delaware Inlet should be allowed and that access onto the estuary for boat launching should be open to the public. One local resident reported that: "At the moment I have no problem with the usage and, in fact, I really enjoy seeing everyone enjoying it [while] out with their family and friends having a good time" (*Interview* 31 January 2017). The same resident expressed concern about people who "don't know where to go" to launch their boats at Delaware Inlet and consequently end up: "…driving over the eelgrass beds. I don't think that's good. But that's only because of their ignorance; they don't know" (*Interview* 31 January 2017).

It was noted by one resident that those who drive over muddy areas leave behind vehicle tracks for a long time. Another interviewee said that due to the "hard substrate" he considered there to be minimal impact to the estuary by vehicles and that the tide washed away any tyre marks. The same interviewee argued that only a small fraction of the estuary is used and that: "There's not the slightest bit of damage out there at all; that's complete and utter rubbish" (*Interview* 5 February 2017).

The two residents who "strongly disagreed" to vehicular access on the estuary would also like to see a ban applied to horses. All local residents who were interviewed had witnessed vehicles stuck at Delaware Inlet, and nearly all interviewees had at some

stage helped vehicle owners who got into trouble. One local resident recounted an incident where she and her husband refused to use their tractor to help tow a vehicle stuck in mud in the estuary and the vehicle was then submerged at high tide: "Our tractor is worth way more than their car!" (*Interview* 7 February 2017).

Several interviewees characterised the 'offenders' as: "...bloody idiots who have gone for a joy ride or something across somewhere they shouldn't have gone..." (*Interview* 15 February 2017). A similar sentiment reveals local residents' frustration: "You get the odd idiot that goes out there and does donuts and things and drives in silly places, and you think 'well, they get what they get' [i.e. stuck]" (*Interview* 15 February 2017) (Figure 20). However, not all of these people are young or 'hoons'; some are four-wheel drivers and "just people that are ill-informed" (*Interview* 7 February 2017).

In contrast, vehicles driven onto the estuary for the purpose of launching or retrieving boats at Delaware Inlet were considered far less likely to get stuck, as one interviewee explained:

> People with boats are normally pretty responsible, 99 percent of the time. They don't want to lose their boat. They are experienced boaties; they can tow a boat for a start. They wouldn't go out there unless they asked where to go or they probably watched somebody (*Interview* 15 February 2017).

This observation was confirmed by another resident:

> I work here, I look out every day and every night. I see everything that goes on down there [at Delaware Inlet] and I would say it's very rare that you would get someone being a total idiot and driving all over the place. And if they do, they get told off. There's always a local that will yell out at them and give them their opinion (*Interview* 31 January 2017).

One of the local residents who has seen three or four people "going for a hoon" around the estuary described his interaction with the young drivers:

> I've given them a few rark-ups and they've been so apologetic that they've almost been in tears by the time I'm finished with them... They never come back. They say they're sorry, that they didn't realise and it's only because there's no signs (*Interview* 5 February 2017).

Figure 20. A 'joyrider' at Delaware Inlet captured on the fixed camera at mid-afternoon on Thursday 23 February 2017.

4.8.4. Residents' views about building a concrete ramp at Cable Bay

Vehicles getting stuck in the soft sand at Cable Bay when launching or retrieving boats was a far more frequent occurrence according to one interviewee, a long-term resident of the Cable Bay area. He has been involved in many rescues of boats at sea as well as called on to assist boat users' vehicles that get stuck in the sand, which he explained is sometimes due to them using heavy four-wheel drive vehicles to tow large boats. Other times, vehicles get stuck due to the naturally variable condition of the beach where, on a hot summer day, the sand "puffs up" with the heat and is loosened:

> One week they'll pull their boat out okay and the next week they won't… The beach changes so much here; it's hard to know whether you can launch or not on any given day. People will say 'I've done it two or three times, but I got stuck today. Can you pull me out?' (*Interview* 31 January 2017).

Delaware Inlet is recognised by local residents as being safer for launching small boats than Cable Bay. One resident said he had seen three or four boats tip over and someone break their leg. He explained: "It's highly dangerous around there, and not only [because] you have all those people swimming and all those boats getting close. It's just ludicrous!" (*Interview* 5 February 2017).

Local residents were unanimous in their stance that a concrete ramp should not be built at Cable Bay to assist boat users' with launching or retrieving their vessels (with the exception of a resident who offered no opinion). One resident summarised the potential backlash from residents in these terms: "You would open a can of worms in Cable Bay if you talk about building a boat ramp down there. All the Cable Bay people that use the beach, they don't want a concrete ramp and thirty cars and trailers parked down there" (*Interview* 31 January 2017). Another resident asserted: "Putting a ramp in here would be counterproductive to the people that use it. You're doing it for ten fishermen versus one hundred beach users. It's not a place to have a boat ramp" (*Interview* 31 January 2017).

One interviewee considered Cable Bay as too unsafe, regardless of suggested improvements: "Even with a ramp, when you get those big surges you know it's not safe… because of the waves. There's been a few boats driven through the back window of vehicles…" (*Interview* 15 February 2017). Another resident pointed out that the changing geomorphology of Cable Bay means that the boulders are constantly in motion and would quickly destroy a concrete ramp.

Two residents of Cable Bay raised concern about the winding, narrow road to Cable Bay and highlighted potential safety hazards with increased traffic (especially larger vehicles towing boats). Others noted that there is already insufficient parking without the added pressure of more boat trailers. The cost of improving infrastructure along the route would need to be factored in. Another resident of Cable Bay asserted that it was already a congested launching site. This was also noted by another resident: "Ten boats waiting to put their boats back on the trailer, on the boat ramp, with the sea picking up would be really full on; it would be really tense and quite easy to sink a boat" (*Interview* 31 January 2017).

Another Cable Bay resident reported that there is already conflict between boat users, swimmers and families on the beach (all congregated at the far end of the beach), and that this would likely escalate with any improvement to the boat launching area: "You're either going to have a concrete ramp or swimmers: you can't have both… Kids running around and people backing boats—it's a recipe for disaster. It's going to end badly one day soon" (*Interview* 31 January 2017). This scenario is illustrated in Figure 21 below.

Figure 21. An example of a 4WD vehicle towing another 4WD vehicle with boat trailer that got stuck in the soft sand at Cable Bay. The proximity to swimmers and young families on the beach highlights a safety concern. Photo taken on Saturday 4 February 2017.

4.8.5. Summary of local residents' suggestions regarding vehicle access on Delaware Inlet

In the final line of questions put to local residents, interviewees were invited to offer suggestions for improving where and how boat users' launch and retrieve their boats in the area. Interviewees were also asked to state whether they think Delaware Inlet should be closed to vehicles on the estuary and, if so, what the consequences would be for them and for others. They were also invited to offer thoughts on how they might envisage a compromise between local iwi, local residents and recreational boat users. Suggestions are summarised in Table 10.

Table 10. Summary of suggestions made by local residents regarding the future of vehicle access on Delaware Inlet.

Resident Number	Suggestion
1 & 2	A single marked route as a last chance scenario; if someone strays from that route, then close access completely.
3	Two low concrete or stone markers to mark areas where people can launch, speed limit and boat size restrictions, more informative and detailed signage.
4	Put guidelines in place, grade out parking area.
5	A sign with a map showing three main areas that you can launch, indicated by a series of concrete disks; consequences for those caught outside areas.
6	A sign with a map clearly defining three main launching areas where it is safe to launch and where the damage is going to be minimised; restricted access to vehicles launching and retrieving boats.
7	Designate areas where you can drive and mark with stakes in the ground, access restricted to vehicles launching and retrieving boats, booking at peak holiday periods.
8	A sign with a diagram showing an area that you can launch in, buoys or something to indicate this.
9 & 10	Low fibreglass poles to indicate areas where people can launch, a simple sign telling people to take care and why.

Some interviewees asked that iwi be consulted and one local resident said that: "…there's grievance there and we need to respect that's where they're coming from" (*Interview* 31 January 2017). The same resident suggested that iwi be invited to identify on map signage any areas they don't want people to go or to "have it worded with a little marker" (*Interview* 31 January 2017). Another resident expressed their desire for the community to come together on this issue, and not be divided by it. The resident suggested that a facilitated meeting would require those attending to consider the following: "Being sensitive to each other's needs and recognising that all of the users care about the environment. It's about respecting it and the space, and creating safe usage for the environment and for the people" (*Interview* 7 February 2017).

Regarding residents' views on whether Delaware Inlet should be closed to vehicles, two residents stated that they wished to see Delaware Inlet permanently closed to all vehicles and horses. When questioned further, they were willing to seek a compromise and suggested a single marked route on the estuary with the proviso that if vehicles deviate from that route, then the estuary be permanently closed to all vehicles.

Other local residents expressed unease about potential backlash if the Delaware Inlet was closed to vehicles, as one resident explained: "I think that there would be a

tremendous amount of resentment between locals and it would cause a lot of tension if it was closed off completely. It has the potential to get very political—people will not rest" (*Interview* 9 February 2017). Another resident affirmed that opinion: "It's never going to happen. If they [Nelson City Council] ever think they are going to shut it, they're in for a way bigger fight than they realise. And I tell you what—it'll get nasty" (*Interview* 5 February 2017). The same resident threatened personal action: "As long as I've got a machine, there's no way you'll ever put a gate up there. It'll get ripped out!" (*Interview* 5 February 2017).

Other local residents interviewed offered a range of potential solutions which they considered to be fair to everyone. Many suggested better signage with information about the history, wildlife and cultural heritage of the estuary; notification for keeping dogs under control; and a map indicating three areas to launch boats from.[16] Limiting this information to one sign was considered appropriate in order to prevent visual pollution: "We want to see the beauty of the place, not damn signs" (*Interview* 5 February 2017). Others agreed that an information sign should contain content such as: "...respect the estuary, don't drive around here" (*Interview* 31 January 2017).

Most interviewees suggested a marked route across the estuary to minimise damage and limit vehicle impact to a small section of the estuary. It was suggested that such a route could take the form of: "At low tide all you would need is two concrete or stone markers, or even one. Just have a little thing on the map saying this is where you launch at low tide" (*Interview* 31 January 2017). Another resident detailed that the markers could be a series of concrete disks with a white dot; easy to see when you're driving but not visible from far away. It was pointed out that is was unnecessary to have markers at high tide (as boats can be launched directly from the road), and so markers that are low and submersible were regarded as most appropriate: "It doesn't have to be a great big pole sticking up!" (*Interview* 31 January 2017). In contrast, someone else suggested the use of "a couple of white fibreglass poles" (*Interview* 15 February 2017). Suggestions for specific places where marker routes could be placed were outlined by some residents, and it was recommended that frequent boat users should also be consulted for their existing knowledge of the channel and best launching spots at different tides.

In addition to a marked route, some local residents expressed interest in implementing other restrictions such as a speed limit for motor boats and a size limit for boats (i.e. under six metres in length). It was suggested that larger boats can launch from Nelson port, whereas smaller boats are better suited for Delaware Inlet which is safer given that it's sheltered from the sea. Another resident suggested restricting vehicles only to those who are launching or retrieving "marine craft" (including kayaks, paddleboards). Others wished to discourage jet skis—both at Delaware Inlet and Cable Bay, largely

[16] Note that there is already an information sign at Delaware informal boat launching site that outlines the ecological value of the estuary (Figure 19).

as a result of the noise they generate. Another resident suggested that at peak holiday times, people may need to book to reserve a parking space as this is already an issue at Cable Bay.

One resident was particularly interested in the ecological results of this study, and reasoned that if vehicles were proven to cause a lot of damage to the shellfish beds, then restrictions should apply. That could include tidal restrictions, limiting launching or retrieving boat to low or high tides (thereby excluding mid-tide launching sites). The natural changeability of the estuary and shifting areas of soft and hard sand would require that any designated launching sites be re-evaluated on a frequent basis. This might also influence where different-sized boats could be launched from. Another resident was convinced that vehicles do not cause any damage to the estuary, and claimed that sediment transported by rivers into the estuary is more harmful. He voiced concern that that the ecological results from this study will reflect badly on boat users.

Many residents conceded that it would be difficult to enforce any restrictions that the Nelson City Council might apply. One resident reflected: "You can't force people to stick within a boundary, but you can only request that they do and put something up that gives them a guideline" (*Interview* 15 February 2017). The two residents who are opposed to vehicle use on the estuary were not convinced that boat users would comply: "...the arrogant ones will never change, whatever restrictions you put in place" *(Interview* 31 January 2017). One local resident suggested that the Council could fine (up to $500) those who deviated from an agreed marked route. It is noted that currently local residents, by default, monitor and 'enforce' vehicles stuck at Delaware Inlet and Cable Bay, and those who trespass onto private land. In at least one incident reported to Cawthron researchers, a resident has been involved in a physical altercation with a trespasser (which was reported to police).

4.9. Interview with Trustee of Ngāti Tama ki Te Waipounamu Trust and Te Huria Matenga Wakapuaka Trust

A Cawthron social scientist interviewed a Trustee of Ngāti Tama ki Te Waipounamu Trust and Trustee Chair of Te Huria Matenga Wakapuaka Trust at the Cawthron Institute on 8 March 2017. The Ngāti Tama ki Te Waipounamu Trust[17] represents "Ngāti Tama people within the rohe of Wakapuaka down to the West Coast" (*Interview* 8 March 2017). The interviewee is also a Trustee of Te Huria Matenga Wakapuaka Trust set up in 1986 by Judge Isaac under Te Ture Whenua Māori Act 1993. The Wakapuaka 1B Trust, the farm adjacent to the Delaware Inlet, was formerly under the Huria Matenga title.

[17] This is the post-Treaty settlement name of what was formerly the Ngāti Tama ki Te Tau Ihu Trust.

4.9.1. Mana whenua of Wakapuaka rohe

The Ngāti Tama trustee stated that, as mana whenua, the ability to express rangatiratanga with respect to the moana, whenua and awa (sea, lands and rivers) within the rohe of the Delaware Inlet is as important as the ability to exercise kaitiakitanga in protecting those natural resources.[18] The introduction of the Foreshore and Seabed Act 2004 detrimentally affected the ability of Ngāti Tama to exercise their full rights and responsibilities as mana whenua of the Delaware Inlet. As the interviewee explained: "They set the boundaries which you could partake actively in marine areas. It gives no recognition to our 'supermarket' that's there, our 'motorway' that's there" (*Interview* 8 March 2017).

According to the interviewee, following the Supreme Court decision, there are three options Ngāti Tama could pursue with regard to their rights and interests in the Delaware Inlet. They could apply to amend the certificate of title, they could claim customary protective rights, or they could claim customary marine title. Regarding the first option, the interviewee doubted it would be successful, "given the way that records have been held". The second option, customary protective title, allows continuation of customary activities and would give Ngāti Tama a governance role with the Department of Conservation and Ministry for Primary Industries. However, protective title provides no ability to undertake commercial activities, whereas this would be possible under the third option, customary marine title. The interviewee commented:

> Just having a look at it, personally I think customary marine title may be the more beneficial to us looking at future aspirations if we so chose to do a commercial activity within that area. Protected customary right doesn't give us that ability, so personally I'd like to go down customary marine title which allows for commercial activities or research. I see it as prime area for research involving both the taiāpure and the marine reserve. But then to do research you need to have capital behind you, so you need to be looking at them both working together in some areas (*Interview* 8 March 2017).

The Treaty of Waitangi settlement Wai 785 (Te Tau Ihu o Te Waka a Maui, Northern South Island Claims) provided iwi in the Top of the South with clearer status in forming direct relationships with Government and government departments. The Ngāti Tama interviewee reported that relationships with operational and managerial staff in Nelson City Council and the Department of Conservation, as well as consultants employed by both, were generally positive: staff are "extremely helpful" and

[18] *Rangatiratanga*: chieftainship, right to exercise authority, chiefly autonomy, chiefly authority, ownership, leadership of a social group, domain of the *rangatira*, noble birth, attributes of a chief. *Kaitiakitanga*: guardianship, stewardship, trusteeship, trustee. Sourced from: http://maoridictionary.co.nz/

understand "the ramifications from [the] Treaty settlement and what [the] obligations are for Nelson City Council" (*Interview* 8 March 2017). As the interviewee explained:

> The fisheries settlement ... started the ball rolling for iwi to have some sort of autonomy out there in the community..., but the Treaty of Waitangi [settlement] actually gave us a bit of teeth to be working with councils and [other organisations based on our] statutory declarations from Government and obligations of councils and government departments (*Interview* 8 March 2017).

4.9.2. Aspirations for kaitiakitanga and rangatiratanga with respect to Wakapuaka

In 2002 Ngāti Tama applied for, and were granted, a taiāpure-local fishery under section 181(9)(b) of the Fisheries Act 1996. The taiāpure is for a small special purpose area and covers over 15 km of coastline extending up to 4 km offshore from Cable Bay to Whangamoa Head in northern Tasman Bay. The resultant 'Whakapuaka Taiāpure' forms part of Ngāti Tama's aspirations for rangatiratanga, as summarised in the *New Zealand Gazette*:

> The application by Ngāti Tama seeks by means of a taiāpure to administer and control their fisheries and is a major element of rangatiratanga. The fact that Ngāti Tama seek to exercise that management and control by virtue of a consultative process with all interested parties, does not detract from their rangatiratanga but enhances it (Hodgson 2001, p.2320).

The negotiations between the Taiāpure Management Committee and the commercial fishing sector resulted in a 'gentleman's handshake' that the commercial sector would not fish within the taiāpure area (*Interview* 8 March 2017). According to the interviewee, this voluntary agreement has generally been respected by commercial fishers, although some transgression across the taiāpure boundary at night has been noted by locals. The pressure of increased numbers of recreational fishers, with unimpeded access via the Delaware Inlet boat launching site, has again raised concern for mana whenua about the ecological fragility of the estuary and the sustainability of surrounding coastal and marine environments.

The Taiāpure Management Committee and the Department of Conservation contracted NIWA to map the rocky reefs and other seafloor features using a submersible to take photographs of the substrate on the bottom (Grange 2005). The Taiāpure Committee wanted a detailed picture of the location of different habitat types and resources (e.g. reefs are habitats for kina and crayfish) to assist with management decisions. The interviewee, currently Chair of the Taiāpure Committee, expressed interest in supporting further scientific research on the local ecology (particularly on the kina barrens) within the boundaries of the taiāpure. However, lack of financial resources is limiting further research. The potential benefit of comparative

research across different management regimes within the region was highlighted in the following passage:

> To be able to do viable research in the future with comparisons of that area [the Wakapuaka taiāpure], the outside area where commercial activity goes on (bottom trawling, scallops and trawling) and the marine reserve—so, you've got an area of 'no take', an area of recreational take and commercial, [and an area of just] recreation—there could be value in having those areas for the sake of research (*Interview* 8 March 2017).

Research on the ecology of the Delaware Inlet is seen as vital to Ngāti Tama's ability to exercise their ancestral duty as kaitiaki with respect to their taonga. Similarly, a duty to provide for present and future generations' needs through the creation of socioeconomic opportunities (e.g. jobs and education) is seen as critical to the future of a people who wish to continue to reside within their rohe (tribal territories). The interviewee alluded to this in the following:

> Why should one have to move from an area of association instead of being able to… [live and work here]? Okay, we might not have jobs and that here, but you could create jobs. Aquaculture—there's opportunities there. It's [the Foreshore and Seabed Act 2004] just taking away an ability for whanau/hapū to be able to develop (*Interview* 8 March 2017).

Under the operative Nelson Resource Management Plan, aquaculture structures are currently prohibited in estuaries, including Delaware Inlet. The interviewee expressed frustration at the differential treatment of aquaculture and driving on the estuary, both in terms of consent status and enforcement:

> I went to Nelson City Council to have a look about doing a commercial activity on the estuary in aquaculture. I got told it wasn't a permitted activity. Then I read through their [regional coastal] plan and I see that launching and retrieving vessels on the estuary is not a permitted activity. So, it makes me wonder why a small group of the community with short association to the area are allowed to do this when we've had continuous association with the area and we can't move forward (*Interview* 8 March 2017).

4.9.3. Concerns about impacts on Delaware Inlet

The Ngāti Tama interviewee noted that there is a lot more activity on the estuary now: "In the last 12 months I think there's been three vehicles that have been stuck there; two have been totally submerged. You've got vehicles, people just driving all over the

place on it" (*Interview* 8 March 2017). The interviewee noted that most boat users who drive over the estuary to launch or retrieve boats do not get their vehicles stuck: "...it's only the joyriders that are getting stuck, going into stupid areas" (*Interview* 8 March 2017) (Figure 20, Section 5.8.3).

The interviewee was concerned about the impact of vehicles on the cockle habitats: "As they're driving over them now, they're compacting the dirt and lessening the biomass within that area. Even though it's not great or the sizes aren't great, [in] the end, that's an animal that's been in that area longer than we've been in Aotearoa" (*Interview* 8 March 2017). Although not specifically mentioned by the interviewee, the destruction of cockle habitats would negatively impact the ability of Ngāti Tama to collect shellfish and exercise mahinga kai (traditional food gathering), which is part of an iwi/hapū's ability to express their mana as tangata whenua when hosting manuhiri (visitors).

Siltation in the estuary was also highlighted as a concern, resulting from human habitation, farmland, forestry, deforestation and "farmland slippages" (erosion on hillsides exacerbated by high rainfall events). Other impacts incur offshore: "I've even heard [name omitted] picked up about three 20 litre used oil containers off the front out here [end of the spit]. [They] came off a ship or someone... going out and dropped it off" (*Interview* 8 March 2017).

On Delaware spit, increased dog activity from recreationists exercising their pets was noted by the interviewee as a threat to nesting birds. Sand dune instability was also raised as an impact due to people making pathways through the sand dunes and the southerly or offshore wind further opening up those pathways, thereby increasing dune erosion and habitat loss for nesting birds.

Other recreational activities have had a direct cultural impact on Ngāti Tama, including the following episode:

> This here [pointing on the map] used to be an area... well it is still, an urupa [burial ground] in there. It used to be an island when I was a kid; now it's eroded away and it's just a build-up of shell midden. We had people coming over here, driving to there and digging up the shell... They were digging up the shell to put on their driveway to have a nice driveway. It was in fact an old urupa and I had this chappie bring up someone's skull and saying 'my boy found this'! So I then turned it back over to the urupa over here [another location] (*Interview* 8 March 2017).

4.9.4. Ngāti Tama interviewee's preferences regarding vehicle access on Delaware Inlet

When asked "what does Ngāti Tama and the Trust feel about people driving over the estuary?" the interviewee responded: "Well, Huria Matenga Trust are very much

against it" (*Interview* 8 March 2017). The interviewee affirmed that Ngāti Tama members do not use the Wakapuaka Inlet to launch boats. When asked what the consequences would be for Ngāti Tama if the Inlet was closed to vehicle access, the interviewee explained:

> One, [in] the kaitiaki sense we would be protecting that area… Other than that, I couldn't see anything in terms of consequences, other than stopping us from being able to go forward in doing aquaculture within there. Possibly, hikoi [journeys] with clear bottom barges as in tours over the estuary. Kayaking—that wouldn't be a problem… (*Interview* 8 March 2017).

Noting that Te Huria Matenga Trust are opposed outright to vehicles accessing and driving over the estuary—whether for the purposes of launching a boat or other recreational activities such as walking the dog or gathering cockles—a follow-up question was posed: "If vehicle usage were to continue to occur, what are your suggestions for improving how or where they [vehicle users] launch in this area?" The Ngāti Tama interviewee responded as follows:

> A wooden ramp down to the low tide of a channel and reverse all the way down there. Otherwise you're still going to have people going off [to the sides of a single track]. You might put markers out, [but] if someone sees 'oh, it'll be better I don't have to go as far if I can go down here, I'll take off onto another area.' But if there's only access onto that ramp, and that was it… It's the only way to really control that area or to control the activity of driving down there, so it's specifically for launching and retrieving (*Interview* 8 March 2017).

Regarding the cost of constructing a wooden ramp, the interviewee suggested:

> Huge cost, I know. 'No cost' would be to stop [access] altogether… we could easily have 'user pays' [to pay for the ramp]. For using the boat ramp down on the [Port Nelson] wharf, they pay. You go to Kaiteriteri, you pay for the boat ramp there. [If] people want to use it, it's user pays—they pay (*Interview* 8 March 2017).

The interviewee was in favour of improving the concrete ramp for launching boats at Cable Bay and upgrading it to a "proper concrete pad much like [at] Kaiteriteri" (*Interview* 8 March 2017), although also cognisant of the local conditions when the afternoon sea breeze picks up and issues such as limited parking space at Cable Bay. The interviewee asserted: "I fully support improving that area because it's a recognised area [for launching boats]" (*Interview* 8 March 2017).

When asked about the option of having a marked route onto the estuary, as some local residents and boat users suggested, the Ngāti Tama interviewee considered that

option unlikely to deter those who are causing problems. Signage to dissuade vehicle access was similarly considered an inadequate measure: "If there's access onto the estuary, you're always going to have those small minority that are going to see how far they can go" (*Interview* 8 March 2017).

The Ngāti Tama interviewee reiterated an aspiration to developing aquaculture in the local area:

> If [Nelson City] Council was to allow for [aquaculture as] a permitted activity, then I would expect them to allow our hapū to look at aquaculture within the estuary as well as research. We were looking to do research on geoducks [large clams] in the estuary, but because it's not a permitted activity we couldn't do something as simple as that (*Interview* 8 March 2017).

4.10. Assessment of options

Table 11 provides a preliminary assessment of options that have been identified in the course of this study. Some options could be implemented in conjunction with others. Regular scientific monitoring of the ecological effects of any vehicle usage at Delaware Inlet has been included at the suggestion of Nelson City Council staff. A more complete assessment would require further consideration and consultation with affected parties.

Table 11. Preliminary assessment of options for boat access at Delaware Inlet and Cable Bay.

Option	Pros	Cons
Status quo	Low financial cost (at least in short term).	Damage to estuary and associated cultural values continues. Rules in NCC coastal plan not being enforced.
No vehicle access to estuary at Delaware Inlet	No more damage to estuary (assuming rules can be enforced). Potential for seagrass rehabilitation.	Enforcement could be difficult and/or expensive. Safety issues for boat users. Renewed animosity between residents, iwi and boat users.
Marked route(s) at Delaware Inlet to limited number of launching points	Reduced damage to estuary. Potential for seagrass rehabilitation outside marked route(s).	Not all vehicles will stay on route. Some ongoing impacts to estuary. Some maintenance required of route markings.
Long wooden ramp at Delaware Inlet	Minimises on-going damage.	Cost. Structure would have visual effects, some shading effects and changes to currents. Possible damage to estuary during construction phase. On-going maintenance required.
Improve facilities at Delaware Inlet; booking system for parking	Improves experience for users.	Cost. Likely to lead to increased use and therefore more damage to estuary.
Improved signage about values of Delaware Inlet	Greater environmental awareness by boat users. With other measures, could help to reduce impact on estuary.	Unlikely to deter 'joyriders' and some boat users from inappropriate behaviour. Damage to estuary and associated values continues.
Restrictions on users of Delaware Inlet e.g. boat/trailer size limits; no jet skis	Reduced ecological and other impacts (depending on restrictions).	May be difficult to enforce.
Install concrete ramp and improve other facilities at Cable Bay	Safer and better experience for users. Some users diverted from Delaware Inlet so reduced impact to estuary.	Increased congestion at Cable Bay, conflict with beach users. Construction cost, with on-going maintenance. Cable Bay still not safe in some conditions.
Regular monitoring of Delaware Inlet	Provides basis for periodic review of approach.	Cost. May not provide definitive conclusions.

5. SUMMARY OF KEY FINDINGS

5.1. Summary of ecological assessment

Vehicle usage zones covered a relatively small amount (2%) of Delaware Inlet but represented 16% of seagrass beds within the estuary. Visible vehicle tracks showed direct physical disturbance to seagrass and other benthic habitats in areas subject to both higher and lower amounts of vehicle usage. It is likely that other vehicle-related ecological impacts are also occurring in midshore zones, including sediment compaction, differences in infaunal community composition and lower infauna abundance, including reduced cockle numbers.

The number of epifauna taxa was lower at the higher vehicle usage zones in the low shore, although the effects of this could not be separated from the influence of grain size composition. Likewise there was some evidence to suggest an historic impact of vehicle usage on seagrass distribution although the effects of this could not be separated from the influence of gravel field substrate. Nearly complete loss of seagrass patches higher up the shore also suggested impacts of vehicle usage, although this could not be confirmed due to differing mapping methodologies, naturally occurring contraction of seagrass beds, and consequences of potential habitat deterioration not related to vehicle impacts.

The 2017 survey results provide a point-in-time benchmark that could be used to track any future changes in the integrity of seabed habitats with regard to effects of higher vehicle usage.

5.2. Summary of social and cultural impacts

Over thirteen non-consecutive days in January and February 2017, 115 boat users were observed accessing Delaware Inlet and Cable Bay. In all but one week in January, Delaware Inlet was twice as popular for boat launching than Cable Bay—averaging 68 occurrences per week as opposed to 27 on average at Cable Bay. Numbers were particularly high when long holiday weekends coincided with good weather and fishing conditions.

Of the 77 boat users surveyed at Delaware, the majority wanted boat access in the area to "remain the same", meaning continuing the full unimpeded access of vehicles across the tidal flats at Delaware Inlet. Other popular suggestions were to mark a vehicle route (or routes) across the estuary to guide vehicles, and to build a ramp at Cable Bay. Less frequently mentioned were suggestions to provide more signage and information at the boat launching sites, create more parking space, improve access points onto the estuary, build a concrete slip at Delaware Inlet, and provide facilities (such as a toilet). A small number were adamantly opposed to any improvement for

boat users' access at Delaware Inlet, claiming that such improvements would likely attract more people to the area and thereby detrimentally impact the natural character of the area.

Local residents noted a substantial increase in vehicle numbers at Delaware Inlet since 1999 when Maori Pa Road became open to the public. The majority of local residents interviewed supported the following: marked route(s) across the estuary to contain vehicles launching boats at low- and mid-tides to a defined path(s), better signage with information and maps, and restrictions on boat size and a speed limit for motor boats. No residents were in favour of building a concrete ramp for boat launching at Cable Bay, citing factors that make this a challenging and sometimes dangerous place to launch at the best of times.

Many residents mentioned the nuisance of 'joyriders' at Delaware Inlet who drive away from the main routes taken by vehicles launching boats, thereby extending the area of impact and sometimes getting their vehicle stuck. Some local residents suggested harsher penalties for those who deliberately deviate from a marked route, although others noted the difficulty in enforcing regulations given the relative isolation of Delaware and Cable bays.

Unimpeded public access does not respect the concerns or mana of Ngāti Tama ki Te Waipounamu. Te Huria Matenga Trust remains opposed to all vehicle access to the tidal flats at Delaware Inlet. They would prefer that the recognised boat launching site at Cable Bay be improved. They consider that a marked route across the estuary at Delaware Inlet would be ineffective; rather, containing boat users to a single wooden ramp was offered as a measure to protect the ecology of the estuary by ensuring that vehicles did not directly drive across and therefore impact the shellfish beds and eelgrass. It was suggested that the cost of such a ramp could be met through user charges.

A taiāpure was established in Delaware Bay in 2002 and Ngāti Tama are looking at options for further research as well as opportunities to provide socioeconomic benefits for their people, potentially including aquaculture. To support this, the Trust has recently applied for a customary marine title to the Wakapuaka estuary, which may enable Ngāti Tama to better express kaitiakitanga and rangatiratanga in their rohe.

We have provided an initial assessment of options that have been identified in the course of this study (see Table 11). A more complete assessment would require further consideration and consultation with affected parties.

6. ACKNOWLEDGMENTS

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7. REFERENCES

Altman DG, Bland JM 2005. Standard deviations and standard errors. BMJ (Clinical research edition):331:903. doi: 10.1136/bmj.331.7521.903.

Ansley B 2003. Foreshore's lament. New Zealand Listener. 9 August, 2003. Retrieved on 29/04/2017 at: http://www.noted.co.nz/archive/listener-nz-2003/foreshores-lament/

Atkinson IAE 1985. Derivation of vegetation mapping units for an ecological survey of Tongariro National Park, North Island, New Zealand. New Zealand Journal of Botany 23:361-378.

Bell SS, Hall OM, Soffian S, Madley K 2002. Assessing the impact of boat propeller scars on fish and shrimp utilizing seagrass beds. Ecological Applications 12(1):206-217.

Boffa Miskell 2015. Nelson coastal study: natural character of the Nelson coastal environment. Prepared by Boffa Miskell Ltd for Nelson City Council.

Bray JR, Curtis JT 1957. An ordination of the upland forest communities of southern Wisconsin. Ecological Monographs 27:325-349.

Campbell ML 2002. Getting the foundation right: a scientifically based framework to aid in the planning and implementation of seagrass transplant efforts. Bulletin of Marine Science 71:1405-1414.

Clarke KR, Gorley RN 2006. PRIMER v6: user manual/tutorial. PRIMER-E, Plymouth.

Clarke KR & Warwick RM 1994. Change in marine communities: an approach to statistical analysis and interpretation. PRIMER-E: Plymouth.

Contessa L, Bird FL 2004. The impact of bait-pumping on populations of the ghost shrimp *Trypaea australiensis* Dana (Decapoda: Callianassidae) and the sediment environment. Journal of Experimental Marine Biology and Ecology 304:75-97.

Davidson RJ, Preece J, Wingham E 1994. Internationally and nationally important coastal areas from Waimea Inlet to Cape Soucis, Nelson, New Zealand - recommendations for protection. Department of Conservation, Nelson/Marlborough Conservancy Occasional Publication No. 15.

Davies R, Speldewinde PC, Stewart BA 2016. Low level off-road vehicle (ORV) traffic negatively impacts macroinvertebrate assemblages at sandy beaches in south-western Australia. Scientific Reports 6. 24899; doi: 10.1038/srep24899.

Eckrich CE, Holmquist JG 2000. Trampling in a seagrass assemblage: direct effects, response of associated fauna, and the role of substrate characteristics. Marine Ecology Progress Series 201:199-209.

Ellis JI, Hewitt JE, Clark D, Taiapa C, Patterson M, Sinner J, Hardy D, Thrush SF 2015. Assessing ecological community health in coastal estuarine systems impacted by multiple stressors. Journal of Experimental Marine Biology and Ecology 473:176-87.

Franko G 1988. Vegetation mapping of the intertidal zone of Delaware Inlet, South Island, New Zealand. Scale 1:3750. Department of Scientific and Industrial Research, Wellington.

Gillespie P 2008. Preliminary assessment of the environmental status of Delaware Inlet. Prepared for Nelson City Council. Cawthron Report No. 1549. 21 p. plus appendices.

Gillespie P, Clement D, Asher R 2011a. Nelson Haven state of the environment monitoring: broad-scale habitat mapping, January 2009. Prepared for Nelson City Council. Cawthron Report No. 1978. 46 p.

Gillespie P, Clement D, Asher R 2011b. State of the environment monitoring of Delaware Inlet: broad-scale habitat mapping, January 2009. Prepared for Nelson City Council. Cawthron Report No. 1903. 33 p.

Gillespie P, Clement D, Clark D, Asher R 2012a. Nelson Haven fine-scale benthic baseline 2012. Prepared for Nelson City Council. Cawthron Report No. 2209. 22 p. plus appendices.

Gillespie P, Clement D, Asher R 2012b. Baseline mapping of selected intertidal habitats within Grove Arm, Queen Charlotte Sound. Prepared for Marlborough District Council. Cawthron Report No. 2133. 30 p. plus appendices.

Gillespie PA, MacKenzie AL 1981. Autotrophic and heterotrophic processes on an intertidal mud-sand flat, Delaware Inlet, Nelson, New Zealand. Bulletin of Marine Science 31:648-657.

Grange K 2005. Taiapure mapping. NIWA, Nelson. Retrieved on 01/05/2017 at: https://www.niwa.co.nz/sites/niwa.co.nz/files/import/attachments/Grange.pdf

Greve TM, T Binzer 2004. Which factors regulate seagrass growth and distribution? in Borum J, Duarte CM, Krause-Jensen D, Greve TM (eds). European seagrasses: an introduction to monitoring and management. A publication by the EU project Monitoring and Managing of European Seagrasses (M&MS) EVK3-CT-2000-00044, EVK3-CT-2000-00044.

Hewitt JE, Anderson MJ, Thrush SF 2005. Assessing and monitoring ecological community health in marine systems. Ecological Applications. 15(3): 942-53.

Hodgson P 2001. Fisheries Act 1996: Notification of the Whakapuaka Taiapure proposal – recommendation and decision notice (No. F190). Retrieved on 29/04/2017 at: https://gazette.govt.nz/home/NoticeSearch?keyword=whakapuaka+taiapure

Hooker S, Redfearn P 1998. Preliminary survey of toheroa (*Paphies ventricosa*) populations on Ninety Mile Beach and possible impacts of vehicle traffic. NIWA Client Report AK98042. 37 p.

Hume T, Gerbeaux P, Hart D, Kettles H, Neale D 2016. A classification of New Zealand's coastal hydrosystems. Prepared for Ministry of the Environment. NIWA Client Report HAM2016-062.

Lawless P, Holman S 2006. Nelson Biodiversity Strategy Technical Report. http://nelson.govt.nz/assets/Our-council/Downloads/Plans-strategies-policies/biodiversity-strat-tech-report-v25.pdf

Leatherman SP, Godfrey PJ 1979. The impact of off-road vehicles on coastal ecosystems in Cape Cod National Seashore: an overview: University of Massachusetts-National Park Service Research Unit, Report 34, 34 pp.

Martin SR, Onuf CP, Dunton KH 2008. Assessment of propeller and off-road vehicle scarring in seagrass beds and wind-tidal flats of the southwestern Gulf of Mexico. Botanica Marina 51(2):79-91.

Matheson F, Dos Santos V, Inglis G, Pilditch C, Reed J, Morrison M, Lundquist C, van Houte-Howes K, Hailes S, Hewitt J 2009. New Zealand seagrass – general information guide. NIWA Information Series No. 72.

Matheson F, Reed J, Dos Santos V, Mackay G, Cummings VJ 2017. Seagrass rehabilitation: successful transplants and evaluation of methods at different spatial scales. New Zealand Journal of Marine and Freshwater Research, 51(1): 96-109, DOI:10.1080/00288330.2016.1265993.

McCloskey RM, Unsworth RKF 2015. Decreasing seagrass density negatively influences associated fauna. PeerJ 3:e1053; DOI 10.7717/peerj.

McCrone A 2001. Visitor impact on marine protected areas in New Zealand. Science for Conservation 173. Department of Conservation, Wellington New Zealand.

McRoy CP, McMillan C 1977. Production ecology and physiology of seagrasses. In: McRoy CP, Helferrich (ed), Seagrass ecosystems – a scientific perspective. Dekker, New York, 55-87.

Michael K 2008. Community survey of cockles (*Austrovenus stutchburyi*) in Pauatahanui Inlet, Wellington, November 2007. NIWA client report WLG2008-39.

Miller S 1998. Effects of disturbance on eelgrass, *Zostera novazealandica*, and the associated benthic macrofauna at Harwood, Otago Harbour, New Zealand. Unpublished M.Sc. Thesis, University of Otago, Dunedin, New Zealand.

Moller JA, Garden C, Moller SI, Beentjes M, Skerrett M, Scott D, Stirling FF, Moller JS, Moller H 2014. Impact of vehicles on recruitment of toheroa on Oreti Beach. Ecosystems Consultants Report 2014/2.

Morrison M, Parkinson D 2001. Distribution and abundance of toheroa (*Paphies ventricosa*) Ninety Mile Beach, March 2000. New Zealand Fisheries Assessment Report 2001/20. 27 p.

Nelson City Council 2004. Submission of Nelson City Council to Petition 2002/0122 of Len Harvey and 1196 others. 2 p. Retrieved on 29/04/2017 at: https://www.parliament.nz/resource/mi-nz/49SCLGE_EVI_47DBHOH_PET2665_1_A210804/e47571b888f5000bf6e82757ad711b0a0363a65c

NZPA 2011. Supreme Court denies Nelson iwi's bid for estuary, The New Zealand Herald. April 7, 2011. Retrieved on 29/04/2017 at: http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10717710

Orth RJ, Carruthers TJB, Dennison WC, Duarte CM, Fourqurean JW, Heck KL Jr, Hughes AR, Kendrick GA, Kenworthy WJ, Olyarnik S, Short FT, Waycott M, Williams SL 2006. A global crisis for seagrass ecosystems. Bioscience 56:987-996.

Park G 1995. Ngā Uruora: The groves of life. Ecology and history in a New Zealand landscape. Victoria University Press, Wellington.

Ramage DL, Schiel DR 1999. Patch dynamics and response to disturbance of the seagrass *Zostera novazelandica* on intertidal platforms in southern New Zealand. Marine Ecology Progress Series 189:275-288.

Robertson BM, Gillespie PA, Asher RA, Frisk S, Keeley NB, Hopkins GA, Thompson SJ, Tuckey BJ 2002. Estuarine environmental assessment and monitoring: A national protocol. Part A. Development, Part B. Appendices, and Part C. Application. Prepared for supporting Councils and the Ministry for the Environment, Sustainable Management Fund Contract No. 5096. Part A. 93 p. Part B. 159 p. Part C. 40 p plus field sheets.

Robertson BP, Gardner JP, Savage C. 2015. Macrobenthic–mud relations strengthen the foundation for benthic index development: A case study from shallow, temperate New Zealand estuaries. Ecological Indicators 58:161-74.

Rossi F, Forster RM, Montserrat F, Ponti M, Terlizzi A, Ysebaert T, Middelburg JJ 2007. Human trampling as short-term disturbance on intertidal mudflats: effects on macrofauna biodiversity and population dynamics of bivalves. Marine Biology 151:2077-2090.

Schlacher TA, Thompson LMC, Walker SJ 2008. Mortalities caused by off-road vehicles (ORVs) to a key member of sandy beach assemblages, the surf clam *Donax deltoides*. Hydrobiologia 610:345-350.

Schuckard R, Melville DS 2013. Shorebirds of Farewell Spit, Golden Bay and Tasman Bay. Prepared for Nelson City Council and Tasman District Council.

Sheppard N, Pitt K, Schlacher T 2009. Sub-lethal effects of off-road vehicles (ORVs) on surf clams on sandy beaches. Journal of Experimental Marine Biology and Ecology 380:113-118.

Turner S, Schwarz A 2006. Management and conservation of seagrass in New Zealand: an introduction. Science for Conservation 264. New Zealand Department of Conservation.

van Houte-Howes KSS, Turner SJ, Pilditch CA 2004. Spatial differences in macroinvertebrate communities in intertidal seagrass habitats and unvegetated sediment in three New Zealand estuaries. Estuaries 27:945.

van Katwijk MM. Thorhaug A, Marba N, Orth RJ, Duarte CM, Kendrick GA, Althuizen IHJ, Balestri E, Bernard G, Cambridge ML, et al. 2016. Global analysis of seagrass restoration: the importance of large scale planting. Journal of Applied Ecology 53:567-578.

Walters Williams & Co 2003. First amended statement of claim before the Waitangi Tribunal in the matter of the Treaty of Waitangi Act 1975 and in the matter of claims in Northern South Island (Te Tau Ihu) Region (Wai 785) and in the matter of a claim to the Waitangi Tribunal on behalf of Ngati Tama Ki Te Tau Ihu (Wai 723). 4 February, 2003. Retrieved on 29/04/2017 at: http://www.ngati-tama.iwi.nz/documents/claim/First%20Amended%20Statement%20of%20Claim%202003.pdf

Ward JC, Lambie JS 1999. Monitoring changes in wetland extent: an environmental performance indicator for wetlands. Coordinated monitoring of New Zealand wetlands. A Ministry for the Environment SMF Project. Lincoln Environmental, Lincoln University, Canterbury.

8. APPENDICES

Appendix 1. Hill Laboratory results for grain size and PAH.

SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Sediment			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Individual Tests			
Dry Matter	Drying for 16 hours at 103°C, gravimetry (Free water removed before analysis).	0.10 g/100g as rcvd	1-8
3 Grain Sizes Profile*		0.1 g/100g dry wt	1-8
3 Grain Sizes Profile			
Fraction < 2 mm, >/= 63 µm*	Wet sieving using dispersant, 2.00 mm and 63 µm sieves, gravimetry (calculation by difference).	0.1 g/100g dry wt	1-8
Fraction < 63 µm*	Wet sieving with dispersant, 63 µm sieve, gravimetry (calculation by difference).	0.1 g/100g dry wt	1-8

SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Sediment			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Polycyclic Aromatic Hydrocarbons Trace in Soil	Sonication extraction, SPE cleanup, GC-MS SIM analysis US EPA 8270C. Tested on as received sample [KBIs:5784,4273,2695]	0.002 - 0.010 mg/kg dry wt	1-2
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. US EPA 3550. (Free water removed before analysis).	0.10 g/100g as rcvd	1-2

Appendix 2. Boat User Survey–Observation Chart.

Boat User Survey – Observation Chart

Record number	Location C/D	Date	Time	High Tide*	Weather Conditions	Wind speed**	Type of boat i.e. motorised launch, kayak	Number of occupants	Length of boat	Horsepower of boat	Size of vehicle ***	Vehicle track recorded Y/N

Key:
Location C=Cable Bay, D=Delaware Estuary.
*Tide information taken from Land Information New Zealand (LINZ) website and rounded to the nearest 5 minute interval.
**Wind speed categorised as either calm, light, moderate or strong.
***Size of vehicle will be categorised by 2WD, 4WD or van.
Vehicle track recorded Y=Yes, N=No.

Appendix 3. Boat User Survey–Qualitative Questionnaire.

Boat User Survey – Qualitative Questionnaire

*Adapt questions according to the timing of the interview, the tide and any previous observations

Record number:

1. Where have you come from today? i.e. Stoke, Richmond, Nelson
2. What is your main activity for today?
3. How long do you plan on being out for? Or when did you depart?
4. What length is your boat in metres or in feet?

   - How much horsepower is it?
5. What is the make and model of your car? Is it 4WD?
6. How often do you use this boat ramp? How many times have you used it in the past month?
7. Why do you use this particular location to launch?
8. What other boat ramps in the area (if any) do you use?

   - What makes those boat ramps better/worse?

- Do you ever use Cable Bay? Why Cable Bay over Delaware estuary? Why Delaware estuary over Cable Bay?

9. How much do you know about the area's history and cultural heritage?

   - Has this knowledge affected the way you use the estuary in any way? Why/why not?
10. How much do you know about the estuary's ecology?

    - Has this knowledge affected the way you use the estuary in any way? Why/why not?
11. What suggestions do you have for improving boat access in the area? Cable Bay included.
12. What would you like Delaware estuary to look like in the future?

Additional comments

Appendix 4. Interview Questions–Local Residents.

Name: _____
Date: _____

About the resident

How long have you lived at this residence (or in the area)?

Exploring the issues *(What are we protecting?)*

What do you value most about Delaware estuary? Why?

Throughout the time you have lived here, have you noticed any changes in the estuary or in the way people are using it?
- If so, do these changes concern you? Why/why not?

How do you feel about people driving over the estuary?

Do you have a boat?
- If so, how often do you use Delaware estuary for boating purposes?
- Where do you tend to launch and load? (Show on map)
- How often do you use Delaware estuary for other purposes? Give examples.

Have you witnessed any boat users getting stuck coming back in or going out?
- How often do you hear about this happening?
- Where does this commonly occur? (Show on map)
- Have you had to assist in anyway? And if so, does this bother you?

Exploring solutions (*What is fair to everyone? What is the wise way?)*

What are your suggestions for improving where and how boat users launch boats in this area?

What is your opinion on building a concrete ramp at Cable Bay?
- Do you think this would redirect boat users from Delaware to Cable Bay? Why/why not?

Do you think Delaware estuary should be closed to vehicle access or vehicle access should continue?
- If it were closed, what would the consequences be for you and for others?

Finding a solution *(What needs to happen? Who can help? How can we all work together?)*

Can you envisage a compromise between local iwi, local residents and recreational boat users? What would it look like?

How can everyone work together to make that happen?

Any further comments? Thank you very much.

Appendix 5. Interview Questions – Ngāti Tama ki Te Waipounamu Trust.

Ngāti Tama ki Te Waipounamu Trust / Te Huria Matenga Wakapuaka Trust
Names: _____
Date: _____

About Ngāti Tama

For practical purposes, are you able to speak for both Ngāti Tama ki Te Waipounamu Trust and Te Huria Matenga Wakapuaka Trust? Are their opinions the same?

Could you please share with us some of the early history of the area, particularly from the 1820s onwards when Ngāti Tama came here from Taranaki?

We understand that the Māori Land Court confirmed Ngāti Tama's title to the estuary in 1988 and 1998, but that this was appealed to the High Court and then the Court of Appeal:

- What is the current land title status regarding the Wakapuaka (Delaware) estuary?
- How has your ability to exercise your title been affected by the Foreshore and Seabed Act 2004?

Has the Treaty of Waitangi Settlement (Te Tau Ihu o te Waka a Maui, Wai 785) changed things, i.e. enabled Ngāti Tama to express te tino rangatiranga or fulfill kaitiaki responsibilities over the Wakapuaka and adjacent whenua and moana? How? Why/why not?

Exploring the issues *(What are we protecting?)*

Has the Wakapuaka Taiāpure (est. 2002) been effective in enhancing the ecological and cultural relationships that Ngāti Tama sought to protect?

Who owns the land on which the urupa is located? *[NB: The block containing the cemetery with Huria Matenga's grave was sold in the 1930s.]*
- Is current protection of the urupa sufficient? If not, how might that be improved?

Over time, have you noticed any changes in the estuary or in the way people are using it?
- If so, do these changes concern you? Why/why not?
- What do you think is being damaged or threatened by this activity?

How does Ngāti Tama and the Trust feel about people driving over the estuary?

Do Ngāti Tama members use Wakapuaka/Delaware estuary for boating purposes?
- Where do they tend to launch and load? (Show on map)
- How often do you/others use Wakapuaka/Delaware estuary for other purposes? Give examples.

Have you witnessed any boat users getting stuck coming back in or going out?
- How often do you hear about this happening?
- Where does this commonly occur? (Show on map)
- Have you had to assist in anyway? And if so, does this bother you?

Exploring solutions

What are your suggestions for improving where and how boat users launch boats in this area?

What is your opinion on building a concrete ramp at Cable Bay?

- Do you think this would redirect boat users from Wakapuaka/Delaware to Cable Bay? Why/why not?

Do you think Wakapuaka/Delaware Estuary should be closed to vehicle access or vehicle access should continue?

- If it were closed, what would the consequences be for Ngāti Tama and for others?

Finding a solution *(What needs to happen? Who can help? How can we all work together?)*

Can you envisage a solution that would be acceptable to all parties – Ngāti Tama, local residents and recreational boat users? What would it look like?

The widespread consultative process that Ngāti Tama undertook in preparation for the Wakapuaka Taiāpure was praised by the Tribunal. What lessons could you offer from that experience in terms of how all parties might come together to reach agreement/resolution with respect to the Wakapuaka estuary?

Any further comments? Kia ora and thank you very much.

Appendix 6. Average abundance of epifauna taxa, and % cover of vegetation, at the vegetated low shore (V) and unvegetated midshore (U) survey sites subject to low (L) and high (H) vehicle usage in Delaware Inlet. Each site has three replicates (n = 3).

Taxa name	Common name	HV1	HV2	HV3	LV1	LV2	LV3	HU	LU
Cominella glandiformis	Mudflat whelk		0.3		0.7	1.0	0.3	0.7	
Cominella maculosa	Spotted whelk					0.3			
Diloma surostrata	Mudflat topshell	0.3		2.7	2.0	8.7	1.0	1.3	1.0
Micrelenchus tenebrosus	Topshell	60.3	5.0	6.3	21.3	5.7	33.7		
Zeacumantus subcarinata	Small spire shell							0.3	
Zeacumantus lutulentus	Spire shell				0.7			1.0	
Notoacmea helmsi	Estuarine limpet	4.3		1.7	6.7	0.3	0.3	1.0	1.7
Lunella smaragdus	Cats eye		0.3	2.0		4.0	0.3		
Austrovenus stutchburyi	Cockle	12.3	2.0	0.3	17.3	4.3	7.0	1.7	2.7
Perna canaliculus	Green mussel						0.3		
Chiton glaucus	Chiton					0.7			
Patiriella regularis	Starfish					0.3			
Halicarcinus sp.	Pilbox crab					0.3			
Hemiplax hirtipes	Stalk eyed mud crab	0.7							
Sphaeromatidae	Isopod				0.3				
Austrominius modestus	Estuarine barnacle	0.3			0.3				
Tubeworm						5.3			
Anthopleura aureoradiata	Mudflat anemone	10.3			18.7		4.7		
	Total average epifauna abundance per core (± 1 SE)	88.7± 10.9	7.7± 2.4	13.0 ± 5.6	68.0 ± 5.0	31.0 ± 6.1	47.7 ± 13.7	6.0± 0.6	5.3 ± 1.5
	Total average no. epifauna taxa per core (± 1 SE)	5.0± 0.6	2.7± 0.3	3.7± 0.9	7.0± 0.6	6.7± 0.9	4.7± 1.5	4.0± 0.0	2.3± 0.3
Ulva (%cover)	Sea lettuce	0.3	0.7						
Gracilaria (%cover)	Agar weed							<0.7	
Zostera muelleri (%cover)	Seagrass	89.3	28.7	54.7	78.7	76.7	88.0		
Unidentified red algae (%cover)									< 0.3

Appendix 7. Abundance of infauna taxa at the vegetated low shore (V) and unvegetated midshore (U) survey sites subject to low (L) and high (H) vehicle usage in Delaware Inlet. Each site has three replicates (n=3).

Taxa name	Common Name	HV1	HV2	HV3	LV1	LV2	LV3	HU	LU
Anthopleura aureoradiata	Mud flat anemone	9.7			1.3		2.3		0.3
Edwardsia sp.	Burrowing anemone					0.3			
Nemertea	Proboscis worms	1.3		1.0		1.7	0.3	1.0	0.3
Nematoda	Roundworm			1.0	0.3	0.7	1.7		
Chiton glaucus	Green chiton		0.3	0.3					
Lunella smaragdus	Cats eye			1.0		1.3	0.3		
Cominella glandiformis	Mud flat whelk	1.3	0.3	1.3	1.0	0.7	2.0	0.7	0.7
Diloma subrostrata			0.3	1.0	0.7	2.0	0.3		1.0
Micrelenchus huttoni	Small top shell	4.7	0.7	0.7	8.0	0.7	11.3		
Notoacmea sp.	Limpet	1.3	4.7	1.7	1.3	1.7	1.0		0.7
Zeacumantus lutulentus	Spireshell								0.7
Haminoea zelandiae	Bubble shell	0.3							
Bivalvia			0.3	0.7					
Nuculidae				0.3					
Arthritica bifurca	Small bivalve	21.3			15.7	0.3	35.3	0.3	6.0
Austrovenus stutchburyi	Cockle	23.0	15.3	13.3	7.3	14.0	23.3	22.0	59.3
Lasaea parengaensis									0.3
Linucula hartvigiana	Nut shell	1.0	0.3	3.7	1.3	1.3	1.7		0.3
Macomona liliana	Wedge shell/ Hanikura	3.3	1.3	4.0	3.7	0.7	9.0		0.7
Musculus impactus				0.3					
Paphies australis	Pipi		1.0						
Soletellina sp.	Golden sunset shell	1.3	1.3				0.3		0.3
Oligochaeta	Oligochaete worms			1.0		4.7	0.7		
Polydorid		0.3		2.0		12.7			
Lagis australis			0.3						
Orbinia papillosa							0.3		
Scoloplos sp.				0.3					
Paraonidae		1.0		5.3	2.3	4.3	1.3		
Aonides sp.		0.3		0.3		8.3			
Prionospio aucklandica		32.3	7.7	64.7	28.7	69.3	22.7	2.7	1.0
Prionospio sp.		0.3	1.3	5.3	2.3	5.7	0.3	3.3	
Capitellidae		7.3	1.3	37.7	4.0	24.3	16.0	0.3	0.3
Barantolla lepte			3.3	7.0		25.7			
Capitella capitata		1.0	5.0	13.0	0.7	4.7	1.3		0.3

Taxa name	Common Name	HV1	HV2	HV3	LV1	LV2	LV3	HU	LU
Heteromastus filiformis			0.3	10.3		1.7			
Maldanidae	Bamboo worm							0.3	
Armandia maculata						2.0			
Scalibregmatidae	Polychaete worm	11.7		0.3	2.3		12.0		
Polynoidae	Scale worms			0.3					
Exogoninae					14.3	0.3	6.0		0.3
Para-syllid			1.3						
Nereididae				0.3		0.3	0.7		
Perinereis sp.		0.3				0.3			
Glyceridae		1.7	2.0	1.3	1.3	7.7	0.7		
Dorvilleidae						1.0			
Owenia petersenae	Polychaete worm	0.7	4.3	16.3	0.3	38.3	0.3		
Acrocirridae				0.3		0.3	0.3		
Spirobranchus cariniferus	Fan worm			0.3					
Cirolanidae		0.3							
Isocladus sp.	Isopod						0.3		
Corophiidae	Amphipod (family)				0.3				
Lysianassidae	Amphipods					0.7			
Phoxocephalidae	Amphipod (family)	0.7	13.3	6.3		7.0	1.7	0.3	
Amphipoda	Amphipods					1.3			0.3
Austrohelice crassa	Tunnelling mud crab	0.3	0.3	0.3		1.0			
Halicarcinus sp.	Pill-box crab					0.7			0.3
Halicarcinus whitei	Pill-box crab	3.0		0.7	1.0		1.7	0.3	1.0
Hemigrapsus crenulatus	Hairy-handed crab; mud crab	0.3				0.3	0.3		
Hemiplax hirtipes	Stalk-eyed mud crab				0.3				0.3
Brachyura				0.3			0.7		0.7
Ostracoda	Ostracod	0.7	0.3	1.7	0.3	3.3	1.0		
Copepoda	Copepods						0.3		
Elminius modestus	Estuarine barnacle		0.7						1.3
Diptera									0.3
Phoronida	Horseshoe worm			0.3					
Asteroidea	Sea stars			0.3		0.3			
Patiriella regularis	Cushion star					1.7			
	Total average infauna abundance per core (± 1 SE)	131.0 ± 9.8	67.7 ± 6.3	206.7 ± 92.9	99.0 ± 32.0	253.3 ± 50.0	157.7 ± 25.6	31.3 ± 5.7	77.0 ± 10.0
	Total average no. infauna taxa per core (± 1 SE)	18.0 ± 0.6	15.3 ± 1.9	23.0 ± 2.1	15.7 ± 0.9	24.0 ± 4.5	22.0 ± 1.5	6.0 ± 1.0	10.0 ± 1.5

Appendix 8. One-way SIMPER analysis of infauna communities at the vegetated low shore (V) and unvegetated midshore (U) survey sites subject to low (L) and high (H) vehicle usage in Delaware Inlet.

Vegetated (low shore) sites

Low vehicle usage

Average similarity: 49.24

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
Prionospio aucklandica	5.88	9.26	2.52	18.80	18.80
Austrovenus stutchburyi	3.68	6.50	4.36	13.19	32.00
Capitellidae (other)	3.27	4.43	1.36	9.01	41.01
Arthritica bifurca	3.29	4.03	0.82	8.18	49.19
Micrelenchus huttoni	2.17	3.06	0.96	6.22	55.41
Macomona liliana	1.73	2.27	0.87	4.61	60.02
Paraonidae	1.47	2.20	1.55	4.47	64.49
Exogoninae	1.92	2.08	1.02	4.23	68.72
Linucula hartvigiana	1.03	1.46	1.07	2.97	71.69

High vehicle usage

Average similarity: 45.20

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
Prionospio aucklandica	5.20	8.72	2.46	19.30	19.30
Austrovenus stutchburyi	3.76	7.04	1.45	15.58	34.88
Capitella capitata	2.15	3.45	1.26	7.63	42.51
Glyceridae	1.27	2.89	4.04	6.40	48.92
Owenia petersenae	2.10	2.82	1.08	6.23	55.15
Phoxocephalidae	2.02	2.58	0.72	5.71	60.85
Macomona liliana	1.45	2.38	1.12	5.28	66.13
Notoacmea sp.	1.32	1.99	1.11	4.39	70.52

Unvegetated (midshore) sites

Low vehicle usage

Average similarity: 51.33

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
Austrovenus stutchburyi	7.64	35.43	10.99	69.02	69.02
Arthritica bifurca	2.41	10.73	9.50	20.91	89.93

High vehicle usage

Average similarity: 68.97

Species	Av.Abund	Av.Sim	Sim/SD	Contrib%	Cum.%
Austrovenus stutchburyi	4.64	36.89	8.63	53.48	53.48
Prionospio sp.	1.75	11.89	2.66	17.24	70.72

'JB05'

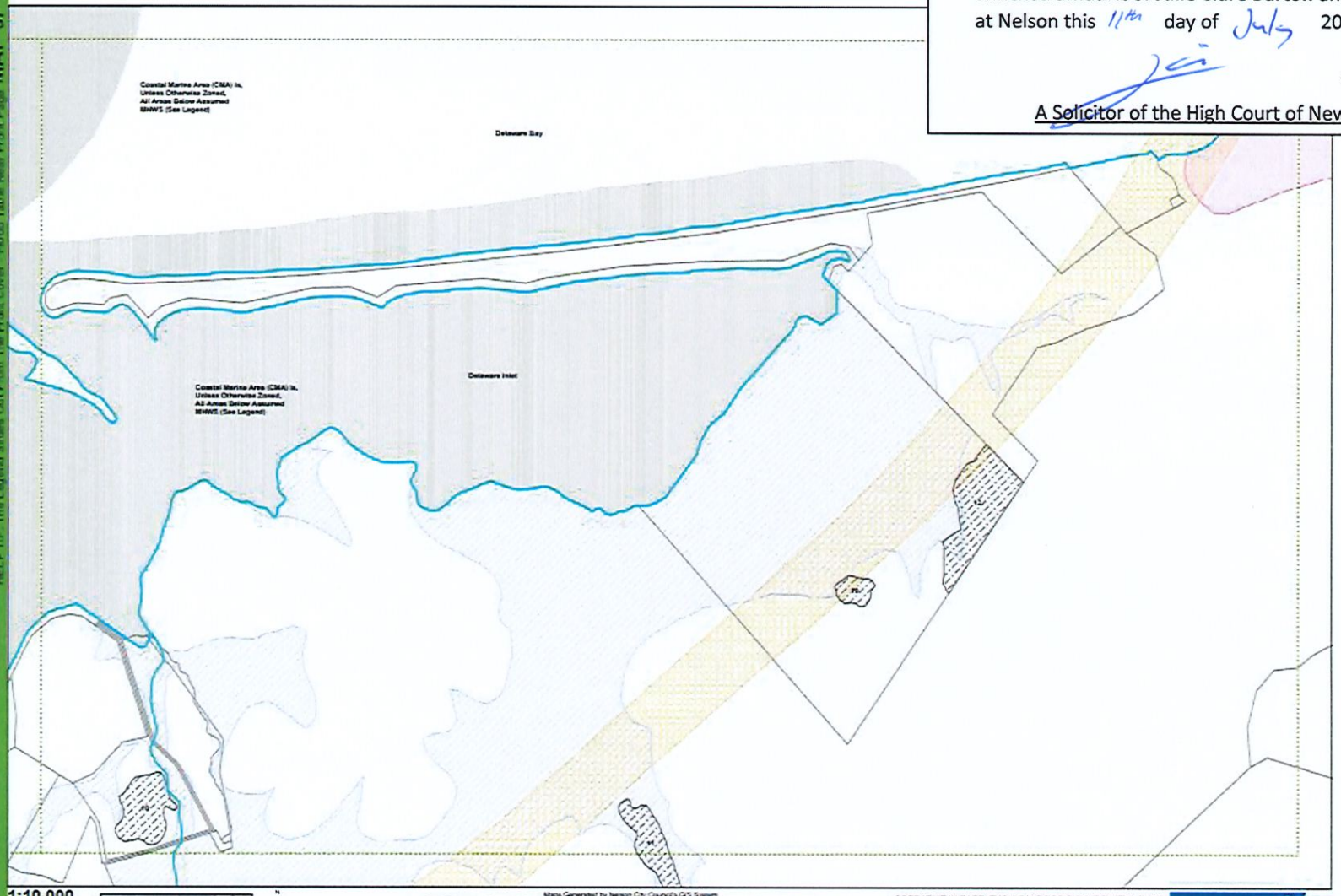
This is the document marked **'JB05'** referred to in the annexed affidavit of **Julie Clare Barton** affirmed at Nelson this 11th day of July 2022 before me:

Jamie Bryan
Solicitor
Nelson

A Solicitor of the High Court of New Zealand

"JB05"

HELP TIP: The Legend Slides Out From The Front Cover - Flood Table Near Front Page **MAP 37**



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MAP 37

OPERATIVE IN PART (EXCLUDING REGIONAL COASTAL PLAN)
1 SEPTEMBER 2004

NELSON CITY COUNCIL

NELSON RESOURCE MANAGEMENT PLAN

LEGEND: LEFT HAND MAPS

PLANNING MAPS LEGEND (LEFT HAND MAPS ONLY)

NOTE 1: Flood Paths not defined on the Planning Maps are shown in a table in the front page of the Planning Maps.

OVERLAYS

- Services Overlay
- Land Management Overlay
- Proposed Road (Indicative Alignment Only)
- Road To Be Stopped
- Potential Quarry Overlay
- Launching Ramps
- Riparian Overlay (See App6 and Zone Chapters)
- Port Nelson Ltd Coastal Permit

AIRPORT EFFECTS OVERLAYS
See Map A4.1for Extent of Overlays

- Outer Limit of Airport Effects Advisory Overlay
- Outer Limit of Airport Effects Control Overlay
- Airport Effects Limit Overlay
- Airport Effects Advisory Overlay
- Airport Effects Control Overlay

PORT EFFECTS OVERLAY

- Port Effects Control Overlay

ELECTRICAL TRANSMISSION LINES (ETL)

- 33kV ETL
- 66kV ETL
- 110kV ETL
- 220kV ETL

OVERLAYS
AREAS OF SIGNIFICANT CONSERVATION VALUE (ASCV)

- Conservation Overlay
- Marine ASCV

NATURAL HAZARD OVERLAYS

- Fault Hazard Overlay

SLOPE RISK OVERLAYS (S.R.O.)

- Grampians S.R.O.
- Tahunanui Slump Core S.R.O.
- Tahunanui Slump Fringe S.R.O.

FLOOD HAZARD OVERLAYS

- Floodpath Overlay (Also See Note 1, Flood Path Table)
- Flood Overlay
- Inundation Overlay

HERITAGE OVERLAYS

- Heritage Building, Object, Place
- Heritage and Landscape Trees
- Heritage and Landscape Woodland
- Heritage Precincts
- Wakefield Quay Precinct

DESIGNATIONS

- Designation Area

SYMBOLS

- Public Car Parking Square and Places
- Nelson City Boundary
- Bridge Location - (No Rules Apply)

MAP EXTENT SYMBOLS

1:2,500 | 1:5,000 | 1:10,000 | 1:25,000 — Map Limit Outlines

'JB06'

This is the document marked 'JB06' referred to in the annexed affidavit of **Julie Clare Barton** affirmed at Nelson this 11th day of July 2022 before me:

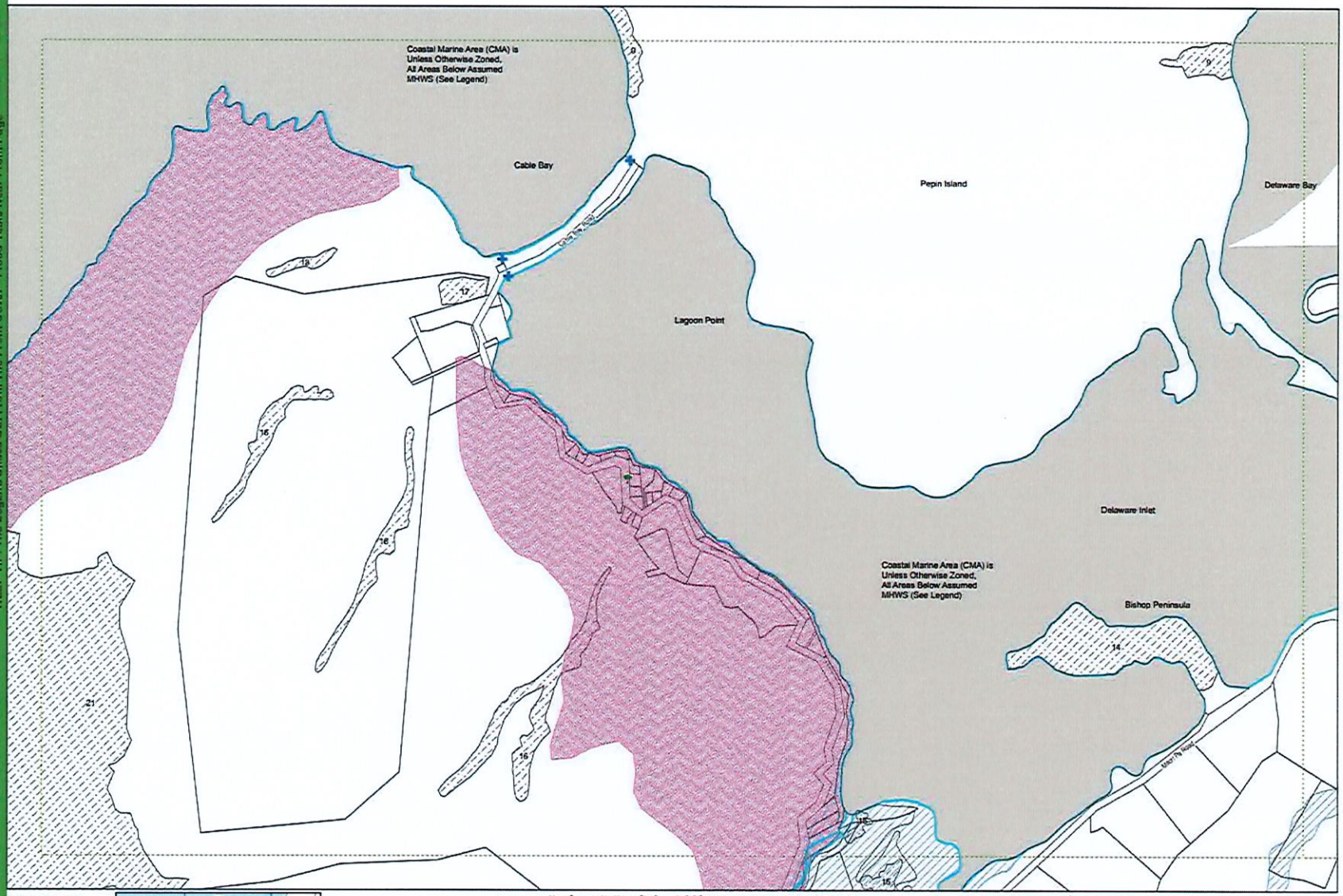
A Solicitor of the High Court of New Zealand

Jamie Bryan O'Meagher
Solicitor
Nelson

"JB06"

MAP 36

HELP TIP - The Legend Slides Out From The Front Cover - Flood Table Near Front Page



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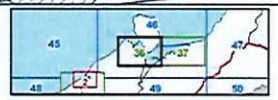
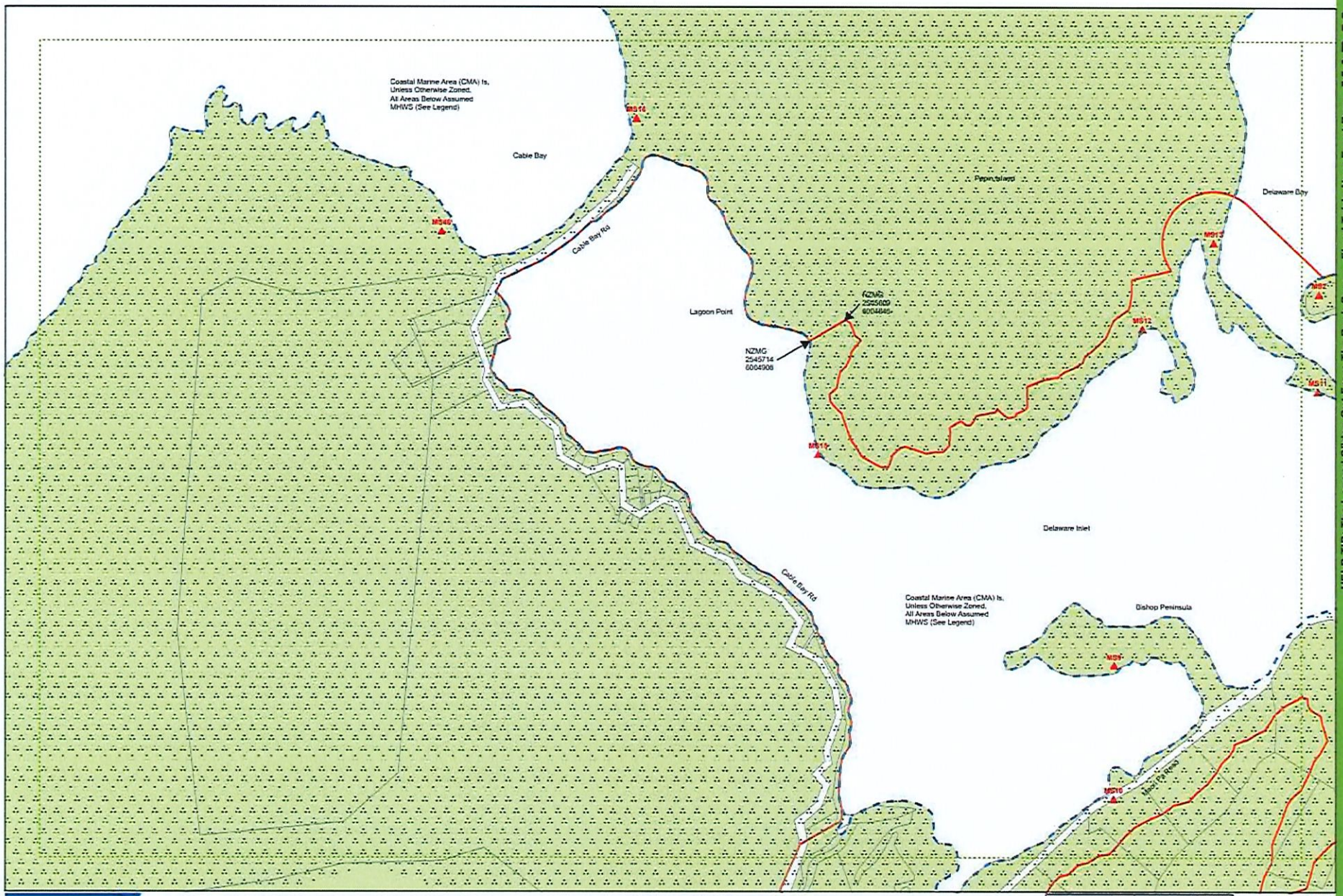
MAP 36



31 OCTOBER 2013

Nelson City Council
te kaunihera o whakatū
PO Box 645 Nelson 7040 New Zealand
PH 03 5460200 FAX 03 5460239
www.nelsoncitycouncil.co.nz

NELSON RESOURCE MANAGEMENT PLAN



HELP TIP: The Legend Slides Out From The Back Cover - Flood Table Near Front Page **MAP 36**

OPERATIVE IN PART (EXCLUDING REGIONAL COASTAL PLAN)
1 SEPTEMBER 2004

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MAP 36

NELSON RESOURCE MANAGEMENT PLAN

PLANNING MAPS LEGEND
(RIGHT HAND MAPS ONLY)

NOTE 1: Zones are Represented on Right Hand Facing Sheet Only.
NOTE 2: Mean High Water Springs (MHWS) as shown on these Planning Maps are indictative only. Where rules in this Plan require MHWS to be located, This must be done by survey.

CAPITALS = ZONE

Lower Case = Areas Within Zone

ZONES

- RESIDENTIAL
  - Higher Density
  - Lower Density Area
  - Lower Density Area (Stoke)
- RURAL
  - Higher Density Small Holdings Area
  - Lower Density Small Holdings Area
- CONSERVATION
- INNER CITY-FRINGE
  - Intense Development Area
- INNER CITY -CENTRE
- SUBURBAN COMMERCIAL
  - Leisure Area
- INDUSTRIAL
  - Nayland Road South Industrial Area
- OPEN SPACE RECREATION

OVERLAYS

- Coastal Environment Overlay
- Landscape Overlay
- Scheduled Site (SEE Chapter 3 and Zone Chapters)
- View Shaft Overlay
- Scheduled Streets

HERITAGE OVERLAYS

- Archaeological Sites
- Archaeological Overlay

SYMBOLS

- Public Car Parking Squares and Places
- Assumed MHWS and Landward Boundary of the CMA (SEE Note 2)
- Nelson City Boundary
- Bridge Location - (No Rules Apply)

MAP EXTENT SYMBOLS

1:2,500 | 1:5,000 | 1:10,000 | 1:25,000 — Map Limit Outlines

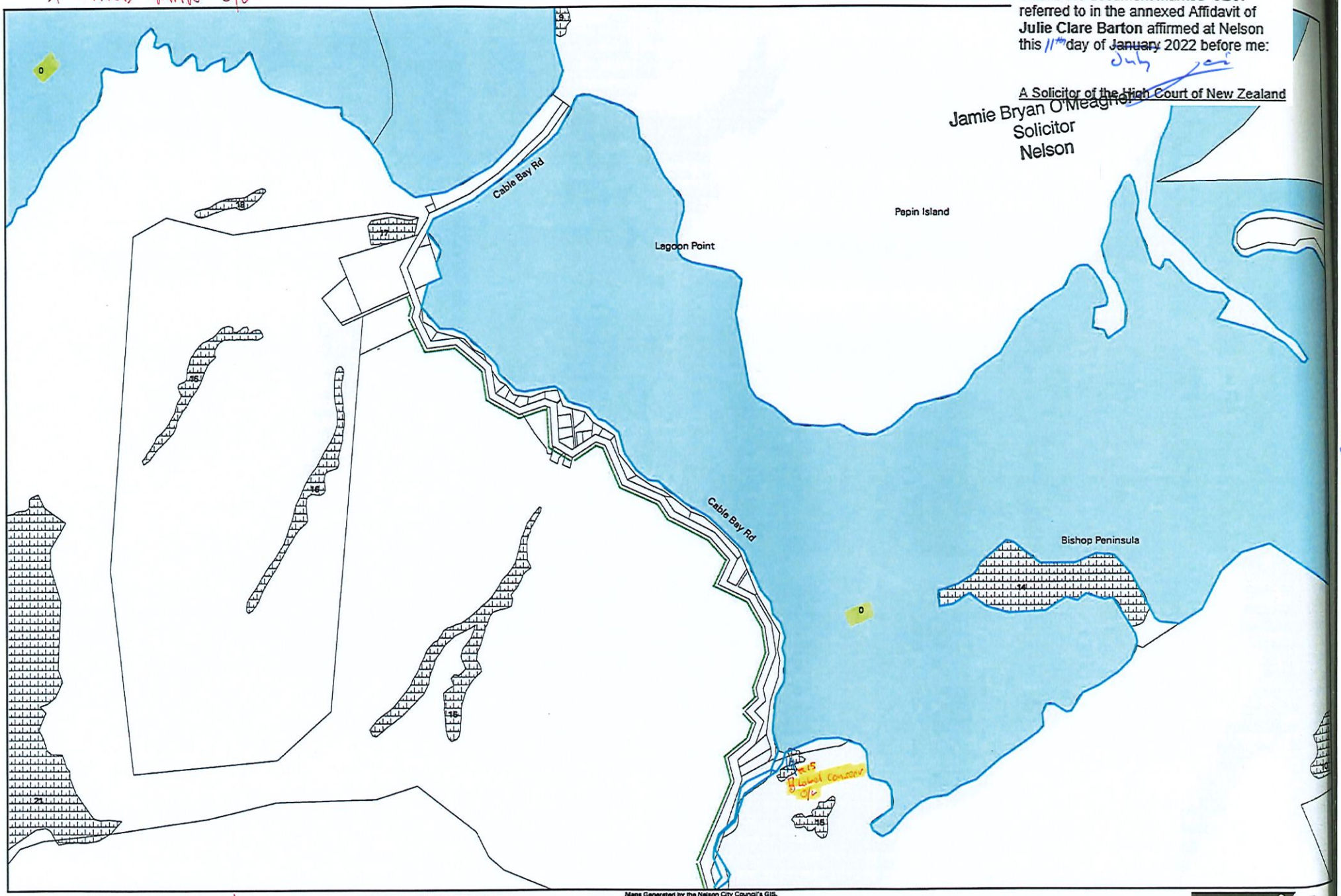
LEGEND: RIGHT HAND MAPS

X LAND MAIN O/L

This is the document marked "JB07" referred to in the annexed Affidavit of **Julie Clare Barton** affirmed at Nelson this 11th day of ~~January~~ July 2022 before me:

A Solicitor of the ~~High~~ Court of New Zealand

Jamie Bryan O'Meagher
Solicitor
Nelson



Maps Generated by the Nelson City Council's GIS.

1:10000
MAP 32
20-JUL-1998

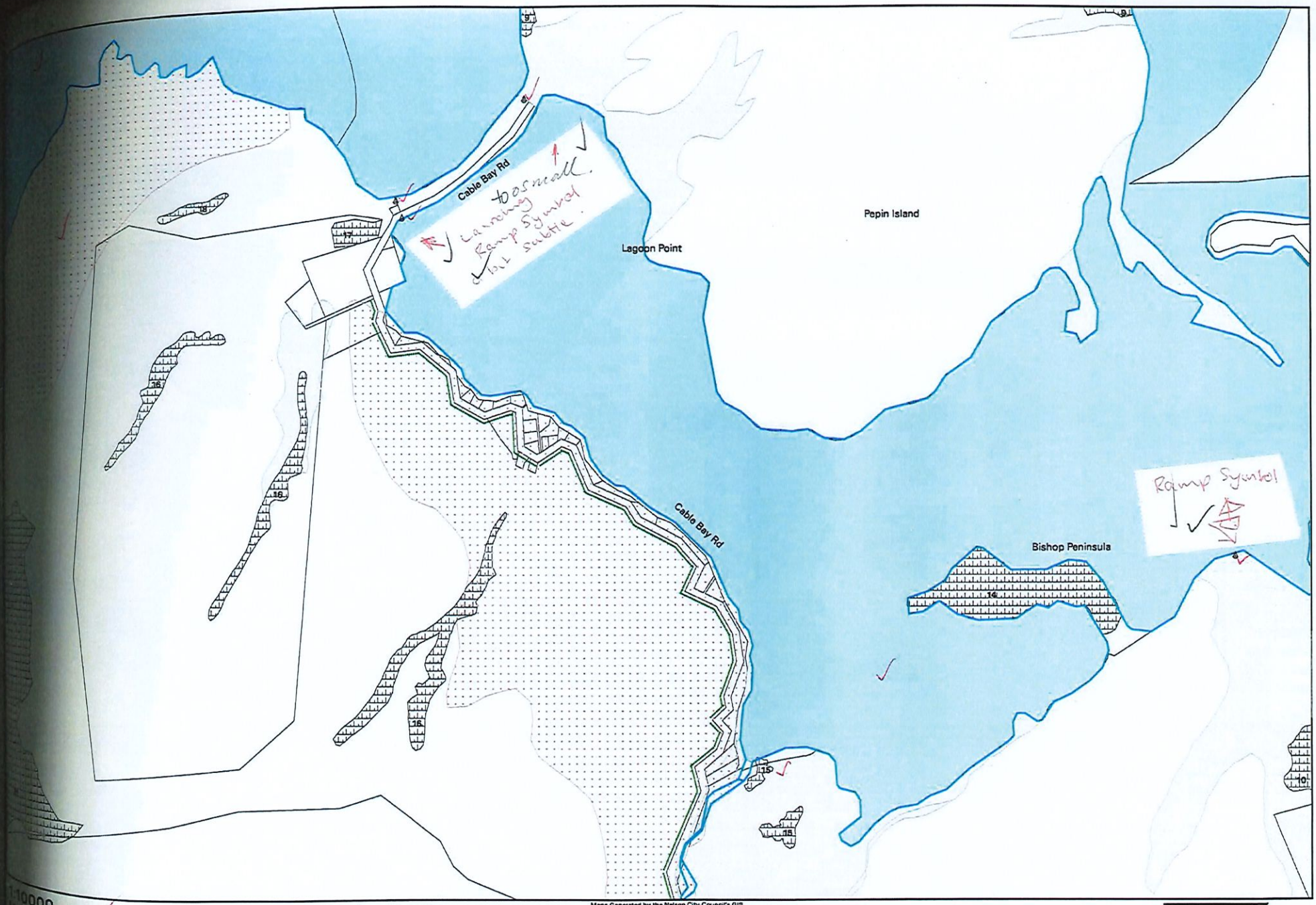
35 32 33
38

For Map Legend and Table of Additional Floodpaths Refer to Last Page

Proposed
NELSON RESOURCE MANAGEMENT PLAN

NELSON CITY COUNCIL

"JB07"



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MAP 32
JUNE-1998

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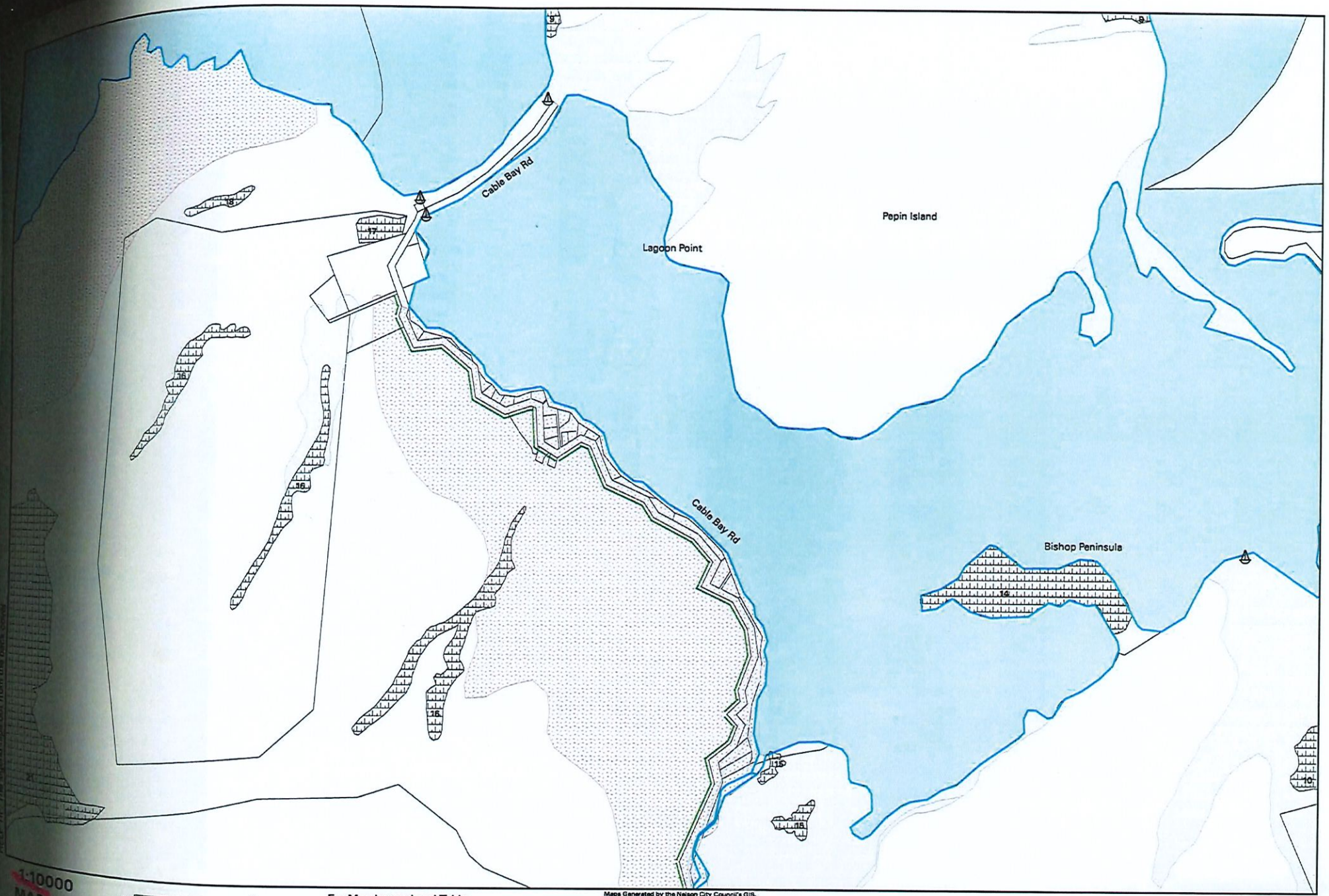
For Map Legend and Table of Additional Floodpaths Refer to Last Page

Maps Generated by the Nelson City Council's GIS.

Proposed
NELSON RESOURCE MANAGEMENT PLAN

NELSON CITY COUNCIL



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MAP 32
22-AUG-1998

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For Map Legend and Table of Additional Floodpaths Refer to Last Page

Maps Generated by the Nelson City Council's GIS.

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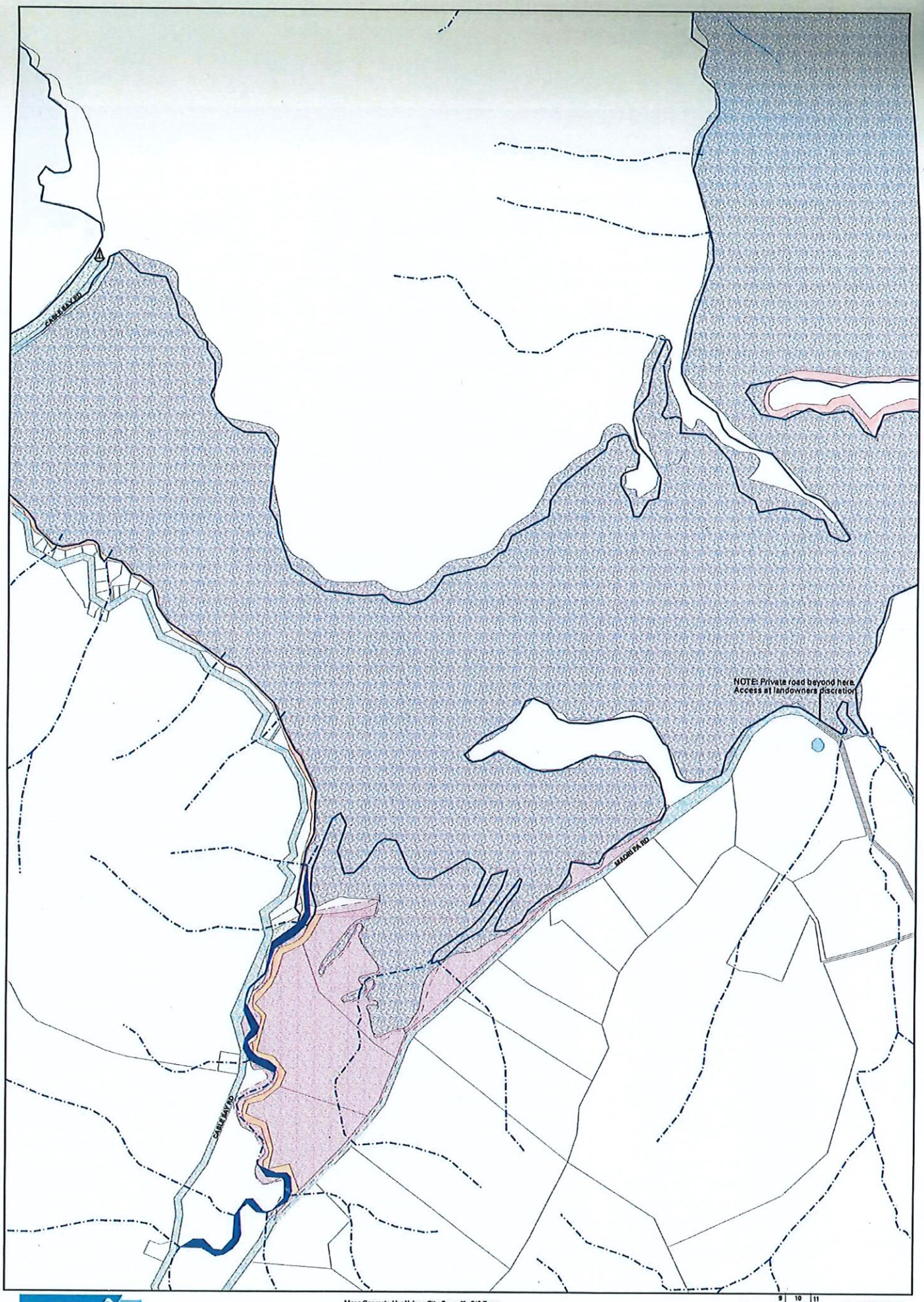
Proposed
NELSON RESOURCE MANAGEMENT PLAN

NELSON CITY COUNCIL



NELSON CITY COUNCIL

PUBLIC ACCESS TO RIVERS, COAST & LAKES

9	10	11
18	19	20
	29	

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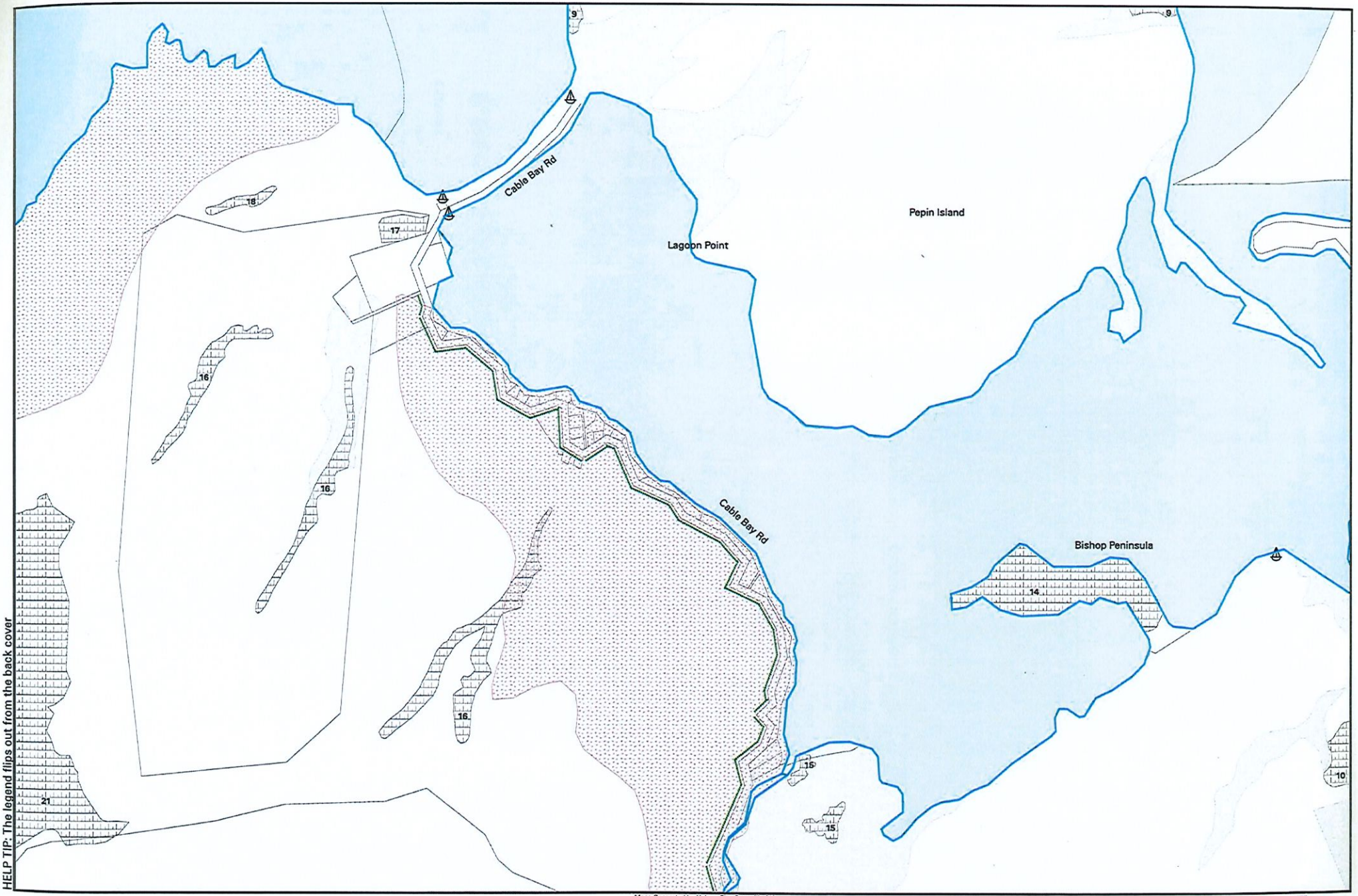
MAP 19
13 Mar 01



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MAP 32
Dec-1998

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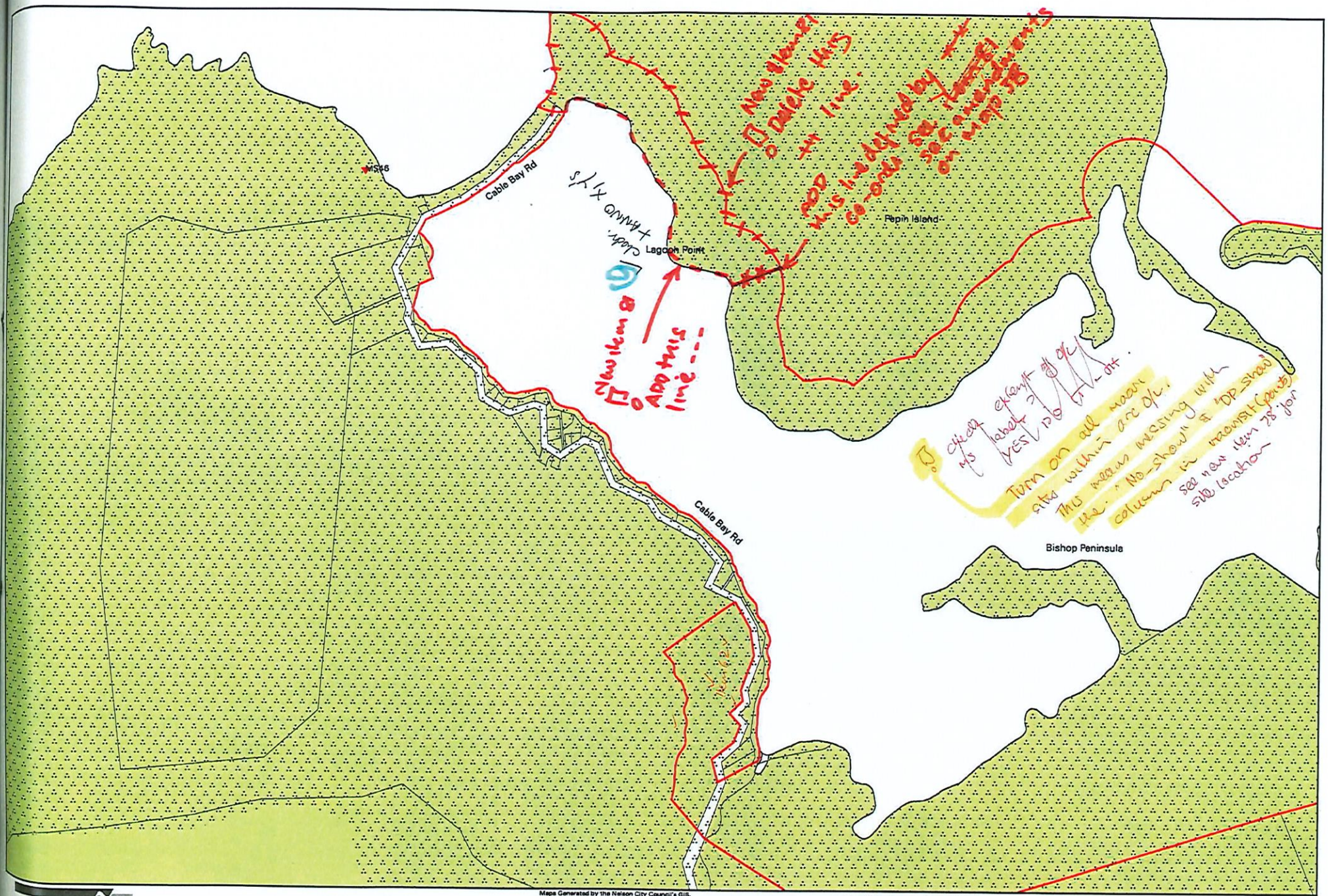
For Map Legend and Table of Additional Floodpaths Refer to Last Page

Maps Generated by Nelson City Council's GIS.

Proposed - Revised December 1998

NELSON RESOURCE MANAGEMENT PLAN



Proposed

NELSON RESOURCE MANAGEMENT PLAN

For Map Legend and Table of Additional Floodpaths Refer to Last Page

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8

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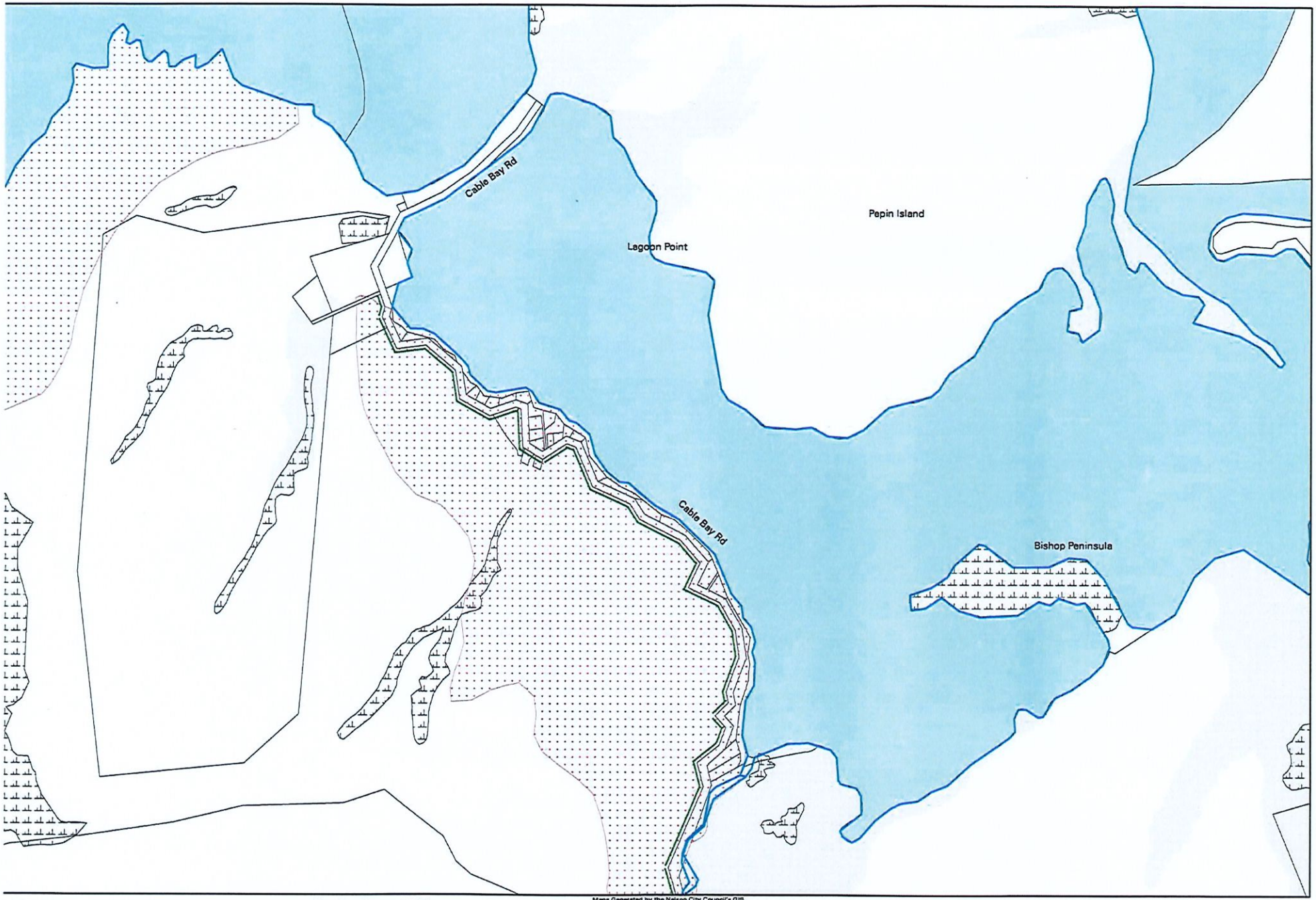
MAP 32
22-JUL-1998



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AP 32
t-1996

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32
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For Map Key and Table
of Additional Floodpaths
Refer to Last Page

Maps Generated by the Nelson City Council's GIS.

Proposed
NELSON RESOURCE MANAGEMENT PLAN

"JB08"

This is the document marked "JB08" referred to in the annexed Affidavit of Julie Clare Barton affirmed at Nelson this 11th day of January 2022 before me:

A Solicitor of the High Court of New Zealand

Jamie Bryan O'Meagher
Solicitor
Nelson

13 coastal marine area

CMd Description

CMd1 Introduction

CMd1.i The Coastal Marine Area is the area of coastal water, stretching 52km in length from the eastern Waimea Inlet to Cape Soucis, generally being the area from mean high water springs out to the 12 mile limit of the territorial sea. The boundaries are shown on the Planning Maps. Within this area, there is a diverse range of land forms and habitats, including estuaries, sandy beaches, boulder banks, spits, sand dunes, salt marshes, sea cliffs, coastal wetlands, and coastal vegetation. There are also many resources significant to Nelson, including recreation areas, cultural sites, coastal fisheries, and estuarine and coastal habitats.

CMd1.ii The coastal environment includes the Coastal Marine Area, as well as areas of land above mean high water springs. The land portion of the coastal environment is not dealt with in this Chapter, but as an overlay on the relevant zones. The objectives and policies regarding the Coastal Environment Overlay are in Chapter 5. The rules relevant to the overlay are integrated into the various zone rules. The Plan should always be considered as a whole.

CMd1.iii The objectives and policies in this Chapter apply to the Coastal Marine Area and they are to be taken into account in regard to activities in the coastal environment that affect the Coastal Marine Area. The rules in this Chapter regulate activities in the Coastal Marine Area only.

CMd1.iv The coastal environment is valued by Nelsonians and visitors alike for its diversity, beauty, productivity, recreational opportunities, cultural, and spiritual associations. For descriptive purposes, Nelson's coastal environment can be divided into five units - primarily on the basis of geomorphological and ecological considerations:

CMd1.1 Eastern Waimea Inlet and Tahunanui Beach

CMd1.1.i The Waimea Inlet (3,455ha) is the largest enclosed estuary in the South Island, providing sheltered inter-tidal habitat for a diverse range of plant, invertebrate fish and bird life. Nelson Haven is of national significance for wildlife conservation. The Inlet is used for a range of recreational activities including boating, fishing, swimming, water skiing, duck shooting and walking. The margins of the Inlet have been modified by drainage and reclamation.

CMd1.1.ii Tahunanui Beach, at the mouth of the Inlet, is Nelson's main bathing beach.

CMd1.1.iii Approximately one third of Waimea Inlet is within Nelson District. The southern and western portions of the Inlet are administered by the Tasman District Council.

CMd1.2 Nelson Haven

CMd1.2.i The Nelson Haven is a large (1600ha) estuarine area also providing habitat for a diverse range of plant and animal life. The Maitai River discharges into the Haven and is estuarine in its lower reaches. Nelson Haven is of national significance for wildlife conservation. The margins of the Haven are highly modified as a result of drainage and reclamation to create farmland (at the head of the Haven), roadways, industrial land and Port land.

CMd1.2.ii The Haven possesses high recreational, scenic and amenity values.

CMd1.3 Outer Boulder Bank - Pepin Island

CMd1.3.i An approximately 20km length of exposed rocky shore habitat with intertidal and benthic communities quite different from those which occur in the sheltered estuarine environments of Nelson Haven and the Waimea Inlet and is an internationally significant landform. The Boulder Bank is a distinctive geomorphic feature created by longshore drift of boulders southwards from McKay's Bluff. It is a natural barrier creating the harbour within Nelson Haven.

CMd1.3.ii Some important coastal forest remnants occur at Drumduan, north of the Glen.

CMd1.3.iii The Cable Bay area is popular for recreational pursuits such as diving, fishing and walking.

CMd1.4 Delaware Inlet

CMd1.4.i Delaware Inlet is a relatively unmodified inlet at the mouth of the Wakapuaka River, some 15km north of Nelson City. It provides a sheltered estuarine habitat for a wide range of species, including some rare or endangered bird species. The inlet is of national significance for nature conservation and estuarine values. A large number of archaeological sites exist around the margins of the Inlet. The Inlet is of high value to Maori for spiritual reasons and as a traditional food gathering area. Some significant forest remnants occur in the Wakapuaka River Valley. The area is sensitive to change due to its relatively unmodified state.

CMd1.5 Whangamoa Coast

CMd1.5.i This section of coastline, stretching approximately 16 km from Delaware Inlet to Cape Soucis, is dominated by impressive coastal cliffs falling to rock and boulder strewn shores and wave-cut reef platforms. The adjoining coastal waters are deep and the coastline exposed to the prevailing northerly storms. The Whangamoa Inlet is a small estuarine area with high natural values. It is of national significance for nature conservation and estuarine values. It is a wild and scenic part of the coastal environment, with limited public access and is rarely visited. The area is highly vulnerable to change.

CMd2 Areas of significant conservation value

CMd2.i This Plan recognises, within the coastal environment, a number of areas of significant conservation value within which protection of specified values will be given priority over use and development. Objectives and policies for these are contained in Chapter 5. These areas are shown in the Marine Areas of Significant Conservation Value on the Planning Maps, with additional detail being provided on locations and values in Appendix 4.

CMd3 New Zealand coastal policy statement

CMd3.i The first New Zealand Coastal Policy Statement was prepared by the Minister of Conservation and gazetted in 1994, and a new Coastal Policy Statement took effect from December 2010. Its purpose is to state policies in order to achieve the purpose of the Resource Management Act in relation to the coastal environment of New Zealand. This Plan must give effect to the New Zealand Coastal Policy Statement. This Plan adopts some of the New Zealand Coastal Policy Statement policies directly and states rules and other methods to implement them. Other New Zealand Coastal Policy Statement policies will be implemented by taking them into consideration when resource consent applications are processed. The restricted coastal activities identified in the First Schedule of the New Zealand Coastal Policy Statement 1994 are no longer required by the Minister of Conservation and have been removed from this Plan in accordance with Policy 29 of the New Zealand Coastal Policy Statement 2010.

CMd4 Port Industrial Area

CMd4.i The Port Operator, Port Nelson Ltd, has a coastal permit to exclusively occupy the Coastal Marine Area beneath the wharves and adjacent to the wharves. The permit applies to an area extending a distance of 60m out from the Main Wharf, Brunt Quay, McGlashen Quay and Kingsford Quay. Around the rest of the port reclamation and the north-western margin of the Maitai reclamation, the permit applies to an area extending 30m out from the shoreline. The permit also confers occupancy rights to an area of 10m radius around each of the navigation aids sited in the Coastal Marine Area in the vicinity of the Port. The permit is issued by the Minister of Transport under section 384A of the Resource Management Act, and is valid until the year 2026. The effect of the permit is to enable Port Nelson Ltd to manage and operate the Port-related undertakings that it acquired under the Port Companies Act 1988. Port Nelson Ltd also possesses a waterway lease over navigation channels and approaches to the Port, valid until 2010. The lease gives the Company the right to manage surface water activities in the area, in terms of its commercial operations. The area of the lease includes the area covered by the coastal occupancy permit.

CMd4.ii The Port Operator's rights over the areas referred to above are exercised subject to the requirements of the Resource Management Act 1991 and subject to the direction and control of the Harbourmaster with respect to the control of navigation and safety under the Harbours Act 1950 and any regulations or bylaws made under that Act. The Harbourmaster is a contracted employee of the Nelson City Council.

CMd4.iii The Port Operator annually reviews a Port Development Plan which covers the operation and development of the commercial port area including the area of the Coastal Marine Area over which the Port Operator holds an occupancy permit. All areas of land and water used for recreational purposes are excluded. In addition, the Port Operator has prepared a Port Environmental Management Plan in consultation with interested parties. This Plan covers issues such as odour, traffic generation, dust and contaminated discharges. Noise is dealt with separately by the preparation of a Port Noise Management Plan and a Port Noise Mitigation Plan.

Chapter 5 DO12 contains specific objectives and policies for the Port Industrial Area.

CMd5 Fisheries management

CMd5.i The waters within Nelson's Coastal Marine Area support highly valued commercial, recreational and traditional fisheries.

CMd5.ii Responsibility for the management of all fisheries resources, including their conservation, use, enhancement and development, lies with the Minister and Ministry of Fisheries under the Fisheries Act 1983 and the Fisheries Act 1996.

CMd5.iii This Plan does not contain any rules governing fishing, because of limitations in the Resource Management Act. The Council cannot control harvesting or enhancement of fish populations (or any other aquatic life) where the purpose of that control is to conserve, enhance, protect, allocate or manage any fishery controlled by the Fisheries Act 1996 and/or Fisheries Act 1983.

CMd5.iv Notwithstanding the above, Council has a number of functions and responsibilities under the Resource Management Act which relate directly or indirectly to the maintenance of fisheries or to fisheries management issues. These include the overall responsibility to promote sustainable management of the District's natural resources, the allocation of coastal space (involving among other things, the avoidance of conflict between fishing and other activities), the management of coastal water quality, habitat protection (including the protection of nursery and spawning areas, see New Zealand Coastal Policy Statement) and provision for the relationship between Maori and their traditional resources.

CMd5.v It is important that there is close liaison between the Nelson City Council and the Ministry of Fisheries on fisheries management issues which relate to the responsibilities of both agencies. Issues include ensuring the protection of significant conservation values (as identified in the Marine Areas of Significant Conservation Value in the Planning Maps) from any adverse effects of fish harvesting.

CMd5.vi Council will establish and maintain appropriate lines of communication with the Ministry of Fisheries, fishing industry representatives, iwi, and other parties having an interest in fisheries management issues. More generally, Council will adopt the role of advocate for:

a) sustainable management of harvested species, and
b) allocation of the available resources in a manner which satisfies the economic, recreation and cultural needs of the community.

CMd6 Aquaculture

CMd6.i Aquaculture means any:

a) physical modification or disturbance of the foreshore or seabed, or
b) placement of any structure in, on, or over foreshore or seabed, or in the water column, or
c) occupation of foreshore, seabed, water column, or water surface, or
d) introduction or planting of any exotic plant for any of the purposes of enhancement, breeding, hatching, cultivating, rearing, or on-growing of fish, shellfish, aquatic life or seaweed for harvest; whether any such purpose includes marine farming or the taking or holding of spat, or is investigative, experimental, or commercial in nature, but excludes any scallop enhancement programme being carried out pursuant to the Fisheries Act 1996.

CMd6.ii Most aquaculture involves the use of surface structures of some sort. There is, consequently, potential for conflict between aquaculture and other coastal activities including navigation, recreation and fishing activities.

CMd6.iii Aquaculture is subject to control under the provisions of the Resource Management Act 1991, the Fisheries Act 1996 and/or the Fisheries Act 1983 and, in this regard, the responsibilities of Council and those of the Ministry of Fisheries are defined in the legislation.

CMd6.iv Prospective aquaculturalists require a coastal permit under the Resource Management Act if a proposal involves one or more of the activities listed in the following table, unless the activity is expressly allowed by a rule in a regional coastal plan.

Aquaculture - Constituent Activity	Potential Effects
Occupation of space (foreshore/seabed/ water column/water surface)	Public access and recreational uses, cultural values
Placement of structures	Navigation, visual/landscape amenity values, sediment movement/ecological effects
Disturbance of seabed	Sediment movement /ecological
Disturbance of contaminants	Water quality, ecological, cultural values
Deposition of substances on seabed	Ecological, cultural values
Reclamation	Ecological, public access and use, cultural values
Introduction of exotic species to Coastal Marine Area	Ecological, cultural
Maintenance activities	Ecological

CMd6.v Council is responsible under the Resource Management Act 1991 for assessment and control of the environmental effects of placing structures in the water and their use for aquaculture (other than their effects on fishing and sustainability of fisheries resources which are matters controlled by the Fisheries Act 1996 and/or Fisheries Act 1983).

CMd6.vi Under the Fisheries Act, the Ministry of Fisheries is responsible for the issuing of permits for aquaculture facilities. The Ministry's primary concern, in processing permit applications, is the likely impact on other aquaculture facilities or fishing activities. Section 67J (8) of the Fisheries Act 1996 requires that an aquaculture permit not be issued unless the Director General is satisfied that the application would not have an undue adverse effect on the sustainability of any fisheries resource.

CMd6.vii The respective roles of the Ministry under fisheries legislation and the role of Council under the Resource Management Act 1991 are further explained by reference to Section 6 of the Fisheries Act 1996, which states:

(1) No provision in any regional plan or coastal permit is enforceable to the extent that it provides for:

a) the allocation to one or more fishing sectors in preference to any other fishing sector of access to any fisheries resources in the coastal marine area; or

b) the conferral on any fisher of a right to occupy any land in the coastal marine area or any related part of the coastal marine area, if the right to occupy would exclude any other fisher from fishing in any part of the coastal marine area.

(2) Subsection (1) of this section does not prevent any regional plan or coastal permit authorising the erection in the coastal marine area of any fish farm structure or other structure.

CMd6.viii The Council may, under Section 122(5) of the Resource Management Act 1991, exclude fishers from areas allocated for occupation of the Coastal Marine Area by other non-fishing users, for example submarine cables. The Council cannot, however, make such restrictions in respect of controlling the harvesting or enhancement of populations of aquatic organisms where the purpose of that control is to conserve, enhance, protect, allocate, or manage any fishery controlled by the Fisheries Act 1996 and/or Fisheries Act 1983 (Section 30(2) Resource Management Act 1991).

CMd6.ix The Ministry of Fisheries can only issue an aquaculture permit or spat catching permit if the applicant has first obtained any necessary resource consents under the Resource Management Act.

CMd6.x The Resource Management (Aquaculture Moratorium) Amendment Act, 2002, and Extension Act 2004, impose a two year moratorium on the granting of coastal permits for aquaculture activities, including spat catching. The Acts provide regional councils with the opportunity, during the moratorium, to make provision in their regional coastal plans for aquaculture management areas (AMAs), where such areas are considered appropriate.

CMd6.xi The forthcoming Aquaculture Reform Bill, which is expected to follow on from the above Act, is intended to provide for the Resource Management Act to be the main legislation controlling aquaculture with an amendment of the interface between the RMA and fisheries legislation. This will mean that all environmental effects and fisheries matters are considered when decisions are made concerning aquaculture. The final form of this legislation will clarify the appropriate course for the Nelson City Council to follow in resolving its approach to the possible establishment of AMAs. It is already apparent that extensive consultation with a wide range of user groups and interested parties will be required. There will need to be an evaluation of a range of relevant issues such as tangata whenua values, water quality, location of anchorages, navigation routes, marine reserves, taiapure, recreational use, customary, recreational and commercial fishing, ecological and amenity values. In the event that suitable sites for AMAs are identified without significant conflict with other recognised values, then aquaculture development will be required to locate within the clearly defined AMAs and the establishment of aquaculture ventures outside these AMAs will become prohibited activities. These provisions will be incorporated into the Nelson Resource Management Plan by way of a Plan Change, and this will allow full opportunity for public input into the process.

CMd6.xii In determining its approach to aquaculture in this Plan, Council has been mindful of the following considerations:

a) the potential benefits of aquaculture in terms of community well-being.
b) the limitations of the 1982 Study (above) which focused on a limited range of aquaculture technologies, viz. long line mussel farming and oyster rack culture.
c) the current rapid development of aquaculture options and technologies.
d) the high potential for aquaculture to conflict with the requirement for safe navigation in many parts of the Coastal Marine Area (major shipping routes exist between Port Nelson and Farewell Spit and between Port Nelson and the Stephens Island/French Pass area. Waimea Inlet and Nelson Haven are recreational boating areas).
e) the potential for aquaculture to conflict with the maintenance of ecological values in more sheltered waters with restricted circulation.
f) the high potential for aquaculture to conflict with customary, recreational, and commercial fishing, recreational use, amenity and other significant values.
g) the 2001 interim report and findings of the Environment Court Inquiry into the aquaculture references to the Tasman District Council's Proposed Resource Management Plan, recognised (among other things) the significance of estuaries and inshore areas, landscape and natural character values, and safe and unimpeded navigation for vessels.
h) the provisions of the Resource Management (Aquaculture Moratorium) Amendment Act 2002, and Extension Act 2004, which impose a moratorium on new aquaculture activities in coastal marine areas to allow time for the development and implementation of wider aquaculture reforms through legislation and regional coastal plans.

CMd6.xiii The options available to Council were to make some forms of aquaculture:

a) a permitted or controlled activity in all or some areas
b) a prohibited activity in all or some areas
c) a discretionary activity in all or some areas

CMd6.xiv The permitted or controlled activity option was not favoured because of the difficulty of identifying aquaculture activities that would be acceptable under all circumstances and the difficulty of framing conditions or terms to cover the full range of potential effects.

CMd6.xv The option of placing a "blanket" prohibition on all or some forms of aquaculture in specified areas (eg. estuaries), where there is high potential for conflict with other activities or values, is inappropriate because of the effects-based nature of planning under the Resource Management Act, and the real possibility that some forms of aquaculture may be able to be accommodated in these areas without significant adverse effects.

CMd6.xvi The Council considers that, given the high potential of aquaculture to conflict with other activities and values and the uncertainty surrounding the likely effects of different types of aquaculture in different locations, it is appropriate for aquaculture to be treated as a discretionary activity throughout the Coastal Marine Area. This will enable each proposal to be considered on its merits and subject to full public scrutiny.

CMd6.xvii Under this Plan, people wishing to undertake aquaculture within the Coastal Marine Area, are required to apply for a coastal permit for the activities which constitute the proposed aquaculture operation (see table CMd6.iv above). The rules are framed in a way which ensures that all aquaculture-related activities will be treated as discretionary activities (other than in specific circumstances within the Marine ASCV Overlay) and applications will, consequently, be assessed in terms of the relevant objectives, policies, and assessment criteria for aquaculture-related activities in this Plan.

CMd6.xviii The occupation and disturbance of the Coastal Marine Area by structures, and the use of those structures for any aquaculture purpose within the four Nelson estuaries is a prohibited activity, for which no application shall be received by the Council, and no resource consent shall be granted.

CMd6.xix In practice, opportunities for aquaculture in open coastal water in Nelson are likely to be limited by physical suitability (lack of shelter) and the navigation constraints referred to above. Policies in this Plan make it clear that structures in the Coastal Marine Area (whether associated with aquaculture or otherwise) will not be permitted where they have the potential to compromise navigational safety.

CMd6.xx There are currently no approved aquaculture operations within Nelson City's Coastal Marine Area. However, the Southern Scallop Enhancement Programme, which is carried out under special empowering legislation and which covers most of Golden Bay and Tasman Bay, includes part of the Nelson Coastal Marine Area. A Marine Farming Study, undertaken by the Nelson Bays United Council in 1982, did not identify any sites suitable for marine farming within the area now covered by this Plan. Areas of open coastline (e.g. Port Nelson - Pepin Island, Delaware-Cape Soucis) were generally considered unsuitable for long line mussel farming on the basis of the potential for interference with navigation and the physical unsuitability of sites (i.e. the lack of sheltered water/high degree of exposure to wave action). More sheltered inter-tidal areas, within inlets or estuaries, were also considered unsuitable for traditional forms of rack culture (eg. oyster farming) because of the high tidal ranges (4m) in Nelson and consequent exposure times.

CMd6.xi The Council urges people contemplating an aquaculture venture at a particular location within the Coastal Marine Area to undertake early consultation with Nelson-Marlborough Health Services' Health Protection Unit, the Harbourmaster, the Department of Conservation, the Ministry of Fisheries, and user groups. Actual or potential conflicts with water quality, navigation routes, conservation values, fishing operations, and other uses should be identified and considered before a decision is taken to proceed with an application for a coastal permit under this Plan.

CMd6.xii Aquaculture involves the private use of public open space. In the event of a coastal permit being granted for aquaculture (in terms of its constituent activities) Council may require a financial contribution to offset any loss of access or public amenity values.

CMd7 Roles of other agencies

CMd7.i The Maritime Transport Act 1993 gives Council the responsibility for Regional Oil Spill Planning and Response. The Maritime Safety Authority is responsible for these functions at a national level.

CMd7.ii The Foreshore and Seabed Endowment Revesting Act 1991 vests the majority of the Coastal Marine Area in the Crown. This ownership is administered by the Department of Conservation and must be taken into account in the consideration of resource consents.

objective

CM1 life supporting capacity

To maintain or enhance the life-supporting capacity of coastal ecosystems.

Reasons

CM1.i Council is required, by the Resource Management Act 1991, to safeguard the life-supporting capacity of water and ecosystems. The objective also reflects the requirements of section 6 of the Act and is consistent with the New Zealand Coastal Policy Statement.

policy

CM1.1 adverse effects on life supporting capacity

Activities should avoid as far as practicable adverse effects on the life-supporting capacity of the Coastal Marine Area, including effects on one or more of:

a) the quality and quantity of habitats
b) the integrity of essential ecological processes
c) the viability of species populations, except where the species is unwanted aquatic life being eradicated subject to Section 97(1)(a)(iii) of the Fisheries Act 1996
d) the yield or quality of harvested populations and populations where the potential for harvest is clearly evident
e) spawning, nursery or feeding areas for marine life (including access by marine life to these areas) energy flows and nutrient cycling
f) shellfish gathering areas, and fishing areas
g) flora or fauna, including birdlife
h) water quality
i) movement of water (including tidal flushing of estuaries), sediment transport or the composition of natural substrates

Explanation and Reasons

CM1.1.i The factors referred to are considered to be the key components of "life-support" because they relate to the productivity of marine ecosystems and their capacity to support animal and human life. A number of activities (eg. reclamation, drainage, discharge of toxic substances, disturbance of, or deposition of substances on, the foreshore or sea bed), can have significant adverse effects on the quantity and quality of habitats. (Policy 1.1.4 of the New Zealand Coastal Policy Statement is relevant.)

CM1.1.ii Essential ecological processes may be disrupted or adversely affected as a result of vegetation or habitat destruction, diversions, or polluting discharges.

CM1.1.iii Habitat modification or destruction can result in the decline of species to levels at which their long-term viability as a breeding population is threatened. In this regard, protection of the habitats of indigenous species is a matter of particular concern.

CM1.1.iv Some activities have the potential to reduce the maximum sustainable yield of harvested species, and others (such as discharges) have the potential to adversely affect the suitability of marine life for human consumption. Discharges, particularly the discharge of toxic contaminants, can adversely affect life-supporting capacity.

policy
CM1.2 adverse effects of subdivision, use and development

Adverse effects of subdivision, use or development in the coastal environment should, as far as practicable, be avoided. When complete avoidance is not practicable, the adverse effects should be mitigated and provision made for remedying these effects, to the extent practicable.

Explanation and Reasons

CM1.2.i The policy repeats Policy 3.2.2 of the New Zealand Coastal Policy Statement which provides a hierarchy whereby adverse effects should be avoided as far as practicable in the first instance, and where these effects cannot be avoided, they must be mitigated or remedied to the fullest practicable extent. This is a general policy which applies throughout Chapter 13.

policy
CM1.3 habitats and biological productivity

Activities that result in permanent loss of habitats or biological productivity shall be required to demonstrate all of the following:

a) a location in the Coastal Marine Area is an operational necessity
b) the proposal is the most appropriate way of providing for the activity having considered alternatives
c) the activity occupies the smallest possible area to achieve its purpose and, where appropriate, to mitigate adverse effects.

Explanation and Reasons

CM1.3i Activities such as reclamation and drainage are particularly damaging to the life-supporting capacity of the Coastal Marine Area because they result in permanent loss of habitats and biological productivity. Most reclamations cover inter-tidal mudflat areas which are productive relative to subtidal areas.

CM1.3.ii It is recognised that further reclamations may be needed from time to time but, because of the history of reclamation and the importance of coastal margins for life-support and nature conservation, all future reclamations should require firm evidence of need, careful consideration of alternatives and full assessment of effects on natural values and physical processes.

CM1.3.iii The reference to mitigation of adverse effects in part (c) of this policy relates to the fact that it may sometimes (eg in the case of a reclamation) be appropriate to provide additional area, over and above that required to achieve the primary purpose, to achieve a mitigation objective eg provision of a reserve.

Methods (policies CM1.1 and 1.2)

CM1.3.iv Rules regulating activities with the potential to have significant adverse effects on the life-supporting capacity of the Coastal Marine Area.

CM1.3.v Assessing consent applications.

policy
CM1.4 hazardous substances - use and storage

Activities within the Coastal Marine Area involving the use, storage, and transport, of hazardous substances should be managed or controlled, so as to minimise:

a) the risk of a spill or leakage occurring, and
b) the potential for adverse effects in the event of a spill or leakage

Explanation and Reasons

CM1.4.i Spills or leakages of hazardous substances to the Coastal Marine Area have the potential for serious long term adverse effects on aquatic life.

CM1.4.ii Hazardous substances, including oil and petroleum products are transported to Nelson by ship (through the Coastal Marine Area), some are stored at Port Nelson pending transport via Rocks Road and Queen Elizabeth II Drive (in close proximity to the sea) to other destinations. It is a requirement of the Act that the risks associated with the storage, use or transportation of hazardous substances be minimised. Refer also to Chapter 5 of this Plan.

Methods

CM1.4.iii Regulations made under the Hazardous Substances and New Organisms Act.
CM1.4.iv Rules regulating the use and storage of hazardous substances, and
CM1.4.v Contingency planning measures set out in policy CM6.13 (spill contingency plans).
CM1.4.vi Assessing consent applications.

policy
CM1.5 hazardous substances - disposal

Hazardous substances should not be disposed of in the Coastal Marine Area.

Explanation and Reasons

CM1.5.i In the past, potentially hazardous substances have been disposed of at authorised landfills and at unauthorised sites within the Coastal Marine Area, sometimes in close proximity to the sea. Substances include harbour dredgings containing pollutants such as tri-butyl tin (TBT). The Council considers that, because of the potential for contamination of the Coastal Marine Area with toxic leachate, such activities should not be permitted.

Methods

CM1.5.ii Rules prohibiting the disposal of hazardous substances in the Coastal Marine Area.
CM1.5.iii Assessing consent applications.

policy
CM1.6 enhancement of life supporting capacity

Opportunities to restore or enhance the life-supporting capacity of the Coastal Marine Area should be identified and, where practicable, acted upon.

Explanation and Reasons

CM1.6.i The policy relates to policy 1.1.5 of the New Zealand Coastal Policy Statement. The Council recognises that, in many instances, it may not be practical or cost-effective to implement restoration projects.

Methods

CM1.6.ii Identifying opportunities to enhance the life-supporting capacity of the Coastal Marine Area.
CM1.6.iii Requiring appropriate financial contributions, including works and services from coastal permit holders.
CM1.6.iv Undertaking works, as appropriate.

CM1.6.v Encouraging community participation in restoration projects.
CM1.6.vi Assessing consent applications.

objective

CM2 natural character

The preservation of the natural character of the coastal environment, particularly at the land/sea interface, and including the maintenance of all values that contribute to natural character, and its protection from the adverse effects of use or development.

Reasons

CM2.i The objective reflects the requirements of Section 6(a) of the Resource Management Act, and Chapter One of the New Zealand Coastal Policy Statement. The natural character of the coastal environment comprises a number of key elements, including coastal landforms; indigenous flora and fauna and their habitats; water quality; marine ecosystems; and landscape values. These elements are addressed separately elsewhere within this Plan, resulting in policies that serve to preserve different aspects of natural character.

policy
CM2.1 avoid adverse effects on natural character

Avoid the adverse effects of subdivision, use and development within those areas of the coastal environment which are predominantly in their natural state, and have natural character which has not been compromised.

Explanation and Reasons

CM2.1.i This policy gives effect to Policy 1.1.1 of the New Zealand Coastal Policy.

Methods

CM2.1.ii Rules governing activities within the Coastal Marine Area, and the consideration of consent applications.

CM2.1.iii Identifying Marine Areas of Significant Conservation Value.

CM2.1.iv The Council will work co-operatively with the Department of Conservation, Iwi, and other organisations to identify areas of significant value, and, where necessary, to determine the appropriate measures for their protection.

objective

CM3 vegetation, habitat, natural features

The protection of areas of significant indigenous vegetation, significant habitats of indigenous fauna and outstanding natural features within the Coastal Marine Area; and restoration and rehabilitation of degraded vegetation and habitats.

Reasons

CM3.i The objective reflects the requirements of sections 6(a), 6(b) and 6(c) of the Resource Management Act and the national priority established by policy 1.1.5 of the New Zealand Coastal Policy Statement. The Council is aware, from various reports, that much can be done to restore or rehabilitate degraded coastal vegetation and habitats, but there are physical and financial constraints on this type of work.

policy
CM3.1 vegetation, fauna and landscapes

Activities in the Coastal Marine Area should be located and designed in a way which has the least adverse effect and protects areas of significant indigenous vegetation, significant habitats of indigenous fauna, outstanding natural features and landscapes.

Explanation and Reasons

CM3.1.i This general policy is necessary to give effect to sections 6(a) and 6(c) of the Act and to policy 1.1.2 of the New Zealand Coastal Policy Statement. Irrespective of the degree of modification that has taken place, all of the coast has some degree of natural character and the approach required by the Act is to protect the attributes which give an area its natural character from inappropriate use and development. It needs to be recognised that the need to protect natural values may limit development opportunities.

Methods

CM3.1.ii Rules governing activities within the Coastal Marine Area, and the consideration of consent applications.

CM3.1.iii Marine Areas of Significant Conservation Value have been established within which rules to protect areas of significant conservation value apply.

policy
CM3.2 marine areas of significant conservation value

Priority shall be given to avoiding the adverse effects of activities on the conservation values of areas of significant conservation value.

Explanation and Reasons

CM3.2.i The policy gives effect to policy 1.1.2 of the New Zealand Coastal Policy Statement. The areas and values are identified in a Department of Conservation report entitled Internationally and Nationally Important Coastal Areas from Waimea Inlet to Cape Soucis, Nelson, New Zealand: Recommendations for Protection. The areas were assessed for "significance" mainly on the basis of ecological criteria (the presence of threatened or rare species, forested coastal catchments, the level of human modification and vulnerability to further modification) and, to some extent, on geomorphic criteria. The areas identified by the Department of Conservation are restricted to areas below mean high water springs (due to limitations on the Minister of Conservation's purview under the Act), but references were made in the report to values above mean high water springs. The Coastal Environment Overlay deals with areas above mean high water springs.

CM3.2.ii By concentrating on areas of national and international significance, the Department of Conservation has highlighted those areas which have particularly high or "significant" values and therefore fall within the ambit of policy 1.1.2(a) of the New Zealand Coastal Policy Statement which requires the avoidance of any actual or potential adverse effects of activities in these areas.

Methods

CM3.2.iii Mapping Marine Areas of Significant Conservation Value showing users of this Plan which areas have significant conservation value.

CM3.2.iv Provide, or advocate the provision of, signposts and interpretation facilities for areas of significant conservation value.

CM3.2.v Rules governing coastal activities and their effects.

CM3.2.vi The Council will work co-operatively with the Department of Conservation, iwi and other organisations to determine the best means of jointly or individually implementing the management recommendations relating to areas of significant conservation value contained in the report referred to in CM3.2.i.

CM3.2.vii The Council will undertake, or encourage the Department of Conservation or others to undertake, any further studies that are necessary to identify or clarify the conservation values associated in the Coastal Marine Area.

CM3.2.viii Identifying areas for priority action (in consultation with Department of Conservation) and taking action where Council is owner.

CM3.2.ix Encouraging Department of Conservation to take action where at risk areas are in Crown ownership.

policy
CM3.3 riparian vegetation

Riparian vegetation along the coastline, particularly around the margins of estuaries, should be protected and enhanced.

Explanation and Reasons

CM3.3.i Riparian vegetation makes a significant contribution to the natural character of the Coastal Marine Area in terms of life support, nature conservation, visual amenity and water quality values. Marginal vegetation, including saltmarsh vegetation in the upper reaches of estuaries, provides important habitat for birdlife, a source of primary production for estuarine food chains and can assist with water quality maintenance by filtering out contaminants in run-off from the land. Enhancement programmes involving re-vegetation will give preference to indigenous species.

Methods

CM3.3.ii Rules regulating activities.

CM3.3.iii Rules setting aside esplanade reserves and strips.

CM3.3.iv Education, land clearance controls, fire controls, fencing and the establishment of reserves.

CM3.3.v Discourage activities which have detrimental effects on riparian vegetation, including vehicle use and grazing of the land/water interface.

CM3.3.vi Encourage landowners, including Department of Conservation, to fence off areas of significant indigenous vegetation and the Council will consider providing assistance.

CM3.3.vii Seek to prevent pest damage to significant natural areas or values within the coastal environment under the Regional Pest Management Strategy.

policy
CM3.4 marine protected areas

The possibility of establishing a network of marine protected areas should be researched, and the public consulted, and where appropriate established within the Coastal Marine Area.

Explanation and Reasons

CM3.4.i Marine protected areas is a generic term for marine areas that are protected under various pieces of legislation, in particular the Marine Reserves Act 1977, the Fisheries Act 1996, the Maori Fisheries Act 1989 and the Treaty of Waitangi (Treaty Claims) Act 1992. They include both fully protected areas where all marine life is totally protected and partially protected areas where limited forms of recreational or commercial fishing may take place. Council is generally supportive of the idea of establishing a network of marine protected areas within Tasman Bay because such action is potentially an important way of promoting the sustainable management of coastal resources (eg. by providing "safe havens' for the replenishment/dispersal of marine life) and implementing the protection-orientated policies of the New Zealand Coastal Policy Statement, eg NZCPS policy 1.1.2(c).

The issue of establishing a network of marine protected areas is best considered in a Tasman Bay context and, in that regard, is a cross-boundary issue between Nelson City Council and Tasman and Marlborough District Councils.

Method

CM3.4.ii Council will investigate, with the Department of Conservation, Tasman District Council, fishing interests, iwi and other interested parties, the possibility of establishing within Tasman Bay:

a) a representative system of fully protected marine reserves

b) other appropriate marine protected areas

policy
CM3.5 vegetation and habitat rehabilitation

Opportunities to restore and rehabilitate vegetation and habitat values within the Coastal Marine Area should be identified and actioned where appropriate.

Explanation and Reasons

CM3.5.i The policy reflects a national priority (see policy 1.1.5 of the New Zealand Coastal Policy Statement). There are many areas of Nelson's Coastal Marine Area which have been substantially modified by development (eg. the eastern margins of Waimea Inlet and the margins of Nelson Haven). Opportunities to restore or rehabilitate degraded areas may arise during the preparation of plans and the consideration of resource consent applications.

Methods

CM3.5.ii Conditions on resource consents, requiring remediation, mitigation and financial contributions.

CM3.5.iii Grant money to projects to restore the natural character of parts of the coastal environment.

CM3.5.iv Support appropriate community-based initiatives to restore or rehabilitate areas of the coastal environment.

objective

CM4 amenity values

The maintenance and enhancement of amenity values within the Coastal Marine Area.

Reasons

CM4.i The Act requires Council to have particular regard to the maintenance and enhancement of amenity values and to the quality of the environment. The objective is linked to the "lifestyle" aspirations of many Nelsonians and to tourism development. This objective is reinforced by the provisions of the New Zealand Coastal Policy Statement.

policy
CM4.1 activities affecting amenities

Activities within the Coastal Marine Area should avoid significant adverse effects on amenity values and public safety.

Explanation and Reasons

CM4.1.i The significance of effects will necessarily be determined on a proposal-by-proposal basis. Activities likely to have a significant adverse effect on the amenity values of these areas, or on public safety, will not be permitted. The RMA now requires that with any rule relating to the CMA in the Plan, where there is potential to adversely impact on the foreshore and seabed, a matter of assessment criteria should now include potential impact on historic heritage (refer Chapter 2 Meanings of Words for definition of 'historic heritage').

CM4.1.ii Certain types of structures and activities involving the disturbance of, or deposition of, substances on the foreshore or seabed fall into this category. Some structures can improve amenity values. The erection and operation of structures within the coastal environment have the potential for a range of adverse effects on amenity values, depending on their location, size and design. Coastal structures below, or straddling, mean high water springs include moorings, jetties, bridges, wharves, launching ramps, slipways, pipelines, cables, culverts, navigation aids, transmission lines, shoreline protection works (seawalls, groynes, and breakwaters).

CM4.1.iii Generally structures should be located so that they do not obstruct important views to or from the Coastal Marine Area, and they should be located and designed in a manner which achieves a degree of visual harmony with the surrounding landscape. The latter will involve careful attention to form and colour in some locations.

policy CM4.2 adverse effects

Adverse effects of subdivision, use or development in the coastal environment should as far as practicable be avoided. Where complete avoidance is not practicable, the adverse effects should be mitigated and provision made for remedying those effects to the extent practicable.

Explanation and Reasons

CM4.2.i This policy relates to policy 3.2.2 of the New Zealand Coastal Policy Statement. Council accepts that within the coastal environment the New Zealand Coastal Policy Statement establishes a hierarchy of avoid, or if avoidance is not possible then remedy and mitigate adverse effects.

Methods

CM4.2.ii Placing conditions on resource consents requiring mitigation and remedy of adverse effects.

CM4.2.iii Development of property plans to facilitate integration of development and conservation.

policy CM4.3 redundant structures

Structures should be removed from the Coastal Marine Area or demolished at the expiry of their authorisation or at the end of their useful lives, provided that none of the following apply:

a) removal of the structure would cause greater adverse effects on the environment than leaving the structure in place, including effects on the life-supporting capacity of the Area

b) the structure will have no more than minor adverse effects on the environment or on public access or use of the Area if left in place

c) the structure has significant heritage value

d) a new authorisation has been granted, or applied for but not yet determined

Explanation and Reasons

CM4.3.i The policy gives effect to policy 4.1.3 of the New Zealand Coastal Policy Statement. Disused or derelict structures can be visually obtrusive and may not permit efficient use of public space. It is the responsibility of the owners of obsolete structures to remove them if practical and desirable.

policy
CM4.4 undesirable structures

Existing structures that significantly detract from the visual amenity of the coast, impede public access, or pose a significant risk to safe boat navigation or to public safety, should be upgraded or removed. When assessing structures, the Council will have regard to:

a) the potential adverse effects if no action is taken, and
b) the cost of remedial action, and
c) the practicability of any proposed action, and
d) the likely positive and adverse effects on the environment.

Explanation and Reasons

CM4.4.i The use of public space is a privilege. Structures should be adequately maintained. In deciding whether or not to take action (at the time of consent renewal or review, or if the structure is abandoned), Council will take into account a range of factors as set out in the policy.

Methods

CM4.4.ii (Policies CM4.1-3.3) - rules governing activities within the Coastal Marine Area, decisions on consent applications, and the conditions attached to consents.

CM4.4.iii (Policy CM4.3) - include the use of the Act's enforcement provisions, variations to consent conditions, or the provision of works or services.

CM4.4.iv All policies - opportunities to enhance amenity values and to protect heritage sites, within the coastal environment, should be identified and action taken where appropriate.

policy
CM4.5 navigation

Activities within the Coastal Marine Area should:

a) permit the unrestricted safe navigation of vessels to and from recognised launching, mooring or berthing areas, and
b) not adversely affect the functioning of navigation aids, and
c) allow people to have safe access to and along the Coastal Marine Area, and
d) allow people to make use of the foreshore and coastal waters for contact recreation, and
e) avoid emissions of light that could affect the safe navigation of vessels, and
f) provide for appropriate notice to be made when the navigability of an area changes as a result of that use or development.

Explanation and Reasons

CM4.5.i Activities within the Coastal Marine Area, including surface water activities and the placement of structures, have the potential to adversely affect the safety of users of the Coastal Marine Area. The Resource Management Act is concerned only with residual safety and navigation issues through part of its purpose "enabling people to provide for ... their health and safety." Safety is more directly the subject of the Harbours Act 1950, the Building Act 1991 and the Maritime Transport Act 1993. While the Resource Management Act permits the Council to control activities in relation to the surface of the water, that control is to achieve the purpose of the Act. The Harbours Act 1950 provides explicitly for control over navigation and safety.

CM4.5.ii The policy promotes integrated management of navigational safety. The Maritime Safety Authority administers the Harbours Act 1950 and the Maritime Transport Act 1993, which provide for navigational safety. Both the Maritime Safety Authority and the Royal New Zealand Navy need to be aware of structures, dredging, reclamation etc. which can change the navigability of an area of coastal water.

Methods

CM4.5.iii Rules controlling boat speed, navigation channels, the location of navigation aids and the location of boating activities to protect health and safety.

CM4.5.iv Assessment of consent applications and the conditions attached to coastal permits.

CM4.5.v By-laws under the Harbours Act 1950 or replacement legislation.

CM4.5.vi Notify the Maritime Safety Authority and the Hydrographic Office of the Royal New Zealand Navy of new structures and harbour works, authorised by coastal permits.

CM4.5.vii Opportunities to enhance amenity values and to actively protect heritage sites, within the coastal environment, should be identified and action taken where appropriate.

policy
CM4.6 noise

Activities should not produce unreasonable noise or noise sufficient to have a significant adverse effect on amenity values, human health, animals or wildlife.

Explanation and Reasons

CM4.6.i Unreasonable noise in the coastal environment may be generated by construction works, operations on port wharves, or noisy recreational vessels, such as powerboats and jet skis. Excessive noise is out of character with the coastal environment and with the maintenance and enhancement of amenity values. The policy recognises that noise can spoil people's appreciation of the natural character and aesthetics of the coastal environment and, in the extreme, may be harmful to human health or disturb livestock or wildlife. See also section DO12 (Port Industrial Area) which addresses separately the issue of port noise.

Methods

CM4.6.ii Rules controlling noise levels or conditions on coastal permits that require general standards to be met.

CM4.6.iii Opportunities to enhance amenity values and to actively protect heritage sites, within the coastal environment, should be identified and action taken where appropriate.

objective

CM5 coastal processes

A Coastal Marine Area where natural coastal processes are not adversely affected by activities on the foreshore or seabed.

Reasons

CM5.i Activities on the foreshore or seabed can alter the natural coastal processes acting on the area. This may adversely affect flow regimes, tidal hydraulics, and flushing capabilities. Erosion and sedimentation can be increased if the overall sediment equilibrium is altered. The intrinsic values of ecosystems can also be adversely affected.

policy
CM5.1 precautionary approach

Adopt a precautionary approach towards proposed activities, particularly those where the effects of coastal processes on activities, or the effects of the activities themselves, are as yet unknown or little understood.

Explanation and Reasons

CM5.1.i The policy relates to Policy 3.3.1 of the New Zealand Coastal Policy Statement which notes "because there is a relative lack of understanding about coastal processes and the effects of activities on coastal processes, a precautionary approach should be adopted towards proposed activities, particularly those whose effects are as yet unknown or little understood." Coastal processes include physical, biological, and chemical processes, and the interactions between them.

policy
CM5.2 foreshore and seabed activities

Activities on the foreshore or seabed should avoid, remedy, or mitigate adverse effects on natural coastal processes.

Explanation and Reasons

CM5.2.i The significance of effects will necessarily be determined on a proposal-by-proposal basis. Activities likely to have a significant adverse effect on coastal processes will not be permitted.

Methods

CM5.2.ii Rules regulating activities on foreshore and seabed.
The consideration of adverse effects must include consideration of cumulative effects, taking into account both the effects or existing development, and the likely extent to which any new subdivision, use, or development will exacerbate such effects.

CM5.2.iii Conditions on resource consents, requiring remediation, mitigation and financial contributions.

CM5.2.iv Support appropriate community-based initiatives to restore or rehabilitate areas of the coastal environment.

policy
CM5.3 deposition of substances

The deposition of substances on the foreshore or seabed should not adversely affect the form, texture or natural processes of the foreshore. (In this respect, regard should be had for the desirability of a deposited substance being of the same size, sorting and parent material as the receiving sediments.)

Explanation and Reasons

CM5.3.i The policy is considered necessary to ensure that the controlled placement of substances (eg. for the purposes of erosion control or beach replenishment) does not affect coastal processes or result in the loss of amenity values on public beaches or other foreshore areas. (This policy also contributes to the attainment of the Objective on amenity values.)

Methods

CM5.3.ii Rules regulating deposition of substances on foreshore and seabed.

CM5.3.iii Conditions on resource consents, requiring remediation, mitigation and financial contributions.

CM5.3.iv Support appropriate community-based initiatives to restore or rehabilitate areas of the coastal environment.

policy
CM5.4 structures

Structures within the Coastal Marine Area should not impede natural coastal processes. If effects on natural coastal processes cannot be avoided, structures should be designed and constructed in a way that mitigates or remedies such effects.

Explanation and Reasons

CM5.4.i Structures can cause changes to natural coastal processes and can result in adverse effects remote from the site. Structures that impede coastal water flows, or impound coastal water or exclude coastal water from places that it would naturally flow to and from may have adverse effects both on rates of erosion and sedimentation, and on the intrinsic values of ecosystems.

Methods

CM5.4.ii Rules regulating structures.

CM5.4.iii Conditions on resource consents, requiring remediation, mitigation and financial contributions.

CM5.4.iv Remove redundant structures that adversely affect coastal processes.

CM5.4.v Support appropriate community-based initiatives to restore or rehabilitate areas of the coastal environment.

objective

CM6 coastal water quality

Maintenance and enhancement of the quality of Nelson's coastal water.

Reasons

CM6.i Maintenance of the life-supporting capacity of coastal waters is fundamental to achieving the purpose of the Act. Coastal waters are valued by the community for a wide range of water quality-dependent purposes, including fisheries maintenance, water contact sports, recreational boating, passive recreational enjoyment and cultural or spiritual values.

policy
CM6.1 marine water quality standards

Coastal marine water quality standards should be maintained or enhanced to reflect community aspirations and tangata whenua values for:

a) management for fisheries, fish spawning, aquatic ecosystem, and aesthetic purposes over the whole Coastal Marine Area, and

b) contact recreation, shell fish gathering, or cultural purposes, in specified parts of the Coastal Marine Area.

Explanation and Reasons

CM6.1.i Coastal water is a "common property" resource. There should consequently be a high degree of community input into deciding the purpose for which water should be managed and the marine water quality standards which should be applied.

CM6.1.ii The Council has a responsibility to recognise and provide for the relationship of Maori and their culture with water and other taonga. The quality of water can affect spiritual values and the availability and quality of seafood in traditional food gathering areas. Maori are generally not in favour of discharges to water (particularly those containing human waste), and in this regard the maintenance of the "natural" water quality and the restoration of the mauri (life force) of degraded waters are important issues for Maori.

policy
CM6.2 marine water quality standards

Coastal marine water quality standards shall be managed for the purposes set out in the following water quality classes and associated standards:

a) Fisheries, fish spawning, aquatic ecosystem, and aesthetic purposes, Class: FEA,
Area of application: to the entire Coastal Marine Area; or

b) Contact recreation purposes, Class: CR, Area of application: generally 200 metres seaward of mean high water springs within the areas identified as "Contact Recreation Overlay " on Planning Map A1; or

c) Shell fish gathering purposes, Class: SG, Area of application: the area identified as "Shell Fish Gathering Overlay" on Planning Map A1, which encloses a zone extending from the 10m-40m depth contour in Tasman Bay; or

d) Cultural purposes, Class: C, Area of application: Delaware Inlet (refer Planning Map A1, 'Cultural Overlay').

Explanation and Reasons

CM6.2.i The standards applying to each class are set out in the Coastal Marine water quality standards Schedule below (before the Rules). These classifications are adopted instead of the classification contained in the Resource Management Act, Third Schedule, which are, in the Council's opinion, inadequate or inappropriate for Nelson. The Council commissioned an independent report on Water Classification Options for the Nelson and Tasman Coastal Marine Areas (Roberts, Forrest, Crutchley 1994) and the provisions of this Plan are based on the recommendations in that Report.

CM6.2.ii Classification of coastal waters is desirable because it specifies a desired outcome, provides a framework for determining discharge applications and consent conditions, the public has greater assurance that coastal waters are being managed in accordance with agreed objectives, and the discharger has some prior knowledge and certainty as to whether a particular proposal is likely to be environmentally acceptable.

CM6.2.iii The FEA class (management for fisheries, fish spawning, aquatic ecosystem, and aesthetic purposes) combines all of the standards from the RMA classes AE, F, FS and A (these overlap significantly). The mobility of fish and the requirements of the Act relating to protection of ecosystem and amenity values, justify applying the standards across the entire Coastal Marine Area. Some relatively minor adjustments have been made to the RMA standards to provide a more appropriate degree of protection for the stipulated values.

CM6.2.iv The CR class (management for contact recreation) incorporates the RMA narrative standards and includes a numerical standard based on Department of Health guidelines for marine recreational waters. The CR class has been applied to all areas which are valued for contact recreation, including Tahunanui Main Beach (bathing, board sailing) the Port area adjacent to The Cut (a variety of activities), the Haven at Atawhai (board sailing), Tahunanui Back Beach (swimming), Cable Bay (swimming, diving), Monaco (swimming, water skiing) and The Glen Beach (bathing, surfing (in the case of this area the seaward extent is the 10 m depth contour)).

CM6.2.v The SG class (management for the gathering or cultivation of shellfish for human consumption) incorporates temperature and dissolved oxygen standards but these are covered by the pervasive FEA standard. The RMA narrative standard relating to contaminants is incorporated as an additional (numerical) standard for the faecal coliform content of shellfish gathering water, based on Ministry of Health Guidelines. The SG class has, at this stage, only been applied to the "conditionally approved" shellfish harvesting area described in the shellfish sanitation programme (Cameron and Caradus 1993). The Council is aware that some people gather shellfish within estuaries and other inter tidal areas in the district and that there is a general expectation that such areas should be available for shellfish gathering without risk to public health.

However, there is a paucity of information on the distribution of valued shellfish gathering areas and the risks associated with gathering shellfish from those areas. Council has received advice that it is likely that most estuaries and nearshore waters would frequently breach Ministry of Health guidelines for shellfish gathering waters and/or shellfish flesh (see Roberts et al 1992). Classifying nearshore waters SG in areas such as the Nelson Haven and Waimea Inlet could create the false impression that it is "safe" to gather shellfish in those areas. Council considers that, until further information is available, the prudent course of action is to confine the SG classification to areas certified or "conditionally approved" as being suitable for shellfish gathering.

CM6.2.vi The C class (management for cultural purposes) adopts the sole RMA criterion for this class, and specifies relevant cultural or spiritual values. It also incorporates SG standards relating to the suitability of shellfish for human consumption. The classification has been applied to only one area, Delaware Inlet on the grounds that this is an area that has been identified by tangata whenua as being highly valued for spiritual and traditional food gathering reasons. Further, Delaware Inlet drains a relatively unmodified catchment and the available evidence would suggest that full compliance with shellfish gathering standards is a realistic target.

policy
CM6.3 discharges (general)

Discharges to coastal water should not, after reasonable mixing, result in a breach of classification standards or a reduction in water quality and the discharge should not (either by itself or in combination with other discharges) give rise to any significant adverse effects on habitats, feeding grounds or ecosystems.

Explanation and Reasons

CM6.3.i Contaminants include any substance which when discharged into water changes, or is likely to change, the physical, chemical or biological condition of the water. Classification standards or a reduction in water quality provide a "baseline" below which water quality should not be degraded other than as a result of natural perturbations (eg. stormwater runoff). The second part of the policy reflects the requirements of policy 5.1.3 of the New Zealand Coastal Policy Statement.

policy
CM6.4 mixing zones

In considering what constitutes a "reasonable mixing zone", in any particular situation, account will be taken of:

- ***a) the purposes for which the water is managed, and***
- ***b) the sensitivity of the receiving environment (i.e. available dilution and dispersal and the proximity of areas valued for ecological, recreational, cultural, shellfish gathering or commercial fishing reasons), and***
- ***c) the nature of the discharge including contaminant type, concentration and volume, and***
- ***d) the location and design of the proposed outfall and the potential for improving the same, and***
- ***e) the proposed method of treatment and the potential for improving that method, and***
- ***f) the need to confine any significant adverse effects to the mixing zone, and***
- ***g) the desirability of keeping the size of the mixing zone as small as possible, and of keeping it away from the inter tidal area.***

Explanation and Reasons

CM6.4.i The policy provides an indication of the parameters which the Council considers should govern the determination of an appropriate mixing zone and hence provides some guidance to prospective applicants for a coastal discharge permit.

policy
CM6.5 assessment criteria

When considering new proposals or applications to discharge contaminants directly to water, or reviewing existing discharges, matters to be taken into account include:

a) the water quality classification for the receiving environment, and
b) the total contaminant load (composition/concentration/flow rate) of the discharge, and
c) the presence or absence of toxic constituents, and the potential for bio-accumulative or synergistic effects, and
d) the assimilative capacity (including available dilution and dispersal) of the water and the existing water quality, and
e) actual or potential uses of the water body and the degree to which the needs of other water users are, or may be, compromised, and
f) scenic, aesthetic, amenity, recreational and commercial fisheries values, and
g) the cultural and spiritual values of tangata whenua, and
h) the actual or potential risk to human health from the discharge.

Explanation and Reasons

CM6.5.i The policy sets out the matters or values which the Council considers to be most relevant to determination of a coastal discharge permit application. This policy should be taken into account by applicants when preparing environmental effects assessments.

policy
CM6.6 untreated sewage discharges

Untreated human sewage should not be discharged to coastal waters, unless the discharge is:

a) of a temporary nature, and the effects are minor, or
b) associated with necessary maintenance work
and then only if:
c) there has been consultation with tangata whenua in accordance with tikanga Maori, and
d) there has been consultation with the community generally
e) it better meets the purpose of the Act than disposal on to land

Explanation and Reasons

CM6.6.i Human wastes and greywater, normally discharged together as "sewage", contain many contaminants, including disease-causing organisms (pathogens), organic matter, nutrients, oil and grease, cleaning chemicals and detergents, most of which are biodegradable. Untreated sewage is sewage that has received no treatment or primary treatment (i.e. physical or chemical treatment) only. It contains high numbers of micro-organisms (including pathogens) which may increase public health risks from both contact recreation and seafood harvesting. The direct discharge of untreated sewage to water is culturally and socially offensive.

CM6.6.ii It may on occasions be necessary to permit the discharge of untreated sewage to coastal water from sewage pipes when planned maintenance or upgrading work needs to be carried out. It is not practical to stop generating sewage. If realistic engineering alternatives are not available for diversion elsewhere, a discharge may be the only reasonable option. Refer to section 107(2) Resource Management Act.

policy
CM6.7 treated sewage discharges

The discharge of treated human sewage directly into coastal water, without passing through land, should only be permitted where:

a) it better meets the purpose of the Act than disposal onto land, and
b) there has been consultation with tangata whenua in accordance with tikanga Maori, and
c) there has been consultation with the community generally, and
d) marine water quality standards are not breached as a result of the discharge, and
e) the method of treatment prior to discharge adopts the best practicable option.

Explanation and Reasons

CM6.7.i Treated sewage is sewage that has passed through at least a secondary (i.e. biological) treatment process. The policy reflects the requirements of policy 5.1.2 of the New Zealand Coastal Policy Statement. The maintenance of water quality classification standards provides a safeguard against water quality degradation or conflict with other uses of the receiving water.

policy
CM6.8 stormwater discharges

The level of contaminants in stormwater discharges to the Coastal Marine Area should be minimised using the best practicable option.

Explanation and Reasons

CM6.8.i Stormwater is generated by runoff from land or hard surfaces. In urban areas of Nelson City, stormwater is piped through stormwater drains to receiving waters such as channels, streams, rivers or coastal margins. Urban stormwater typically contains a wide variety of contaminants with the potential to adversely affect aquatic life, amenity or cultural values - including oil and other hydrocarbons, heavy metals, sediment, microbes (pathogens) and nutrients. Stormwater may be contaminated by unauthorised discharges of water directly into stormwater pipes or channels, either accidental or deliberate. In residential areas, stormwater drains frequently receive soapy water from washing cars, residues from cleaning paint brushes and oil spilt during oil changes. Process wastes or industrial chemicals may be illegally discharged into stormwater drains servicing industrial or trade premises.

CM6.8.ii In Nelson, the extent and effects of stormwater discharges to the coastal environment are unknown but it is likely, on the basis of experience elsewhere, that the "first flush" of stormwater discharged from urban areas after a rainstorm will contain large quantities of contaminants. The effects of such discharges are likely to be most significant where the receiving waters are semi-enclosed eg. Nelson Haven. Some industrial and trade premises discharge stormwater runoff directly to the Coastal Marine Area or to water bodies above the mean high water mark which drain into the Coastal Marine Area.

CM6.8.iii The policy states an aspiration that the best practicable option be used to minimise the level of contaminants in stormwater discharges. It enables Council to consider proposed treatment methods and the available options, having regard to the matters referred to in the definition of 'best practicable option' contained in Section 2 of the Resource Management Act 1991.

policy
CM6.9 discharges from vessels

The adverse effects of discharges from vessels should be avoided, remedied or mitigated.

Explanation and Reasons

CM6.9.i The majority of vessels operating within the Coastal Marine Area are small to medium-sized boats used either commercially or privately for fishing or recreation. Port Nelson receives about 560 ships annually, approximately 80% of which operate in overseas as well as New Zealand waters. Ships waiting to berth occupy an area which extends across the Nelson City/Tasman District regional boundary. Discharges from vessels operating within the Coastal Marine Area may be grouped into three categories, namely those arising from:

a) The "normal operations" of vessels (including discharges of sewage, bilge water, cooling water, ballast water and biodegradable refuse)
b) The disposal or dumping of dredgings
c) The maintenance of vessels, including discharges of toxic, anti-foulant, (hull scraping, and application) and waste scraping

CM6.9.ii Such discharges, individually or collectively, have the potential to adversely affect marine communities, fisheries resources or cultural or amenity values.

CM6.9.iii There are obvious practical problems associated with the monitoring of discharges from mobile vessels.

CM6.9.iv The Resource Management (Marine Pollution) Regulations 1998 contain most of the specific rules relating to discharges from vessels. Council is responsible for enforcing the Regulations within the Nelson Coastal Marine Area.

policy
CM6.10 boat servicing

Ports, boat servicing sites and marinas should possess adequate toilet and rubbish disposal facilities and facilities to accept sewage and other contaminants from vessels for disposal by approved means.

Explanation and Reasons

CM6.10.i Large ships (both New Zealand and foreign) typically have sewage holding tanks. Most have treatment facilities in the form of chlorination and most commercial vessels discharge outside of inner coastal waters. There is potential for a problem to arise when ships are berthed in port for extended periods and, in this regard, it is essential that adequate provision be made for the pump-out and disposal of sewage. Under this Plan, the discharge of sewage to the Coastal Marine Area from vessels, whilst berthed at the Port or in a marina is not permitted. Some smaller pleasure craft possess sewage holding tanks. The policy reflects policies 5.2.1 and 5.2.2 of the New Zealand Coastal Policy Statement.

policy
CM6.11 ballast water

The discharge of ballast water to coastal water should be managed in a way which avoids or minimises the risk of introducing harmful organisms or substances.

Explanation and Reasons

CM6.11.i Council is concerned about the potential adverse effects of the introduction of new organisms through the discharge of ballast water. The Resource Management Amendment Act 1994, allows the discharge of ballast water from foreign vessels to be controlled under the RMA by way of central government regulation. National control over ballast water discharges is appropriate because impacts go beyond regional boundaries and individual ship inspections by experienced staff are necessary. The Ministry of Agriculture is the lead government agency for the control of ballast water discharges and it is intended that control be exercised by way of the border control provisions of the Biosecurity Act.

CM6.11.ii The discharge of contaminants or harmful substances or water to water within the Coastal Marine Area is controlled or authorised by way of the Resource Management (Marine Pollution) Regulations 1998 promulgated by central government in accordance with MARPOL (the principal international convention governing the discharge of oil, noxious substances, packaged harmful substances, sewage and garbage from ships). The Council's role with respect to the discharge of contaminants or harmful substances or water to water from vessels within the Coastal Marine Area, including discharges from foreign ships, is restricted to the enforcement of these regulations.

policy
CM6.12 ship yards

All vessel construction and maintenance sites should possess adequate and convenient facilities for the containment, collection, and treatment or disposal, of wastes or contaminants arising from the maintenance or repair of vessels.

Explanation and Reasons

CM6.12.i Boat construction, maintenance and repair can result in toxic antifouling paint, heavy metals and other contaminants entering the Coastal Marine Area by way of drainage from hardstand areas. The Resource Management Act does not countenance the discharge of contaminants with the potential to have significant adverse effects on aquatic life.

policy
CM6.13 spill contingency plans

Contingency plans and response procedures should be developed and other measures adopted to reduce the risks, and possible effects, of any spillage or emergency discharge of environmentally damaging substances to the Coastal Marine Area.

Explanation and Reasons

CM6.13.i Contingency planning is a management tool for dealing with unplanned events or emergencies which may lead to an unauthorised discharge. For example, the discharge of petroleum from a ruptured storage tank, sewage from a broken pipe, oil from a damaged vessel or pipeline or the spillage of chemicals at an industrial site. Such discharges can have serious adverse effects on water quality, biota and amenity values.

policy
CM6.14 public warnings - water quality degradation

The public should receive adequate warning in the event of water quality being degraded to a level sufficient to pose a significant threat to public safety or health.

Explanation and Reasons

CM6.14.i Self explanatory.

Methods (policies CM6.1 - CM6.14)

CM6.14.ii Policy CM6.1 is implemented by way of the planning process which makes provision for consultation, submission, objection and appeal.

CM6.14.iii Policy CM6.2 will be implemented by way of rules controlling point and non-point discharges.

CM6.14.iv Water classifications applying to the Coastal Marine Area shall be reviewed within five years of this Plan becoming operative (policy CM6.2).

CM6.14.v The Council will implement policies CM6.3, CM6.4, and CM6.5 by way of rules controlling discharges, and assessment of consent applications.

CM6.14.vi Except where provided for in this Plan as permitted activities, the Council will treat all existing discharges to the Coastal Marine Area that do not have a resource consent as discretionary or controlled activities requiring an application for a permit within one year of the date of this plan becoming operative (policy CM6.3).

CM6.14.vii Within six months of this Plan becoming operative, the Council will review all permits to discharge contaminants into water in the coastal environment and, where the marine water quality standards are not being met, the conditions of the permit will be reviewed in accordance with sections 128-132 of the Act (policy CM6.3).

CM6.14.viii Policies CM6.6 and CM6.7 will be implemented by way of the rules in this Chapter, and the resource consent process.

CM6.14.ix The Council will, through the resource consent process, ensure that all new residential or commercial developments within the coastal environment make adequate provision for sewage disposal (policy CM6.7).

CM6.14.x The Council will encourage all proponents of coastal developments to undertake a thorough evaluation of options for land-based disposal of sewage and to consult with tangata whenua and community before submitting resource consent applications (policy CM6.7).

CM6.14.xi Rules controlling stormwater discharges by reference to their effects on the quality of receiving waters within the coastal environment (policy CM6.8).

CM6.14.xii The Council will investigate the nature, extent and sources of contamination of stormwater discharges to the Coastal Marine Area and consider possible means of reducing contaminant levels (policy CM6.8).

CM6.14.xiii The Council will initiate an education programme to promote awareness of the adverse effects of disposing of contaminants into stormwater drains and of the available alternatives for the disposal of liquid wastes (policy CM6.8).

CM6.14.xiv Rules in appropriate zones aimed at minimising the runoff of sediment and other suspended substances from subdivision and other activities involving disturbance of the land, to the coastal environment (policy CM6.8).

CM6.14.xv The Council will continue to administer and enforce the rules of this plan governing the discharge of contaminants from New Zealand vessels until such time as regulations made under the Resource Management Amendment Act 1994 come into effect (policy CM6.9).

CM6.14.xvi The Council will continue to administer the rules of this Plan relating to the dumping or incineration of waste or other matter in the Coastal Marine Area until such time as they are amended or replaced by central government regulation (policy CM6.9).

CM6.14.xvii The Council will provide input to the development of central government regulations governing the discharge of contaminants or the dumping of wastes from vessels (policy CM6.9 and CM6.10).

CM6.14.xviii The Council will ensure that future development of the Nelson Marina includes adequate rubbish disposal and sewage disposal facilities (policy CM6.10).

CM6.14.xix The Council will advocate to central government that there be a mandatory requirement for sewage holding tanks or treatment systems for all vessels (policy CM6.10).

CM6.14.xx The Council will provide information for ship and small craft operators relating to the policies and rules of this Plan governing the disposal of sewage and rubbish from vessels (policy CM6.9).

CM6.14.xxi The Council will advocate to Government the need for a national system of controlling ballast water discharges (policy CM6.11).

CM6.14.xxii Rules will require the owners and operators of vessel construction and maintenance facilities to take appropriate steps to contain, collect and dispose of contaminated runoff from hardstand areas. The discharge of runoff from these areas to the Coastal Marine Area will not be permitted (policy CM6.12).

CM6.14.xxiii The Council will encourage, and may require through the resource consent process, the owners of facilities for storing or transporting potentially hazardous materials to prepare a contingency response plan for dealing with unauthorised discharges and spills (policy CM6.13).

CM6.14.xxiv Rules in this Plan relating to the storage of oil, petroleum, petroleum products, or other hazardous materials require site owners to provide for the containment of such materials in the event of an accident, spill or emergency discharge (policy CM6.13).

CM6.14.xxv The Council will prepare and implement a joint Nelson/Tasman Regional Marine Oil Spill Contingency Plan, maintain and deploy oil spill response equipment, and appoint an On-Scene-Commander, consistent with its responsibilities under the Marine Transport Act 1994. The Oil Spill Contingency Plan will have regard to the contents of this Plan as well as the Nelson-Marlborough Conservation Management Strategy and relevant management plans (policy CM6.13).

CM6.14.xxvi The Council will ensure that where water quality in the coastal environment has been degraded to the extent that it is unsafe for swimming, shell fish gathering or other activities, the public will be notified by appropriate means (policy CM6.14).

objective

CM7 public access

The maintenance and enhancement of public access to and along the Coastal Marine Area.

Reasons

CM7.i This is a matter of national importance, see section 6(d) of Resource Management Act. The objective recognises that public access is not always appropriate. See policy CM7.1, below, and DO12 (The Port of Nelson)

policy
CM7.1 access

Public access to and along the Coastal Marine Area should be maintained and enhanced, except where a restriction on access is necessary:

a) to protect areas of significant indigenous vegetation or significant habitats of indigenous fauna, or both; or
b) to protect Maori cultural values; or
c) to protect the health and safety of the public; or
d) to ensure a level of security consistent with the purpose of the resource consent; or
e) in other exceptional circumstances sufficient to justify the restriction, notwithstanding the national importance of maintaining that access.

Explanation and Reasons

CM7.1.i The future is likely to see development pressures on Nelson's coastal environment. Public access needs to be maintained in the face of that pressure. The policy repeats New Zealand Coastal Policy Statement 3.5.1. It recognises the priority to be afforded unrestricted public access to and along the Coastal Marine Area but qualifies that with five exceptions to take account of other matters which the Act and practicality suggest should take priority when the circumstances arise. Exception (d) is necessary to exclude the public from areas to which they would otherwise have access, in order to protect the security of operations which have resource consents granted in respect of those areas. This is particularly relevant to activities which extend across the land/water interface, eg. within the port industrial area where health and safety issues may occur. Refer to Chapter 5, policy DO6.1.5 (access to Coastal Marine Area) regarding pedestrian access to specific areas of the coast.

CM7.1.ii Exception (e) recognises the difficulty of foreseeing all circumstances in which a restriction may be necessary. However, it is framed so as to require circumstances to be exceptional at a national level, as mandated by legislation or otherwise sufficient to override the national importance of unrestricted public access.

Method

CM7.1.iii Assessment of resource consents with respect to the maintenance of existing access. Restrictions may also be applied to access, in accordance with the criteria listed in this policy. The Council should consider opportunities to improve access to and along the coastline by way of:

a) encouraging private landowners to permit public access
b) purchasing land for roads, access strips or reserves
c) negotiating access strips and easements
d) encouraging and facilitating the establishment of walkways
e) attaching conditions to resource consents
f) providing formed access through ecologically sensitive areas where this is not detrimental to important ecological values.

policy
CM7.2 occupation

Exclusive occupation of space in the Coastal Marine Area should not be granted, and constraints on public access should not be imposed, unless

a) there is no practical alternative, and

b) the effects on public access would not be significant.

Explanation and Reasons

CM7.2.i The policy establishes criteria which need to be satisfied before an occupation permit will be granted. The criteria are considered to be justified in light of the national priority referred to above. See also New Zealand Coastal Policy Statement policy 4.1.6.

Method

CM7.2.ii Rules regulating exclusive occupation as a discretionary or non-complying activity, assessment of alternatives, necessity, and effects on public access.

policy
CM7.3 public access

Adverse effects of structures on public access to and along the coastal marine area shall be avoided as far as practicable in the first instance. Where avoidance is not practical, adverse effects shall be mitigated and provision made for remedying these effects to the extent practicable.

Explanation and Reasons

CM7.3.i Some structures eg. slipways, can improve public access to the coast. However, other types of structure eg. inappropriately designed coastal protection works, reclamations, may create obstacles to public access.

Method

CM7.3.ii Rules regulating all significant structures in relation to effects on public access.

policy
CM7.4 alternative access

Where existing access to or along the Coastal Marine Area (with the exception of the port industrial area) is permanently denied or restricted as a result of a use, development or protective measures, acceptable alternative access should be provided to offset the adverse effect.

Explanation and Reasons

CM7.4.i Self explanatory. The intent is that the person whose activities are responsible for the permanent loss of public access should provide alternative or upgraded access preferably in the same area or, if this is not possible, in a different area. The port industrial area is excluded as it is specifically addressed in policy D12.1.6 (Public access in the port area).

Method

CM7.4.ii Rules regulating provision of access and requiring financial contributions for access.

policy
CM7.5 esplanades on reclamation

Esplanade reserves or esplanade strips should be set aside or created where loss of public access to the Coastal Marine Area will occur as a result of a reclamation.

Explanation and Reasons

CM7.5.i The policy ensures that the requirements for an esplanade reserve or strip on a reclamation will be consistent with policy CM7.4 (alternative access) and that any loss of public access is taken into account.

Method

CM7.5.ii Rules regulating reclamation and requiring the creation or setting aside of esplanade reserves or strips.

policy
CM7.6 defence use

Provision should be made for use of the CMA for defence purposes, provided any adverse effects are avoided, remedied or mitigated. Defence purposes are those in accordance with the Defence Act 1990.

Explanation and Reasons

CM7.6.i Policy 4.1.5 of the New Zealand Coastal Policy Statement directs Regional Coastal Plans to make provision for the use of the CMA for defence purposes.

Method

CM7.6.ii Rules regulating the activities of the New Zealand Defence Forces in the Coastal Marine Area.

objective

CM8 natural hazards

Minimisation of the risks to people, property or other aspects of the environment, through the avoidance and mitigation of natural hazards within the coastal environment.

Reasons

CM8.i In the past, some public authority and private property owner responses to coastal erosion have not had the desired effect and some have adversely affected amenity values and public access, or displaced the effects elsewhere.

policy
CM8.1 activities

Activities, including structures, within the coastal environment should be located and designed to take into account:

a) any existing natural hazards, and
b) the potential to exacerbate natural hazards, and
c) the implications of climate change (including the possibility of sea level rise of 0.6 metres and increasingly severe storms), and
d) the policy (below) on coastal protection works

Explanation and Reasons

CM8.1.i The policy seeks to minimise future loss or damage to human life or property and to avoid the need to erect costly and potentially ineffective coastal protection works. Development in areas subject to hazards in some parts of New Zealand has led to property coming under threat and difficult choices between costly relocation or costly coastal protection works. Sea level is thought to be rising as a result of climate change and is expected to continue to rise over the next century. This Plan adopts a projected sea level rise of 0.6m in the next 100 years. This figure is based on a Ministry for the Environment (1993) estimate, and is consistent with the Regional Policy Statement. It is unlikely that the Council will allow protection works for use or developments that are carried out after the notification of this Plan and projected to be subsequently affected by sea level rise or other identified natural hazards, erosion, or inundation. A precautionary approach is considered desirable. The policy gives effect to New Zealand Coastal Policy Statement 3.4.1, 3.4.2 and 3.4.5.

Methods

CM8.1.ii Rules applying to the rural, residential and industrial zones of this Plan, in particular those governing minimum ground and floor level requirements. Rules governing coastal activities.

CM8.1.iii Council will draw to the attention of persons wishing to build structures or undertake other developments within the low lying areas of the coastal environment, the possibility of a sea level rise in response to global warming.

policy
CM8.2 protection works

Coastal hazard protection works will be allowed only in relation to use or development of areas of the coastal environment where they are the best practicable option and the positive effects of allowing the works are likely to be significantly greater than the adverse effects. Determination of this will include consideration of:

a) the probability of the works achieving their stated purpose, and
b) the public benefit from the use or development to be protected, and
c) the regional and national significance of the use or development to be protected, and
d) the effects of the protection works on the environment, including any change in the occurrence and rate of coastal erosion, or its location, and
e) the effects (including costs and benefits) of not proceeding with the works, and
f) measures previously taken, including decisions as to the location of the use and development, to avoid the need for coastal hazard protection works, and
g) alternatives to the development of coastal hazard protection works, and the reasons why those alternatives have not been proceeded with.

Explanation and Reasons

CM8.2.i The policy makes provision for coastal hazard protection works to be undertaken as a last resort, subject to full consideration of the options and likely effects of proceeding with the works.

CM8.2.ii It is anticipated that a demand for such works will only occur in relation to existing coastal developments. New use, development or subdivision in areas that may be adversely affected by coastal erosion or flooding should be avoided.

policy
CM8.3 temporary works

Coastal erosion protection works with a duration of less than five years may be allowed if:

a) the proposed works are removable, and
b) no permanent adverse effects on the environment (in particular, foreshore loss in front, or at the ends, of sea walls) will result from the placement, use or removal of the works, and
c) the protection is temporary in order to provide time to prepare and implement a plan to remove or reduce coastal erosion risk without the use of further protection works.

Explanation and Reasons

CM8.3.i Subject to this policy and an assessment under policy CM8.2, such temporary works may be allowed in circumstances where permanent protection works would not be allowed, provided that the protected asset or activity is intended to be relocated or otherwise protected.

CM8.3.ii The policy allows consideration of temporary coastal erosion protection works where those works are for the protection of an asset from coastal erosion while longer term management options are investigated. The intent of the policy is that the protected asset be removed, or the activity relocated, during the life of the protection works. If Council is satisfied that the requirements of policy CM8.3 are met, it will apply policy CM8.2 taking into account the temporary nature of the works and the long term protection plan, and may allow temporary works in circumstances where permanent works would not be allowed.

Method

CM8.3.iii Policies CM8.2 and CM8.3 are implemented in this Plan by making the construction of natural hazard protection structures a discretionary activity and by applying the criteria in the policies when considering consent applications.

policy
CM8.4 structures

Structures within the Coastal Marine Area should:

a) not interact with or intercept sediment flow in a way that could increase the risk of coastal erosion or accretion

Explanation and Reasons

CM8.4.i The policy places constraints on the location and design of structures and reclamations within the Coastal Marine Area. Clause (a) expresses an "ideal". In practice, most structures will have an effect on water movement. If the effects referred to cannot be avoided, remedied or mitigated, then the structures are unlikely to be allowed.

policy
CM8.5 disturbances

Disturbance of the foreshore or seabed should not remove such quantities of sediment from the onshore-offshore or longshore drift systems as to increase the risk of coastal erosion or accretion.

Explanation and Reasons

CM8.5.i Disturbance of the foreshore or seabed, whether or not it involves the actual removal of sediment, can result in a shortage of sediment to protect the coastline against wave action, causing or accelerating erosion.

Method

CM8.5.ii Policies CM8.4 (reclamations) and CM8.5 (disturbances) will be implemented by rules regulating structures, reclamations and disturbance of the foreshore and seabed.

objective

CM9 reclamation

To avoid inappropriate reclamation within the Coastal Marine Area.

Explanation and Reasons

CM9.i The objective reflects the potentially significant, and often irreversible adverse effects reclamation can have on the coastal environment. It also recognises that in some situations there may be no realistic alternative.

policy
CM9.1 reclamation

Reclamation shall generally be considered inappropriate unless it can be shown to be essential for the operational needs of the port, or for roading works along designated transport routes.

policy
CM9.2 precautionary approach

A precautionary approach shall be taken towards the granting of consents, by ensuring that any new reclamations:

a) have an operational need to be located within the Coastal Marine Area, and
b) demonstrate that an existing land-based site is not practicable, and
c) are the minimum practicable size for the proposed use, and
d) are not located within estuarine areas, and
e) are excluded from areas where natural habitats or character will be significantly adversely affected, and
f) avoid, remedy, or mitigate any adverse effects, and
g) will not erode under wave attack or cause foreshore or seabed erosion by reflecting wave energy, and
h) are located and designed in a way that has regard to the inevitability of major earthquake events, and
i) will not interact with or intercept sediment flow in a way that could increase the risk of coastal erosion or accretion.

Explanation and Reasons

CM9.2.i Reclamation, by its very nature, results in a loss of foreshore or seabed. It may also result in the loss of habitat, a reduction in biological productivity, or a restriction in the flow of water. This in turn may lead to sedimentation, higher concentrations of contaminants, or, in some situations, flooding.

CM9.2.ii In the past, reclamation of the Coastal Marine Area in Nelson has been used extensively as a means of obtaining flat land for port development and industrial purposes. The Nelson port company has given notice that they will require further land in the future for port operations. While this use is recognised as one of only few valid grounds for reclamation, providing a significant contribution to the regional economy, it must also be recognised that such works may have significant negative impacts, i.e. noise, and visual amenity, which affect both local residents and the community at large. For these reasons, it is important that any such proposal provides full opportunity for public input and comment.

CM9.2.iii Poorly designed reclamations may suffer significant adverse effects during a major earthquake. Even well designed reclamations are likely to be subject to more movement than basement rock during earthquakes. (This is one of the reasons why they should not be used as sites to store hazardous or dangerous materials if this can be avoided.)

CMe environmental results anticipated

The following results are expected to be achieved by the foregoing objectives, policies and methods. The means of monitoring whether this Plan achieves the necessary outcomes are also detailed below:

Anticipated environmental result	Indicators	Data source
CMe.1 Preservation of the natural character of the foreshore and seabed.	**CMe.1.1** The level of public complaints and/or media reports about loss of natural values in the Coastal Marine Area	Council records
CMe.2 Intrinsic values of coastal ecosystems protected, and life-support capacity maintained.	**CMe.2.1** Flora and fauna populations, biodiversity, water quality	Fishing catch records Council research
CMe.3 Protection of areas of significant conservation value, indigenous vegetation, habitats of indigenous fauna, and significant community types.	**CMe.3.1** Flora and fauna populations, biodiversity, water quality	Fishing catch records
CMe.4 Indigenous vegetation protected.	**CMe.4.1** Quantities and range of indigenous and exotic plants	Fishing catch records Council research
CMe.5 Maintenance or enhancement of amenity, recreational, landscape, cultural, educational and social values, including access.	**CMe.5.1** a) Number of people using CMA and nature of use b) Complaints, media reports	Inspection and surveys Council records
CMe.6 Unobstructed views to or from the sea, retention of landscapes and seascapes, and improved visual amenities.	**CMe.6.1** a) Placement of structures in or near CMA b) Complaints, media reports	Inspection Council records
CMe.7 A quiet coastal environment.	**CMe.7.1** a) Consistent application of standards and enforcement b) Complaints, media reports	Council records
CMe.8 Structures that are related only to coastal activities.	**CMe.8.1** Consistent treatment of resource consent applications by the Council.	Council records
CMe.9 Structures in the CMA that accommodate sea level rise and other natural hazards.	**CMe.9.1** Consistent application of standards and enforcement.	Council records
CMe.10 Natural coastal processes are not affected by structures.	**CMe.10.1** a) Erosion and sedimentation relative to natural levels b) Complaints, media reports	Council records
CMe.11 Water quality that supports community aspirations for use.	**CMe.11.1** a) No visual detractions from water quality b) Uses continuing in terms of classification c) Consistent enforcement of water standards	Fishing catch records Inspection Council research and files

CMs coastal marine water quality standards schedule

(Refer to Policy CM6.2 of this Plan)

Classification	Management Purpose	Standards to apply, after reasonable mixing	Reasons
FEA	Fishing, fish spawning, aquatic ecosystem, aesthetic purposes. (Applies over whole of Coastal Marine Area.)	1) The natural temperature of the water shall: a) not be changed by more than 2°C, and b) not exceed 25°C, and 2) The concentration of dissolved oxygen shall exceed the higher of 6mg/l or 80% saturation, and 3) There shall be no significant adverse effects on aquatic life arising from the discharge of a contaminant into water, a pH change, the deposition of matter on the foreshore or seabed, or any other cause, and 4) There shall be no a) production of any conspicuous oil or grease films, scums or foams or floatable or suspended material, and b) conspicuous change in the colour or visual clarity, and c) emission of objectionable odour in the receiving water.	(See reasons for policy CM6.2).
CR	Contact recreation	1) The visual clarity of the water shall not be so low as to be unsuitable for bathing, and 2) The water shall not be rendered unsuitable for bathing by the presence of contaminants, and 3) There shall be no undesirable biological growths as a result of any discharge of a contaminant into water, and 4) The median of samples taken over the bathing season shall not exceed 35 enterococci/100ml, and 5) No sample, in the following areas, shall exceed the following limits.	(See reasons for policy CM6.2).
SG	Shellfish gathering (offshore areas in Tasman Bay between 10-40m depth contour)	1) Aquatic organisms shall not be rendered unsuitable for human consumption by the presence of contaminants, and 2) The median faecal coliform content of samples taken over a shellfish gathering season shall not exceed 14 MPN per 100ml and not more than 10% of samples should exceed 43 MPN per 100ml.	(See reasons for policy CM6.2).

Area	*Use Category*	*Enterococci limit/100ml*
Tahunanui (main beach)	Designated bathing beach	104
Port opposite Cut	Moderate	153
Haven (at Atawhai)	Moderate	153
Tahunanui (back beach)	Light	275
Cable Bay	Light	275
Monaco	Light	275
The Glen Beach	Light	275

Classification	Management Purpose	Standards to apply, after reasonable mixing		Reasons
C	Cultural values (Delaware Inlet)	1)	The quality of the water shall not be altered in those characteristics which have a direct bearing on: a) the availability of seafood, and b) the quality of seafood, and c) the spiritual values of the water, and	(See reasons for policy CM6.2).
		2)	Aquatic organisms shall not be rendered unsuitable for human consumption by the presence of contaminants, and	
		3)	The median faecal coliform content of samples taken over a shellfish gathering season shall not exceed 14 MPN per 100ml and not more than 10% of samples should exceed 43 MPN per 100ml.	

CMi Information to be submitted with an application for a coastal permit

The following requirements are additional to those set out in Chapter 3 for all resource consent applications.

CMi.1 Occupation of coastal marine area

Any application for a coastal permit seeking rights of occupation (over and above those required for physical occupation by a structure) must include:

a) A statement of the reason for which the foreshore or seabed is to be occupied (eg. aquaculture facilities, wharf, reclamation)
b) An indication of the state of completion of the project (existing, partly developed, proposed)
c) Description of proposed works, including design specifications
d) Map reference to the site (use Infomap 260 1:50,000)
e) An accurate location and site plan, including scale, showing position of works, local named roads, north point, boundaries and other relevant features
f) Legal description of land at site (where applicable)
g) A consideration of alternatives to occupation rights and demonstration of how granting rights to occupy is the most appropriate course of action to take
h) A statement detailing any consultation with any person or organisation that might be affected by the proposal, and, including tangata whenua

CMi.2 Use, construction or placement of a structure

Any application for a resource consent for use, construction or placement of any structure must, where relevant, include:

a) a description of the activity, including the methods and materials to be used
b) a description and map showing the location of the structure
c) a drawing or drawings of the structure
d) a statement regarding the proposed use of the structure and why it must be located in the Coastal Marine Area
e) in respect of a shore protection structure, an evaluation of alternative means of mitigating the hazard
f) when the proposed structure is a natural hazard protection work, the applicant must supply sufficient information to enable the assessment required by the relevant policies of this Plan
g) a statement of the period of time required to complete the work associated with the activity

h) a description of the final external appearance of the structure
i) a statement of any proposed maintenance programme
j) a statement of how the structure will be removed if it is no longer required, or the reasons why such removal is not warranted
k) a description of the foreshore and seabed at the site, including fauna and flora, sediment type, details of any existing subaqueous cables, and suitability as a foundation for any structure
l) a statement detailing any consultation with any person or organisation that might be affected by the proposal, including, in particular, tangata whenua
m) a statement of the degree of exclusive occupation required, and why such exclusive occupation is required

CMi.3 Disturbance of foreshore or seabed

An application for a resource consent for any activity involving the destruction, damage, or disturbance of foreshore or seabed must, where relevant, include:

a) a description of the activity, including the methods and materials to be used
b) a map at an appropriate scale showing the location of the activity
c) a statement of the reason for the proposed activity, and consequences of not undertaking the activity, and if the activity involves the removal of sand, shingle, shell or other natural materials for commercial purposes, a description of any available alternative to what the applicant seeks to do, and the applicant's reasons for making the proposed choice
d) a description of the fate of the material that is damaged, destroyed, or disturbed
e) a description of the plants and animals found at and immediately adjacent to the site
f) a description of public use of the site
g) details of the geological nature of the foreshore or seabed to be damaged, destroyed, or disturbed, including the particle size distribution for unconsolidated sediments
h) a statement detailing any consultation with any person or organisation that might be affected by the proposal, including, in particular, tangata whenua

CMi.4 Deposition of Substances on Foreshore or Seabed

Any application for a resource consent for an activity resulting in the deposition of substances on foreshore or seabed must, where relevant, include:

a) a description of the activity, including the methods to be used
b) a map at an appropriate scale showing the location of the activity
c) a statement of the reason for the proposed activity, and the consequences of not undertaking the activity
d) a statement of the source of the material to be deposited
e) in description of the plants and animals found at and immediately adjacent to the deposition site
f) a description of public use of the site
g) a description of the characteristics and composition of the substance to be deposited, including:
    i) total amount and average composition
    ii) form (for example, solid sludge, liquid or gaseous)
    iii) properties - physical (for example, solubility and density), chemical and biochemical (for example, oxygen demand, metals, nutrients), and biological (for example, presence of viruses, bacteria, yeasts, parasites)
    iv) toxicity of the substance and its components
    v) persistence - physical, chemical and biological
    vi) accumulation and biotransformation in biological materials or sediments
    vii) susceptibility to physical, chemical and biochemical changes and interaction in the aquatic environment with other dissolved organic and inorganic materials
    viii) probability of production of taints or other changes reducing marketability of resources (including fish and shellfish)

h) a description of the characteristics of the deposition site, including:
i) methods of packaging and containment, if any
ii) initial dilution achieved by proposed method of release
iii) dispersal characteristics (for example, effects of currents, tides, and wind on horizontal transport and vertical mixing)
iv) water characteristics (for example, temperature, pH, salinity, stratification, chemical oxygen demand (COD), biochemical oxygen demand (BOD) nitrogen present in organic and inorganic form, including ammonia, suspended matter, other nutrients, and productivity)
v) bottom characteristics (for example, topography, geotechnical, geological, physical and chemical characteristics and biological productivity)
vi) existence and effects of other dumpings which have been made
i) a statement detailing any consultation with any person or organisation that might be affected by the proposal, and, in particular, tangata whenua

CMi.5 Discharges of contaminants

An application for a resource consent for an activity involving the discharge of a contaminant or water to water in the Coastal Marine Area must, where relevant, include:

a) a description of the activity producing the discharge, including any treatment methods to be used
b) an accurate map at an appropriate scale showing site plan, the location of the discharge point (map reference, use Infomap 260 1:50,000) and address of discharge source, for inspection purposes
c) legal description of land (shown on rate demand) of discharge source
d) full description of works to be constructed, including any discharge structure
e) a description of the nature of the discharge including, where relevant - temperature; BOD, suspended solids concentration; pH; the chemical content of the discharge, including in particular any heavy metals or other toxic substances; dissolved solids; faecal coliform, or enterococci concentrations; any deleterious micro-organisms
f) Maximum daily discharge (cubic metres/day), maximum discharge rate (litres/second), and number of hours/day that discharge will occur
g) full description of any seasonal or time-related variation in discharge strengths and volumes expected (if applicable)
h) a statement of any possible changes to the nature of the discharge that might result from failure of equipment or a similar event, and the contingency plans that have been developed to deal with such situations
i) a description of maintenance requirements for equipment and structures used in the discharge
j) a description of the dispersal characteristics, including the effect of currents, tides, waves, and winds on horizontal transport and the vertical mixing of the contaminant
k) a statement of any possible alternative methods of discharge, including discharge into any other receiving environment, and the reasons why the applicant has chosen their discharge option
l) In the case of a discharge of human sewage, the following points as applicable:
    i) a statement certifying that the discharge is of a temporary nature and a description of any exceptional circumstances which justify the granting of a permit
    ii) why such discharge would better meet the purpose of the Act than disposal on to land
m) a statement detailing any consultation with any person or organisation that might be affected by the proposal, and, in particular, tangata whenua, and the response received

CMi.6 Taking, use, damming or diversion of water

An application for a resource consent for taking, use, damming or diversion of water in the Coastal Marine Area must, where relevant, include:

a) reason for which water is to be taken or used or both (industry, other (specify))
b) description of activity and locality map (use Infomap 260 1:50,000)
c) a description of any structures, including abstraction structures
d) an indication of the state of completion of the project (existing, partly developed, proposed)
e) quantities of water applied for:
    i) maximum daily quantity (cubic metres per day)
    ii) total annual quantity (cubic metres per year)
    iii) maximum abstraction rate (litres per second)
f) where application relates to activity within an estuary, demonstrate the need for volumes of water sought
g) indicate what alternative water supplies or water collection or storage methods have been considered to meet this need and the suitability or otherwise of the alternatives

CMi.7 Reclamations

An application for a resource consent to reclaim or drain foreshore or seabed must, where relevant, include:

a) a description of the activity including the methods and materials to be used
b) adequate information to accurately show the area proposed to be reclaimed or drained, including its size and location, and the portion of that area (if any) to be set apart as an esplanade reserve under section 246(3) of the Act
c) a description of the foreshore or seabed to be reclaimed or drained, including fauna and flora, sediment type, and suitability as a foundation for any reclamation and/or retaining wall
d) a description of the Coastal Marine Area adjacent to the proposed reclamation, including the physical character, ecological values, amenity and heritage values, tangata whenua values, and existing activities
e) a statement of the reasons why reclamation or draining is the most appropriate way of providing for the activity, and the consequences of the application not being granted. This should include a description of the proposed uses of the reclaimed area and an evaluation of alternatives both within and outside of the Coastal Marine Area
f) if the reclamation is adjacent to land outside of the Coastal Marine Area, a description of land uses in the adjacent land area
g) a description of the final external appearance of the reclamation
h) a statement of the period of time to complete the work associated with the activity
i) a statement that the reclamation or draining has been designed using current engineering practices, and appropriate allowance has been made for the effects of sea level rise, waves and currents, and earthquakes
j) a statement detailing any consultation with any person or organisation that might be affected by the proposal, including, in particular, tangata whenua

CMi.8 Introduction of exotic plants

An application for a resource consent for the introduction or planting of any exotic or introduced plant in the Coastal Marine Area, must, where relevant, include:

a) a description of the activity producing the discharge, including any treatment methods to be used
b) a map at an appropriate scale showing the location of the activity
c) a description of the area, within a zone of influence of the site, including:
   i) substrate characteristics
   ii) existing ecological structure, ecological processes and indigenous fauna and flora in the area, including an analysis of their significance and their resilience to the effects of exotic or introduced plant species
   iii) water characteristics (effects of currents, tide and wind on potential for plant dispersal in the water column)
d) a statement of the reason for the proposed activity, and the consequences of not undertaking the activity
e) the characteristics of the plant, including the following where applicable:
   i) its life cycle, including seasonal variations and favoured environments
   ii) reproductive cycle, rate of reproduction and method of dispersal
   iii) normal distribution of the plant outside and inside New Zealand
   iv) interaction with indigenous flora and fauna
   v) details about the plant's distribution in the Coastal Marine Area
f) details about associated structures
g) a statement detailing any consultation with any person or organisation that might be affected by the proposal.

rules coastal marine area

CMr Rules

CMr.1 Rule table - rules

This section and the Rule Tables that follow contain rules applicable in this Area.

Note that there may be relevant District-wide rules that appear in the Appendices. These rules will be linked to the Area rules either by direct reference from within the Area rules, through definitions, or through overlays or other notations on the maps. These rules must also be complied with.

Note also that a small portion of the Coastal Marine Area adjacent to the commercial port is zoned Industrial. Within this area, the provisions of both Chapter 13 (Coastal Marine Area) and Chapter 10 (Industrial Zone) apply. Where there is any conflict, the Coastal Marine provisions shall take precedence.

CMr.2 Prohibited activities

The following activities are prohibited activities for which no resource consent shall be granted:

a) Use, storage, or disposal of radioactive material with an activity exceeding 1000 terabecquerels
b) Disposal of hazardous substances
c) The introduction or planting of the exotic plant species Spartina
d) Aquaculture structures in estuaries

CMr.3 Permitted activities

A permitted activity is one that is allowed without a resource consent if it complies with the conditions specified in the "permitted" column of the Rule Table. In the Coastal Marine Area, a resource consent must be obtained for any activity not expressly referred to in the rules.

Certain permitted activities are subject to a condition for the payment of Financial Contributions of the amounts, and for the purposes, set out in Chapter 6. This condition is additional to any conditions mentioned in the rules, and may be the only condition in the case of activities where conditions are not otherwise mentioned in the rules. The permitted activities subject to a condition for financial contributions are:

a) Building work
b) Connection to the Council's water supply system
c) Connection to the Council's sewerage system for the purpose of disposing of trade waste
d) As provided in rules

CMr.4 Controlled activities

A resource consent is required for a controlled activity. (See Chapter 3 for a fuller description of controlled activities.) Controlled activities must comply with the standards and terms set out in the "controlled" column of the Rule Table. Consent will usually be granted for a controlled activity. Conditions may be imposed on the matters stated in the column as matters that control is reserved over. These matters are also relevant to the assessment of effects to be supplied by the applicant for a resource consent. (See rule CMr.9 below regarding further matters of control.)

CMr.5 Discretionary activities/restricted discretionary activities

A resource consent is required for a discretionary activity. (See Chapter 3 for a fuller description of discretionary activities.) Discretionary activities must comply with the standards and terms set out in the "discretionary" column of the Rule Table. The Council has discretion to grant or refuse consent. The matters stated in the "assessment criteria" column of the Rule Table will guide assessment of effects and conditions, but do not restrict the Council's discretion. Conditions of any type

authorised by the Act (including financial contributions under Chapter 6) may be imposed on discretionary activities.

Some discretionary activity rules state that discretion is restricted. In these cases, the Council may refuse consent, or impose conditions only in respect of the matters stated in the discretionary column as matters that discretion control is restricted to. These matters are also relevant to the assessment of effects to be supplied by the applicant for a resource consent. (See rule CMr.9 below regarding further matters of restricted discretion.)

Note that some non-complying activities may also be listed within the "Discretionary" column. Where this occurs the column has been headed "Discretionary/Non-complying".

CMr.6 Non-complying activities

A resource consent is required for a non-complying activity. (See Chapter 3 for a fuller description of non-complying activities.) Non-complying activities mostly arise where activities do not comply with the standards and terms set out in the "discretionary" column of the Rule Table (as per AD6.5.ii in Chapter 3 Administration, activities in these circumstances should automatically be considered non-complying). A direct statement of non-complying activities may also appear in the rules. The Council has discretion to grant or refuse consent and is required to refuse in certain circumstances (see Chapter 3). Conditions of any type authorised by the Act (including financial contributions under Chapter 6) may be imposed on non-complying activities.

CMr.7 Restricted coastal activities

The requirement for an activity to be specified as a restricted coastal activity was removed by the NZ Coastal Policy Statement 2010.

CMr.8 Scheduled sites

Any activity listed in a Schedule following the Rule Table shall comply with the rules set out in that Schedule.

CMr.9 Controlled activities and restricted discretionary activities.

In the Rule Tables every controlled activity, and every discretionary activity where discretion is restricted, contains a list of matters over which control is reserved, or discretion is restricted. The matters listed below are additional matters applicable to every controlled activity and restricted discretionary activity. They are stated here, rather than repeated in Rule Tables, in order to save space.

Matters over which control is reserved or discretion restricted:

CMr.9.a Financial contributions in the form of money, land, works or services, or a combination of these. (See Chapter 6), and

CMr.9.b Bonds or covenants or both, to ensure performance or compliance with any conditions imposed, and

CMr.9.c Administrative charges to be paid to the Council in respect of processing applications, administration, monitoring and supervision of resource consents, and for the carrying out of the Council's functions under section 35 of the Act, and

CMr.9.d The duration of a resource consent, under section 123 of the Act, and

CMr.9.e Lapsing of a resource consent, under section 125 of the Act, and

CMr.9.f Change and cancellation of a consent, under sections 126 and 127 of the Act, and

CMr.9.g Notice that some or all conditions may be reviewed at some time in the future, under section 128 of the Act, and

CMr.9.h Whether any land use or subdivision consent should attach to the land to which it relates, and be enjoyed by the owners and occupiers for the time being, under section 134 of the Act, and

CMr.9.i The matters listed in CMr.10, and

CMr.9.j Transferability of resource consents as set out in Section 135 of the Resource Management Act 1991.

CMr.10 Conditions on discharge permits

When considering any coastal permit to discharge contaminants or water into coastal water, Council may impose conditions in respect of any matter that it considers appropriate for the purposes of fulfilling the requirements of the Act, including any of the following:

a) flow recording
b) review of conditions
c) the mixing zone
d) receiving water standards to be upheld
e) monitoring of receiving environment
f) the location, flow rates, timing of the discharge
g) effluent standards, composition, concentration, total load of contaminants
h) effluent monitoring
i) means to avoid, remedy or mitigate potential adverse effects including the use of the best practical option for the treatment or disposal of contaminants
j) preparation of contingency plans
k) provision of warning signs
l) public notification of the intention to discharge
m) the term of the consent
n) administrative charges
o) review
p) transferability of resource consents as set out in Section 135 of the Resource Management Act 1991.

CMr.11 Regional rules, and regional and district rules

In the Rule Tables a number of rules are indicated as being Regional rules, or Regional and District Rules. These are rules that derive in total or in part from the regional functions of the Council. Regional rules have a different impact on matters such as designations (which must comply with regional rules) and existing use rights, which are much more limited in respect of regional matters. See sections 176 (Effect of a designation), 10 (Certain existing uses in relation to land protected), 10A, 10B, and 20 (Certain existing lawful activities allowed) of the Resource Management Act 1991.

CMr.12 Zoning for new reclamations at the Port Industrial Area

Any reclamation which is

a) approved by resource consent, and
b) constructed after 25 October 1996, and
c) within the boundaries of Port Nelson Limited's coastal permit as defined on Planning Maps 6 and 10 in Volume 4 of this Plan,

shall be deemed to be zoned Industrial

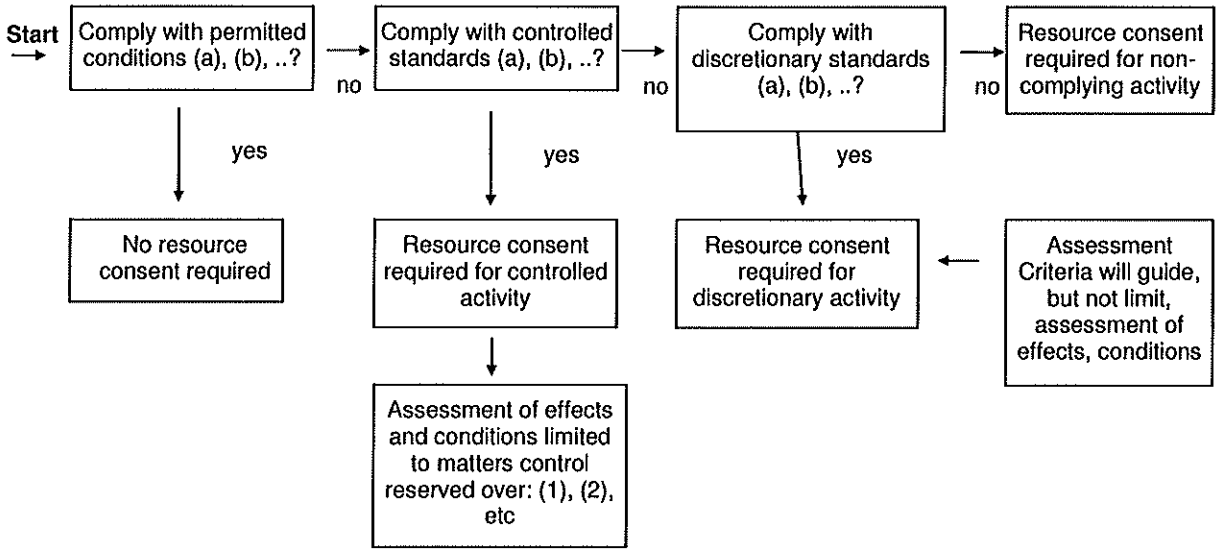
CMr.13 Reading the rule table

Each row of the Rule Table presents rules that regulate or allow one activity, or type of activity, or effect. Read along the row from left to right to determine whether a proposed activity is permitted, controlled, discretionary or non-complying. This progression across the Rule Table is called a "cascade." (See flow chart below.)

If an activity satisfies the conditions stated in the permitted activity column, then it is permitted. If not, look to the next column (controlled). If it satisfies the standards and terms in the controlled column, it is a controlled activity. If not, then look at the next column (discretionary) to see if it fits the standards and terms stated there. If the activity satisfies the standards and terms in the discretionary column it is discretionary. Otherwise it is a non-complying activity.

Further explanation of the Rule Table and cascade is contained in Chapter 3.

The following flow chart illustrates the cascade across the Rule Table.



CMr.13.1 Note that there are some rules, generally relating to post-development conditions, which do not trigger the activity into requiring a discretionary resource consent. Where relevant, this is indicated in the explanation to those rules.

Contents of coastal marine area rule table

rule table

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.20 **Exclusive occupation** [note – this rule is a regional rule]	CMr.20.1 Exclusive occupation of the Coastal Marine Area is a permitted activity if: the occupation is solely by a structure, permitted under a rule in this Chapter or a resource consent.	CMr.20.2 not applicable	CMr.20.3 Exclusive occupation of the Coastal Marine Area that contravenes a permitted condition is discretionary, provided that the area occupied is not within the Marine ASCV Overlay, and it does not exceed 0.5ha. Exclusive occupation of the Coastal Marine Area is a non-complying activity if the area occupied is in the ASCV overlay, or between 0.5ha and 10ha. Exclusive occupation of the Coastal Marine Area is a non-complying activity if it would: i) exclude or effectively exclude public access from areas over 10ha (except where such exclusion is required in commercial port areas for reasons of public safety or security), or ii) exclude or effectively exclude the public from more than 316m along the length of the foreshore, or iii) involve occupation or use of areas greater than 50ha and such occupation or use would restrict public access to or through such areas.

coastal marine area

Assessment Criteria	Explanation
CMr.20.4 a) the values for which any occupied area has been identified as having significant conservation value including any new information. b) any circumstances which make continued treatment of the area as having significant conservation value inappropriate. c) The effect of the activity proposed on the values identified and the environment in general. d) The availability of alternative sites. e) Ways in which adverse effects of the activity proposed can be avoided, remedied or mitigated or can be offset by enhancement of other areas. f) the justification for exclusive occupation and the extent of the occupation. g) existence or otherwise of practical alternatives to exclusive occupation. h) effects on public access and non-exclusive uses such as fishing, recreational activities. i) payment by the person responsible for the activity to the Council, on behalf of the Crown, a coastal occupation charge stipulated by Council in accordance with the Resource Management Act. j) the effect on historic heritage.	CMr.20.5 The exclusive occupation of large areas of the Coastal Marine Area is a non-complying activity. Activities involving the occupation of coastal space can affect public access and other activities, depending on the degree of exclusion sought. Proposals for such activities need to be subject to full Council and public scrutiny. Portions of the Rocks Road retaining wall are in the Coastal Marine Area and this occupation of space is permitted. It should be noted that there are some parts of the Coastal Marine Area that are contained in titles which are in private ownership.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.21 **Structures – general** [note – this rule is a regional rule]	CMr.21.1 Erection or placement of structures in the Coastal Marine Area is permitted if: the structure is one of the following, permitted under a rule in this Chapter: i) outfall structures ii) mooring anchor blocks. iii) temporary structures, other than whitebait stands, or a) the structure is permitted under another rule in this Chapter, or b) the structure is a temporary structure, removed within six weeks of construction.	CMr.21.2 a) Erection or placement of any berthing structure or launching structure with a handling capacity of 130 tonnes or less gross weight is controlled if: i) the structure is located inside the seaward boundary of the coastal permit granted to Port Nelson Limited dated 27 July 1994, or falls within the additional area identified on Planning Map 6; and ii) is erected within that part of the area described in i) above which lies to the north of the line A-B showing on Planning Maps 6 and 10; and iii) the structure does not extend into the Coastal Marine Area beyond the line of any adjoining structure, or beyond a line 25m from, and parallel to, MHWS; and iv) the activity is not contrary to any other provisions of the Plan; OR b) Placement of a mooring is controlled if the mooring is within an area of existing moorings that has available additional mooring space and the mooring when complete does not prevent reasonable navigation between any existing launching, mooring or berthing facility and the Port entrance. In respect of a) above control is reserved over: i) design of structure (including height and construction materials); ii) the siting and nature of any mooring; iii) provision of waste disposal facilities; iv) contingency planning to prevent spills of contaminants; v) noise and light emissions; vi) public access; vii) timing of works; viii) the duration of the consent; ix) information and monitoring requirements; x) coastal occupation charges; xi) navigational safety. In respect of b) above control is reserved over: i) The siting and nature of any mooring; ii) The duration of the consent; iii) Coastal occupation charges; iv) Navigational safety.	CMr.21.3 Erection or placement of structures that: a) are not dealt with specifically in other rules, or b) are floating or open pile structure(s) which will not impede water flow, or c) contravene a permitted condition or controlled standard in this rule are discretionary. Erection or placement of structures within the estuaries is a non-complying activity. (N.B. Refer Rule CMr.2 – Prohibited Activities).
CMr.22 **Out fall and navigation structures** [note – this rule is a regional rule]	CMr.22.1 Outfall structures are permitted if: a) maximum internal diameter is 800mm, and b) it extends 6m or less into the Coastal Marine Area, and c) placement or use of the structure does not result in erosion, scour, or deposition, and d) it is placed or designed in such a way as to prevent tidal back flow and fish entrapment, and e) it is not placed on or adjacent to Tahunanui Main Beach, (other than the Rocks Road retaining wall, which is permitted). Structures for the sole purpose of navigation aid for shipping are permitted if they are located within the Port Operational Area.	CMr.22.2 Structures for the sole purpose of a navigation aid for shipping are controlled where the structure is not located within the Port Operational Area. Control reserved over: i) location, and ii) design matters that relate to visual amenity, nuisance, and iii) the duration of the consent, and iv) information/monitoring requirements, and v) effects of noise and glare.	CMr.22.3 Activities that contravene a permitted condition or controlled standard are discretionary.

Assessment Criteria	Explanation
CMr.21.4 a) the appropriateness of the structure. b) the suitability of the site in terms of prevailing wave, tide and wind conditions, particularly during storm events. c) the extent of the area potentially affected and likely effects on conservation values. d) effects on physical or ecological process. e) effects on public access, amenity and recreation values. f) the manner in which access, dinghy storage and parking would be dealt with on land. g) the proximity of existing launching or mooring structures (areas with existing lawful moorings will be favoured over locations without moorings). h) effects on navigational safety. i) effects on water quality. j) the effect on historic heritage. In the case of structures in Marine Areas of Significant Conservation Value, these additional criteria: k) the values for which the area has been identified as having significant conservation value as listed in Appendix 4 including any new information. l) the effect of the activity proposed on the values identified and the environment in general. m) the availability of alternative sites. n) ways in which adverse effects of the activity proposed can be avoided, remedied or mitigated or can be compensated for by enhancement of other areas. o) any circumstances which make continued treatment of the area as having significant conservation value inappropriate.	CMr.21.5 Some provision is made for the erection or placement of minor launching or berthing structures within the northern part of the Port industrial area subject to limitations on size, location, and Council control over design and operational features. The rule recognises the highly modified nature of the Port environment and its primary function as a transport node and point of access to and from the sea. It is appropriate that proposals for the erection or placement of launching mooring or berthing structures outside the port area be subject to full Council and public scrutiny through the discretionary consent process. The erection or placement of launching or berthing structures at the southern extremity of the port, or of other structures within the Coastal Marine Area (i.e. other than those dealt with in specific rules) has the potential for significant adverse effects on navigation safety, amenity values, or conservation values. Consequently "other structures" are dealt with as discretionary activities subject to full Council and public scrutiny. This rule covers structures used for aquaculture. There are other rules that specifically deal with the erection or placement of structures, other than provided for in CMr.21.3, and reference should be made to the more specific rules in this chapter.
CMr.22.4 a) extent to which the structure may be used for purposes other than its intended purpose. b) effects of noise and glare. c) effects on visual amenity values. d) potential for structure to cause erosion or deposition. e) effects on tidal back flow/fish entrapment. f) potential of structure to obstruct fishing activities or to be at risk from dragging anchors. g) effect of construction on ecological and amenity values. h) the effect on historic heritage.	CMr.22.5 Navigation aids are essential for safety reasons. The placement and operation of navigation aids although generally low impact activities, can have significant adverse effects on visual amenity values and, consequently, their siting needs to be subject to a degree of planning control. However, navigation aids are permitted within the Port Operational Area as they are essential and are unlikely to have significant effects within this highly modified coastal environment. The placement of small outfall structures generally has little effect on the environment if sound design and construction principles are adhered to. The placement of larger outfall structures has greater potential for adverse effects and is therefore treated as a discretionary activity. Note that discharges from outfall structures are regulated under separate rules.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.23 **Mooring anchor blocks** [note – this rule is a regional rule]	CMr.23.1 Mooring anchor blocks on the sea bed are permitted if: a) the block is located within that part of the Coastal Marine Area which falls within the Industrial Zone at Port Nelson, and b) no vessel moored to the block is within 50m of the line of lowest astronomical tide, and c) at least five working days before placement, the Harbourmaster is notified that placement is to occur.	CMr.23.2 not applicable	CMr.23.3 Any mooring anchor block which does not comply with the permitted standard is discretionary.
CMr.24 **Maintenance of structures** [note – this rule is a regional rule]	CMr.24.1 Maintenance of existing structures is permitted if: a) any alteration, reconstruction or replacement of an existing structure is contained within the form of the existing structure, and b) activity uses material of a similar type to that used in the existing structure, and c) activity does not substantially change the appearance of the structure (repainting does not constitute such change), and d) activity disturbs less than $10m^3$ of sand, shingle, shell or other natural foreshore or seabed material, and e) i) activity does not result in the release of contaminants to coastal waters, or ii) the maintenance is of an approved aquaculture structure.	CMr.24.2 Maintenance of existing structures that contravenes a permitted condition are controlled if: a) less than $100m^3$ of sand, shingle, shell or other natural foreshore or seabed material is disturbed. Control reserved over: i) the extent and nature of the disturbance to the foreshore or seabed, and ii) design matters that relate to visual amenity, and iii) the duration of the consent. iv) Information and monitoring requirements, and v) Administrative charges payable.	CMr.24.3 Activities that contravene a permitted condition or controlled standard are discretionary.

Assessment Criteria	Explanation
CMr.23.4 a) suitability of site as a mooring area (potential conflict with other uses, including navigational safety). b) proximity of other mooring areas. c) location of vessel relative to low tide. d) depth of burial of mooring block. e) the effect on historic heritage.	CMr.23.5 The placement of a mooring anchor block is a low impact activity which should be permitted providing the block is inside an existing mooring area and basic design/construction criteria are adhered to. Council wishes to retain the ability to decline an application for a site outside a designated mooring area.
CMr.24.4 a) effects on erosion or deposition. b) effects on visual amenity values. c) ecological effects. d) effects of noise and glare. e) the duration of any adverse effects, i.e. whether restricted to maintenance phase or longer term. f) the effect on historic heritage.	CMr.24.5 It is desirable that existing structures be adequately maintained. Most maintenance activities are low impact activities which need not be subject to resource consent procedures. A degree of control is retained over activities which involve significant disturbance to the foreshore or seabed or which do not comply with specified performance standards. It is appreciated that aquaculture structures need to be regularly removed and maintained. Under this Plan, it is intended that the issue of maintenance and its possible environmental effects be considered at the time of application for a coastal permit for an aquaculture structure. Consequently, clause e) ii) of rule CMr.24.1 treats the maintenance of an approved aquaculture structure as a permitted activity.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.25 **Removal or demolition of structures** [note – this rule is a regional rule]	CMr.25.1 Removal or demolition of any structure is a permitted activity if: a) less than $10m^3$ of sand, shingle, shell or other natural foreshore or seabed material is disturbed, and b) no waste is placed, or any contaminant released, into the Coastal Marine Area, and c) sediment disturbance will not result in conspicuous discoloration of water, and d) removal or demolition of the structure will not significantly affect sediment movement or lead to increased erosion or scour, and e) the structure is not listed as a heritage building, place or object in Appendix 1, and f) at least five working days before removal or demolition commences, the Council planning department is given written notice that the activity is to occur.	CMr.25.2 Removal or demolition of a structure is controlled if: a) less than $100m^3$ of sand, shingle, shell or other natural foreshore or seabed material is disturbed and b) no waste is placed, or any contaminant released, into the Coastal Marine Area, and c) the structure is not listed as a heritage building, place or object in Appendix 1. Control reserved over: i) the extent and nature of the disturbance to foreshore or seabed, and ii) the extent and nature of any part of the structure which is to remain in the Coastal Marine Area, and iii) the duration of consent, and iv) information and monitoring requirements.	CMr.25.3 Activities that contravene a permitted condition or controlled standard are discretionary. (Heritage items in Appendix 1 are dealt with in separate rules below.)
CMr.26 **Temporary structures** [note – this rule is a regional rule]	CMr.26.1 Erection or placement of any temporary structure is permitted if: a) less than $10m^3$ of sand, shingle, shell or other natural foreshore or seabed material is disturbed, and b) it is to be used for an activity permitted by this Plan, or by a coastal permit, and c) it is not a whitebait stand, and d) it will be in place for less than 31 days, inclusive of days of erection or placement and removal, and e) it does not result in loss of existing lawful public access to the Coastal Marine Area, and f) it does not compromise navigational safety.	CMr.26.2 Erection or placement of temporary whitebait stands are controlled if: a) the structure is 100m or more distant from the nearest whitebait stand, and b) the structure does not cause erosion, scour or significantly divert water, and c) the width of estuary at the point of structure placement is at least 10m, and d) the structure extends no more than 2m over the estuary, river, or stream bed in a direction at right angles to the bank, and e) the structure is removed at the end of the whitebait season. Control reserved over: i) the length, width and height of the structure, and ii) Occupation and public access, and iii) Duration of consent and removal of structure, and iv) Monitoring and review.	CMr.26.3 Erection or placement of structures that contravene a permitted condition or controlled standard are discretionary.

Assessment Criteria	Explanation
CMr.25.4 a) potential effects on erosion, scour, deposition in immediate vicinity or over wider area. b) effects on visual amenity values. c) effects of noise and glare. d) water quality/ecological effects. e) implications (if any) of non-compliance with standards or terms applying to permitted or controlled activities. f) the duration of any adverse effects. g) the effect on historic heritage.	CMr.25.5 It is desirable that most structures within the Coastal Marine Area be removed without the need for time consuming and costly applications for resource consents, providing they are low impact activities and comply with specified conditions. Control is retained over removal or demolition activities which involve significant disturbance to the foreshore or seabed or which do not comply with the specified performance standards. Demolition or removal of a heritage building, place or object in Appendix 1 is dealt with in separate rules below.
CMr.26.4 a) the degree of disturbance of foreshore or seabed. b) potential effects on navigational safety. c) effects on public access, amenity and recreational values. d) effects on conservation values. e) potential for interference with fishing activities. f) whether associated activity is allowed by the Plan or a coastal permit. g) the effect on historic heritage.	CMr.26.5 The rule makes provision for the placement and removal of temporary, low impact, structures within the Coastal Marine Area without the need to apply for a coastal permit. Control is exercised over the placement and design of whitebait stands because of the potential demand for; and possible effects of, such structures. Temporary structures which do not comply with the performance standards specified for permitted or controlled activities will be subject to full Council and public scrutiny.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.27 **Network utility structures** [note – this rule is a regional rule]	CMr.27.1 The maintenance and operation of an existing lawful network utility structure is permitted if the amount of disturbance to the foreshore or sea floor is minimised. In this case maintenance includes all disturbance of the foreshore or seabed and damage to or removal of vegetation.	CMr.27.2 Construction or placement of a communication or electricity cable, or pipeline (including associated activities and occupation of the Coastal Marine Area) is controlled if cables or pipelines are either buried within the foreshore and seabed or attached to a bridge when crossing a river. Control reserved over: i) the location of the cable or pipeline within the general area of application, and ii) disturbance of foreshore and seabed, and iii) method of construction or placement including depth of burial, and iv) noise and light emissions during period of construction, and v) timing of works, and vi) duration of consent and removal of structure, and vii) monitoring and review, and viii) coastal occupation charges.	CMr.27.3 Activities that contravene a permitted condition or controlled standard are discretionary. The erection of a structure that is solid (or represents a significant barrier to water or sediment movement), is sited obliquely or perpendicular in horizontal projection to the line of mean high water springs, and is in horizontal projection 100m or more in length, is a discretionary activity.
CMr.28 **Impounding or containing structures** [note – this rule is a regional rule]	CMr.28.1 Erection of impounding or containing structures is not a permitted activity.	CMr.28.2 not applicable	CMr.28.3 The erection of a structure is a discretionary activity if it will impound or effectively contain any part of the coastal marine area. If a structure is to be erected within an estuary, it is a non-complying activity.

Assessment Criteria	Explanation
CMr.27.4 a) effects on landscape or visual amenity values. b) the extent to which the applicant is able to demonstrate that the network utility would be located in the best practical position in terms of its effects on visual amenity values and the effects of construction and future maintenance on conservation or ecological values. c) risk to boats passing, or being transported under, any overhead wires. d) the effect on historic heritage.	CMr.27.5 Provision is made for the maintenance of existing lawful network utility structures within the Coastal Marine Area without the need to apply for a resource consent. The construction or placement of a buried cable or pipeline is a controlled activity, meaning that applications must be granted but conditions may be attached with respect to the matters specified, including the details of location. The construction or placement of overhead cables is a discretionary activity because these may have a significant adverse effect on visual amenity values within the Coastal Marine Area. The rules indicate a general preference for the burial of upgraded or new cables and pipelines. Maintenance and operation of existing utilities is permitted in accordance with the definition of "maintenance" in Chapter 2.
CMr.28.4 a) the size and location of the area affected. b) effects on conservation values, amenity values, public access and recreation. c) effects on physical and ecological processes. d) effects on water quality. e) effects on movement of migratory species or potential loss of nursery or feeding areas. f) the effect on historic heritage.	CMr.28.5 Impounding or containing structures have the potential to alter the ecology of surrounding areas. They may also have significant effects on public access, visual amenity, and water quality. It is therefore appropriate that they be subject to full Council and public scrutiny.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.29 **Large solid structures** [note – this rule is a regional rule]	CMr.29.1 Construction of large solid structures is not a permitted activity.	CMr.29.2 not applicable	CMr.29.3 The erection of a structure is a discretionary activity (non-complying if located within an estuary) if it is solid (or presents a significant barrier to water or sediment movement), and is either i. 300m or more in length, more or less parallel to the line of mean high water springs (including separate structures the sum of whose length is 300m or more), or ii) sited obliquely or perpendicular in horizontal projection to the line of mean high water springs in the Coastal Marine Area; and is in horizontal projection 100m or more in length.
CMr.30 **Clearance around out falls, culverts or intake structures** [note – this rule is a regional rule]	CMr.30.1 Disturbance and removal of accumulated sediment from a culvert, outfall, or intake structure, is a permitted activity if: a) disturbance is the minimum necessary to allow reasonable use of that structure, and b) disturbed sediment is placed in an area of similar sediment on the foreshore or seabed, and c) the activity does not significantly reduce public access, and d) no contaminants are released to land or water from equipment being used for the clearing operation; no refuelling takes place on any area of foreshore or seabed, and e) at least five working days before activity starts, the Council planning department is given written notice that the activity is to occur.	CMr.30.2 not applicable	CMr.30.3 Activities that contravene a permitted condition are discretionary.

Assessment Criteria	Explanation
CMr.29.4 a) size of area potentially affected. b) effect on pattern of water and sediment movement (including potential to exacerbate erosion or sedimentation problems). c) ecological effects. d) effects on conservation values of area. e) extent to which structure could compromise navigational safety. f) effect on public access (to and along the Coastal Marine Area), amenity and recreational values. g) the effect on historic heritage.	CMr.29.5 The New Zealand Coastal Policy Statement 1994 originally identified the activity as a restricted coastal activity, however restricted coastal activities were removed from this Plan in accordance with the NZ Coastal Policy Statement 2010.
CMr.30.4 a) degree of disturbance. b) nature of disturbed sediments and receiving sediments. c) effects on conservation and amenity values. d) effects of noise and glare. e) effects on public access. f) methods of refuelling equipment and avoiding discharges. g) the effect on historic heritage.	CMr.30.5 The rule provides for the clearance of outfalls, culverts or intake structures without the need to apply for a coastal permit, subject to compliance with stipulated conditions.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.31 **Damage to or removal of vegetation** [note – this rule is a regional rule]	CMr.31.1 Damage to, or removal of vegetation is permitted if one or more of the following applies: a) it is for the purpose of control or eradication of a pest species declared under a national or regional pest management strategy or plan and it does not result in damage to any indigenous vegetation, or b) it is associated with activities undertaken as permitted activities under this Plan or authorised by way of a resource consent, or c) it is harvesting for cultural purposes in accordance with tikanga Maori.	CMr.31.2 Damage to, or removal of vegetation that contravenes a permitted condition is controlled if: a) it is for the purpose of control or eradication of an exotic species and is undertaken as enhancement of the Coastal Marine Area, and b) it does not result in damage to any indigenous vegetation. Control is reserved over: i) the nature and extent of vegetation damage or removal, and ii) the duration of the consent, and iii) the timing and methods of vegetation removal.	CMr.31.3 Activities which contravene a permitted condition or controlled standard are discretionary if it does not result in damage to or removal of any indigenous vegetation in a Marine ASCV Overlay.
CMr.32 **Beach grooming and recontouring** [note – this rule is a regional rule]	CMr.32.1 Disturbance of the foreshore or seabed is permitted if: a) the activity is carried out on Tahunanui Beach for the purpose of removing marine debris, litter or dead seaweed, dead marine mammals or recontouring or reshaping of foreshore, and b) the activity does not involve the import of sand, gravel or other material from external sources, and c) public access is not restricted to an extent or for a period greater than necessary to complete the operation, and d) no contaminants are released to land or water from equipment being used for the clearing operation; no refuelling takes place on any area of foreshore or seabed, and e) sand and gravel is not removed from the foreshore, and f) the activity does not involve volumes greater than 50,000m^3, and area greater than 4ha, or extend 1,000m or more over foreshore or seabed.	CMr.32.2 not applicable	CMr.32.3 Activities that contravene a permitted condition are discretionary.

Assessment Criteria	Explanation
CMr.31.4 a) the conservation value of the vegetation involved. b) effects on coastal processes including sediment movement and erosion. c) effects on amenity values including visual effects. d) effects on other ecological values. e) the degree of disturbance of the foreshore and seabed. f) the effect on historic heritage.	CMr.31.5 Coastal and marine vegetation is of considerable importance to conservation values, cultural values, and marine ecosystems including fish habitat and spawning. Damage to, or removal of coastal and marine vegetation may result in both local and widespread adverse affects. The Coastal Marine Area may be adversely effected by a number of pest species, the control or removal of which should be provided for. Removal of vegetation associated with the legal harvesting of any plant or animal under the Fisheries Act 1996 and/or the Fisheries Act 1983 is controlled by the Fisheries Act rather than the Resource Management Act 1991.
CMr.32.4 a) effects on public access. b) effects of any contaminants released. c) amount of sand removed from foreshore and likely consequences. d) effects of noise and glare. e) effects on public access. f) methods of refuelling equipment and avoiding discharges. g) the effect on historic heritage.	CMr.32.5 Beach grooming is a relatively low impact activity carried out with the aim of enhancing amenity values. The rule provides for this activity to take place, subject to specified conditions, without the need for a resource consent.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.33 **Disturbance of foreshore or sea bed by vehicles** [note – this rule is a regional rule]	CMr.33.1 Driving of vehicles on, and disturbance of the foreshore or seabed by vehicles, is permitted if the activity is associated with any of the following activities: a) surf life-saving operations, or b) emergency situations or special circumstances including oil spills, rescue operations, salvage of vessels or sea mammal stranding, or c) the removal of litter, nuisance matter, or debris which may affect navigation and safety, or d) the launching or retrieving of recreational or commercial vessels at launching ramps, or e) Council data collection, monitoring or enforcement activity, or f) beach grooming undertaken by the Council, its agent, or a consent holder as part of the conditions on a consent, or g) activities undertaken in accordance with an Approved Conservation Management Strategy or Plan or Reserves Management Plan, or h) legitimate research, law enforcement or military activities undertaken by either the police, customs, Government departments or New Zealand Defence Force or recognised educational institutes, or i) use of the portion of Point Road below mean high water springs, or j) the maintenance, construction or placement of network utility structures undertaken under a permitted activity rule of this Plan or authorised by way of a Resource Consent, or k) the transportation of lawfully harvested aquatic organisms. Conditions: i) vehicles are not driven in a manner which poses a threat to public safety, and ii) no contaminants are released to land or water from the vehicle and no refuelling may take place on any area of foreshore or seabed, and iii) disturbance (especially to sand dunes, vegetation and bird nesting areas) is the minimum necessary to enable the activity to take place.	CMr.33.2 not applicable	CMr.33.3 Disturbance of the foreshore or sea bed that contravenes a permitted condition, and is not regulated under another rule, is discretionary.

Assessment Criteria	Explanation
CMr.33.4 a) potential for disturbance of sand-dunes, boulder banks, natural vegetation, nesting areas and other ecologically sensitive areas. b) effect of releasing contaminants. c) extent and significance of non-compliance (if any) with general standards. d) the type of vehicle and scale of operation. e) size of area directly disturbed or likely to be indirectly affected by way of water quality effects or the settling out of suspended material. f) ecological effects, including effects on fisheries values. g) physical effects, including erosion, scouring, deposition. h) effects on conservation and amenity values. i) extent to which methods are designed to minimise adverse effects. j) the effect on historic heritage.	CMr.33.5 Provision is made for a restricted range of activities involving vehicle use within the Coastal Marine Area, subject to specified conditions aimed at minimising adverse effects. The general use of vehicles within the Coastal Marine Area is undesirable for conservation, amenity and safety reasons. The permitted activities have positive effects that offset the general adverse effects of vehicle use.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.34 **Disturbance or deposition associated with the diversion of coastal water or river or stream mouth cutting** [note – this rule is a regional rule]	CMr.34.1 Disturbance of the foreshore or seabed associated with the diversion of coastal water or river or stream mouth cutting is permitted if: a) approved by Nelson City Council or its agents for flood hazard mitigation purposes, and b) disturbance is the minimum necessary to allow the diversion to take place, and c) the material deposited is free of contaminants and similar in nature to that occurring naturally at the affected site, and d) no contaminants are released to land or water from equipment being used for the operation; no refuelling may take place on any area of foreshore or seabed. e) it does not involve volumes greater than 50,000m^3, or an area greater than 4ha, or extend 1,000m or more over foreshore or seabed.	CMr.34.2 not applicable	CMr.34.3 Activities that contravene a permitted condition are discretionary.
CMr.35 **Drilling** [note – this rule is a regional rule]	CMr.35.1 Drilling is not a permitted activity.	CMr.35.2 Disturbance of the foreshore or seabed associated with a drilling operation is controlled if: a) the drilling equipment has a maximum diameter of 200mm, and b) the proposed drilling operation is not within areas covered by the Marine ASCV Overlay. Control reserved over: i) the method and depth of drilling, including methods to minimise water turbidity, and l) the amount and nature of any contaminants that may be released, and ii) duration of the consent, and iii) information and monitoring requirements, and iv) effects of noise and glare, and v) administrative charges payable.	CMr.35.3 Activities that contravene a controlled standard are discretionary.

Assessment Criteria	Explanation
CMr.34.4 a) extent of disturbance and area potentially affected. b) likely effects on conservation values. c) effects on physical and biological processes. d) effects on fisheries/shell fisheries. e) effects on water quality. f) effects on public access, recreation and amenity values. g) implications of not undertaking the work. h) the effect on historic heritage.	CMr.34.5 It is appropriate that relatively minor disturbances of the Coastal Marine Area associated with diversions of water or the clearance of stream mouths for flood hazard mitigation purposes be permitted without the need for a resource consent, subject to compliance within specified conditions. Diversion of water is regulated by other rules.
CMr.35.4 a) extent of disturbance and area potentially affected. b) potential for release of contaminants. c) effects on water quality, ecology, or fisheries. d) effects on conservation values of area. e) navigational effects of drilling structures. f) implications of any non-compliance with general standards. g) effects of noise and glare. h) the effect on historic heritage.	CMr.35.5 Drilling using drills up to 200mm in diameter is likely to have minimum adverse effects, but it is appropriate that Council retain some control over drilling activity. Proposals for more substantial drilling operations will be treated as discretionary activities, enabling full Council and public scrutiny.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.36 **Dredging of foreshore and seabed** [note – this rule is a regional rule]	CMr.36.1 Dredging of the foreshore and seabed by is not a permitted activity.	CMr.36.2 Any dredging of foreshore and seabed, is a controlled activity if: a) the total quantity of material removed by both maintenance dredging or minor capital works dredging does not exceed 50,000m^3, and i) is in volumes less than or equal to 50,000m^3, and ii) is extracted from areas of less than 4ha, and iii) extends less than 1,000m over the foreshore and seabed, and b) the activity is within the boundaries of the Nelson Port Operational Area. Control reserved over: i) the method of dredging, including methods to minimise water turbidity, and ii) the depth of dredging, and iii) effects of noise and glare, and iv) the amount and nature of any contaminants that may be released, and v) the duration of the consent, and vi) information and monitoring requirements, and vii) hours of operations.	CMr.36.3 Any dredging of foreshore and seabed other than that provided for in rule CMr.36.2, is a discretionary activity. Any dredging of foreshore and seabed within the estuaries is a non-complying activity.

Assessment Criteria	Explanation
CMr.36.4 a) size of area directly disturbed or likely to be indirectly affected by way of water quality effects or the settling out of suspended material. b) ecological effects, including effects on fisheries values. c) physical effects, including erosion, scouring, deposition. d) effects on conservation and amenity values. e) extent to which removal methods are designed to minimise adverse effects. f) effects of noise and glare. g) the effect on historic heritage.	CMr.36.5 For the purposes of this rule, maintenance dredging means any dredging of the bed of the sea necessary to maintain water depths to previously approved levels for the safe and convenient navigation of vessels in navigation channels and at berthing and mooring facilities, including marina developments. Maintenance dredging is undertaken on a regular basis at Port Nelson, under the conditions of a coastal permit. It is appropriate that maintenance dredging be provided for as a controlled activity, meaning that Council must grant a consent but is able to retain control over aspects of the operation. Disposal of dredged material requires a separate coastal permit. Large disturbances of the type referred to in the "discretionary/non-complying" column include capital works dredging of the type normally associated with port expansion or the development of new ports would fall within this category.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.37 **Disturbance - General** [note – this rule is a regional rule]	CMr.37.1 Unless permitted by other rules in this Plan, disturbance of the foreshore or seabed is not a permitted activity	CMr.37.2 Disturbance associated with the erection or placement of launching or mooring structures within that part of the Coastal Marine Area that falls within the Port Operational Area is a controlled activity. Control reserved over: i) the methods used, including means to minimise water turbidity, and ii) the extent of the work, and effects of noise, glare, and vibration, and iii) the amount and nature of any contaminants that may be released, and iv) the duration of the consent, and v) information and monitoring requirements, and vi) hours of operation.	CMr.37.3 Disturbance of foreshore or seabed that a) is not dealt with specifically in other rules, or b) contravenes a permitted condition or controlled standard in this rule, is discretionary. Any activity involving the disturbance of foreshore or seabed within the estuaries, other than maintenance work on existing roads, is a non-complying activity.
CMr.38 **Deposition of material on foreshore and seabed** [note – this rule is a regional rule]	CMr.38.1 Deposition of material on the foreshore and seabed is not a permitted activity.	CMr.38.2 not applicable	CMr.38.3 Deposition of material on the foreshore or seabed is a discretionary activity if the total deposition in any 12 month period is 50,000m^3 or less. Deposition of material within the estuaries, other than maintenance work on existing roads, is a non-complying activity.
CMr.39 **Discharge of contaminants** – general [note – this rule is a regional rule]	CMr.39.1 Discharge of contaminants into coastal water, other than permitted by other rules in this Plan, is not a permitted activity.	CMr.39.2 not applicable	CMr.39.3 Discharges of contaminants, other than those permitted by other rules in this Plan, to coastal water are discretionary activities if: a) after reasonable mixing the classification standards (contained in Schedule CMs) for the receiving water are complied with, and b) after reasonable mixing the discharge (either by itself or in combination with other discharges) does not have significant adverse effects on habitats, feeding grounds or ecosystems.

Assessment Criteria	Explanation
CMr.37.4 a) size of area directly disturbed, or likely to be indirectly affected b) ecological effects (including effects on fisheries) c) physical effects, including erosion, scouring, deposition. d) effects on conservation and amenity values. e) effects of releasing contaminants. f) extent to which methods are designed to minimise adverse effects. g) effects on water quality. h) effects of noise and glare. i) the effect on historic heritage.	CMr.37.5 This rule relates to the disturbance of foreshore and seabed, other than that associated with dredging, deposition of dredgings, beach grooming, drilling, river cutting, or any fisheries activities. The type of activities envisaged by this rule, include, but are not limited to, the removal of sand, gravel, shingle, shell, or other natural materials, the mechanical harvesting of shellfish, and works such as piling, tunnelling, and drainage. Where any maintenance work is undertaken on an existing road network that abuts or crosses an estuary, it will be treated as if that work takes place outside the estuary i.e. as a permitted activity.
CMr.38.4 a) particle size, sorting, parent material of deposit relative to that of receiving sediments (the two should be similar). b) the nature and significance of any contaminants in the material to be deposited (the deposition of biologically significant levels of contamination will not be allowed). c) the suitability of proposed deposition/dump sites will be assessed in terms of i) the benthic environment (type of habitat, fauna, flora in area). ii) likely water quality effects. iii) the proximity of existing fisheries/shell fisheries. iv) effects on conservation values. v) the proximity of ecologically significant areas. vi) patterns of water and sediment movement in the area. d) effect on public access and amenity values. e) effects on navigational safety or vessel access to mooring, launching or berthing structures. f) the effect on historic heritage. In the case of foreshore or sea bed in Marine Areas of Significant Conservation Value, the following additional matters: g) the values for which the area has been identified as having significant conservation value including any new information. h) the effect of the activity proposed on the values identified and the environment in general. i) the availability of alternative sites. j) ways in which adverse effects of the activity proposed can be avoided, remedied or mitigated or can be offset by enhancement of other areas. k) any circumstances which make continued treatment of the area as having significant conservation value inappropriate.	CMr.38.5 Dumping of dredgings and beach replenishment are examples of deposit of material. Depositing of material has potentially significant implications for amenity and ecological values. The deposition of material on the foreshore or seabed in quantities of greater than 50,000m^3 in any 12 month period includes the disposal of capital works dredgings of the type normally associated with major port expansion or new port developments. Activities involving the deposition of substances on the foreshore or seabed have been identified as discretionary activities to provide certainty as to the status of the activities, to retain the ability to decline inappropriate use and development and to ensure that any adverse effects are avoided, remedied and mitigated.
CMr.39.4 a) presence of oil, grease, scums, foams, floatable or suspended materials in the proposed discharge. b) Potential of discharge to cause colour changes in receiving waters or to give rise to objectionable odours. c) Potential for significant adverse ecological effects. d) the extent to which reasonable measures have been taken to minimise the quantity of contaminants in the discharge. e) Quantitative specifications contained in relevant USEPA, ANZEC or New Zealand Government (eg. Ministry for the Environment, Department of Health) publications. f) the staging of works to ensure that the discharge will meet the standards at all times. Whether: a) exceptional circumstances justify the granting of the consent, or b) the discharge is of a temporary nature, or c) the discharge is associated with necessary maintenance work.	CMr.39.5 This rule is the general rule regulating discharges. There are no permitted discharges of contaminants or water into the Coastal Marine Area, except in the specific cases dealt with in the rules that follow. The New Zealand Coastal Policy Statement requires the Plan to contain rules to enhance water quality (Policy 5.1 of the NZCPS 1994; Policy 21 of the NZCPS 2010) and close regulation of discharges of contaminants under this rule implements that policy. See also Schedule CMs (before Rule Table) as to marine water quality standards. Section 107 of the Resource Management Act contains provisions affecting discharge permits, which are reflected in the assessment criteria. Note that as per rule CMr.6 if the conditions described in CMr.39.3 are not met then the activity should be considered non-complying.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.40 **Discharge of water** [note – this rule is a regional rule]	CMr.40.1 The discharge of water into coastal water is a permitted activity if: a) the water discharged contains no contaminants.	CMr.40.2 not applicable	CMr.40.3 Activities that contravene a permitted condition are discretionary.
CMr.41 Discharge of dye into coastal water [note – this rule is a regional rule]	CMr.41.1 The discharge of dye into coastal water is permitted if: a) the dye is chemically inert and not radioactive, and b) after reasonable mixing the classification standards (contained in Schedule CMs) for the receiving water are complied with, and there is no reduction in water quality, and c) if quantities of dye greater than 100gm are being discharged in any 24 hour period, public notice is given and a letter sent to the Council planning department at least five working days before the discharge, stating: i) the location of the water to be dyed, and ii) the type and quantity of dye to be used, and iii) the reason for the discharge of the dye, and iv) the date and time of commencement of the discharge of the dye, and v) the planned duration of the proposed discharge.	CMr.41.2 not applicable	CMr.41.3 Activities that contravene a permitted condition are discretionary.

Assessment Criteria	Explanation
CMr.40.4 a) the location and rate of discharge b) presence or absence of contaminants, including temperature of discharge c) compliance with receiving marine water quality standards d) ecological and amenity effects e) salinity and alkalinity of discharge f) dissolved oxygen levels	CMr.40.5 Section 15 of the Act prevents the discharge of water into water unless expressly allowed by a rule or resource consent. Contaminant is defined in the Act.
CMr.41.4 The criteria under CMr.39.4 (discharge of contaminants – general).	CMr.41.5 The activity covers the use of tracer dyes to determine flow directions and dilution rates. It permits only the use of dyes specially formulated for tracer use which are inert and, apart from the physical effects of coloration, have no other effect on the receiving water. Quantities of dye of less than 100gm are used for the routine maintenance and testing of drains.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.42 **Petroleum dispersants** [note – this rule is a regional rule]	CMr.42.1 Discharge of petroleum dispersants into coastal water is permitted if: a) the dispersant is used in the event of a marine oil spill emergency, and b) the discharge is of a dispersant of petroleum approved for use in marine oil spills by the Maritime Safety Authority, and c) the dispersant is applied at the rates and by the methods recommended by the manufacturer, and d) after reasonable mixing the classification standards (contained in Schedule CMs) for the receiving water are complied with.	CMr.42.2 not applicable	CMr.42.3 Activities that contravene a permitted condition are discretionary.
CMr.43 **Discharge of wastewater from heat exchangers** [note – this rule is a regional rule]	CMr.43.1 Discharge of heat from heat exchangers into coastal water is permitted if: a) the discharge does not take place in the intertidal zone between mean high water springs and mean low water springs, and b) after reasonable mixing the classification standards (contained in Schedule CMs) for the receiving water are complied with, and c) the discharge does not alter the temperature of the receiving water by more than 3°C at any point beyond 50m from the point at which the discharge meets the receiving water.	CMr.43.2 not applicable	CMr.43.3 Activities that contravene a permitted condition are discretionary.
CMr.44 **Discharge of storm water** [note – this rule is a regional rule]	CMr.44.1 The discharge of storm water or land drainage water into coastal water from any motorway, road, street, roof, yard, paved surface, breakwater, jetty, wharf, boat shed or any other structure is permitted if: a) the discharge, after reasonable mixing, does not cause: i) the production of conspicuous oil or grease, film, scum, or foam, or floatable or suspended material, and ii) any conspicuous change in colour or visual clarity, and iii) any objectionable odour, and iv) any significant adverse effects on aquatic life, and b) after reasonable mixing the classification standards (contained in Schedule CMs) for the receiving water are complied with, and there is no reduction in water quality, and c) all practicable measures, (eg. oil separation, screening, filtering or settlement devices), are taken at source to ensure that the quantity of contaminants entering storm water and drainage water is minor.	CMr.44.2 not applicable	CMr.44.3 Activities that contravene a permitted condition are discretionary.

Assessment Criteria	Explanation
CMr.42.4 The criteria under CMr.39.4 (discharge of contaminants – general).	CMr.42.5 The rule permits the discharge of petroleum dispersants in an emergency situation (i.e. in the event of a marine oil spill) without the need to apply for resource consents.
CMr.43.4 a) the location and rate of discharge. b) presence or absence of contaminants, including temperature of discharge. c) compliance with receiving marine water quality standards. d) ecological and amenity effects.	CMr.43.5 The rule permits the discharge of heat from heat exchangers where the heat is the only contaminant. The main effect is the potential to alter the temperature of the receiving water. In the intertidal zone, there may be insufficient water to disperse the heat. This is undesirable as such a discharge would have a significant adverse effect on marine life. Compliance with this rule does not relieve any person from any obligation to obtain any other consent or authorisation necessary for this activity or any associated activity under this Plan or any other legislation. For example, where an activity proposes to discharge water or other substance containing heat, a separate consent is required for the water or substance discharge, as well as consideration of heat under this rule.
CMr.44.4 a) oil, grease, suspended solids levels in proposed discharge. b) potential of discharge to cause colour changes in receiving waters or to give rise to objectionable odours. c) the potential for significant adverse ecological effects. d) the extent to which reasonable measures have been taken to minimise the quantity of contaminants in the storm water. e) the Assessment Criteria in rule CMr.37 (deposit of material on foreshore and seabed) and rule CMr.38 (discharge of contaminants - general).	CMr.44.5 Condition (a) repeats the requirements of section 107 of the Resource Management Act. This rule requires interpretation in the light of the facts of each case of a reasonable mixing zone and the degree of treatment prior to discharge (best practicable option). There are few practicable alternatives to discharging storm water into the sea.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.45 **Discharges from vessels** [note – this rule is a regional rule]	CMr.45.1 not applicable Discharges from vessels and offshore installations are addressed by the Resource Management (Marine Pollution) Regulations 1998.	CMr.45.2 not applicable	CMr.45.3 not applicable
CMr.46 **Discharges to air from vessels** [note – this rule is a regional rule]	CMr.46.1 not applicable Discharges to air from vessels and offshore installations are addressed by the Resource Management (Marine Pollution) Regulations 1998.	CMr.46.2 not applicable	CMr.46.3 not applicable
CMr.47 **Discharge of human sewage** [note – this rule is a regional rule]	CMr.47.1 Discharge of human sewage is not a permitted activity, except from vessels as set out in rule CMr.45.	CMr.47.2 not applicable	CMr.47.3 The discharge of human sewage to coastal water is a discretionary activity if: a) prior consultation with tangata whenua in accordance with tikanga Maori, and with the public, has been carried out, and b) after reasonable mixing the classification standards (contained in Schedule CMs) for the receiving water are complied with, and c) the discharge better meets the purpose of the Act than disposal to land, and d) in the case of untreated sewage, one of the following applies: i) the discharge is temporary, or ii) the discharge is associated with necessary maintenance work. The discharge is a discretionary activity if it has not first passed through soil or wetland.

Assessment Criteria	Explanation
CMr.45.4 not applicable	CMr.45.5 The Resource Management (Marine Pollution) Regulations 1998 contain the legislative provisions relating to discharge from vessels and off-shore installations, including rules related to: a) dumping of waste b) incineration of waste c) discharge of oil spill mitigation substances d) discharge of oil e) discharge of noxious liquid substances f) discharge of sewage g) discharge of treated sewage h) discharge of garbage i) discharge of ballast water
CMr.46.4 not applicable	CMr.46.5 The Resource Management (Marine Pollution) Regulations 1998 contain the legislative provisions relating to discharges to air from vessels and off-shore installations, including incineration of wastes.
CMr.47.4 a) whether or not the discharge better meets the purpose of the Act than disposal onto the land. b) whether due weight has been given to sections 6, 7 and 8 of the Act. c) compliance with relevant water quality classification standards after reasonable mixing. d) the Assessment Criteria in rule CMr.38 (discharge of contaminants - general).	CMr.47.5 The rule enables application to be made for occasional discharges of untreated sewage to the Coastal Marine Area in specified cases, subject to appropriate consultation. The wording reflects section 107(2) of the Resource Management Act. The rule enables application to be made for the discharge of treated sewage to the Coastal Marine Area, subject to appropriate consultation. Note that as per rule CMr.6 if the conditions described in CMr.47.3 are not met then the activity should be considered non-complying.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.48 **Discharge of agrichemicals** [note – this rule is a regional rule]	CMr.48.1 Discharge of agrichemicals is not a permitted activity.	CMr.48.2 not applicable	CMr.48.3 The discharge of agrichemicals (including herbicides and pesticides) into the Coastal Marine Area is a discretionary activity if: a) after reasonable mixing the classification standards (contained in the Coastal Marine water quality standards Schedule CMs) for the receiving water are complied with and there is no reduction in water quality.
CMr.49 **Discharge from aquaculture** [note – this rule is a regional rule]	CMr.49.1 Discharges from aquaculture are not a permitted activity.	CMr.49.2 not applicable	CMr.49.3 The discharge of water or contaminants from aquaculture activities into the Coastal Marine Area is a discretionary activity if: a) after reasonable mixing the classification standards (contained in Schedule CMs) for the receiving water are complied with.
CMr.50 **Hazardous substances** - use and storage [note – this rule is a regional rule]	CMr.50.1 The use or storage of hazardous substances is a permitted activity if it complies with the conditions for permitted activities in Appendix 21 (hazardous substances).	CMr.50.2 The use or storage of hazardous substances is a controlled activity if it complies with the standards and terms for controlled activities in Appendix 21.	CMr.50.3 The use or storage of hazardous substances is a discretionary activity if it complies with the standards and terms for discretionary activities in Appendix 21.
CMr.51 **Petroleum or chemical storage and distribution structures** [note – this rule is a regional rule]	CMr.51.1 Petroleum or chemical storage and distribution structures are not permitted activities.	CMr.51.2 not applicable	CMr.51.3 The erection of a structure for the storage, containment or distribution of any petroleum, petroleum products, chemicals or contaminants is a discretionary activity.

Assessment Criteria	Explanation
CMr.48.4 a) type of chemical, proposed volume and concentrations, area to be sprayed, method of application, date and time of discharge. b) neighbouring land uses and potential for spray drift, damage to non-target species, or human health. c) adequacy of environmental effects assessment. d) measures to avoid, mitigate or remedy adverse effects. e) the effects on target and non-target species. f) the location and area to be sprayed. g) persons to be notified prior to spraying. h) effects on person who enters area during spraying. i) the Assessment Criteria in rule CMr.39 (discharge of contaminants - general).	CMr.48.5 The direct and indirect effects of spraying operations are a matter of considerable public concern. The rule provides for proposed spraying operations within the Coastal Marine Area to be treated as discretionary activities and hence subject to full Council and public scrutiny. Spraying may be utilised to address problems of pests such as Spartina.
CMr.49.4 a) nature of contamination (chemicals, nutrients, organic materials etc). b) effects on benthic communities. c) water quality; consequent ecological effects. d) the adequacy of proposed solid waste disposal methods. e) the likely impact on the seabed or foreshore. f) disposal methods for solid wastes generated at the site. g) the Assessment Criteria in rule CMr.38 (Discharges of Contaminants - general).	CMr.49.5 High density aquaculture (eg. long lines, cage rearing) has the potential to have a significant impact on water quality, particularly in semi-enclosed areas with limited circulation. Potential discharges include: i) defecation from fish/shellfish stock involved. ii) introduction of palletised food for cage-reared fish. iii) addition of chemicals to the water eg. disinfectants, antibiotics, anti-foulants. iv) solid wastes, including ropes, bags, nets, dead stock, offal. It is appropriate that such proposals be subject to full Council and public scrutiny.
CMr.50.4 Assessment Criteria in Appendix 21.	CMr.50.5 See Appendix 21. Note that the Industrial Zone in the vicinity of the Port overlaps with the Coastal Marine Area, as shown on the Planning Maps. In the area of overlap, the hazardous substances provisions applicable in the Industrial Zone apply, not the provisions of the Coastal Marine Area.
CMr.51.4 a) the availability of alternative sites outside the Coastal Marine Area. b) the conservation/ecological values associated with the area. c) proximity of residences and work places. d) compliance with hazardous substances regulations. e) the adequacy of contingency measures (eg. provision for bunding), plans and procedures. f) effects on amenity values. g) Assessment Criteria for use or storage of hazardous substances in Appendix 21. h) the effects in the event of escape, leakage or unintentional discharge.	CMr.51.5 The storage of petroleum, petroleum products or chemicals within the Coastal Marine Area is a potentially hazardous activity which needs to be subject to full Council and public scrutiny.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.52 **The taking, use, damming or diversion of water** [note – this rule is a regional rule]	CMr.52.1 The taking, use, damming or diverting of water within the Coastal Marine Area is permitted if: a) the activity involves the taking, use, damming or diverting in one or more of the following circumstances: i) open coastal water, or ii) coastal water required for an individual's reasonable domestic needs and the taking does not have an adverse effect on the environment, or iii) coastal water required for fire fighting purposes; or iv) water for the operational needs of a vessel, or v) coastal water in quantities up to $3000m^3$/day.	CMr.52.2 not applicable	CMr.52.3 Activities that contravene a permitted condition are discretionary.
CMr.53 **Reclamation** [note – this rule is a regional rule]	CMr.53.1 Reclamation is not a permitted activity.	CMr.53.2 Reclamation is a controlled activity if: i) The reclamation is located inside the seaward boundary of the coastal permit granted to Port Nelson Limited dated 27 July 1994, or falls within the additional area reserved for future structures and reclamation identified on planning map 6; and ii) The area described in i) above lies to the north of line A-B which bisects the port area and is depicted on maps 6 and 10; and iii) The total area of foreshore or seabed reclaimed as a controlled activity does not exceed $1000m^2$ in any 12 month period; and iv) The total area of foreshore or seabed reclaimed as a controlled activity since 1 January 2004 does not exceed 1 hectare; and v) The reclamation does not extend beyond the line of any adjoining structure, or beyond a line 25m from, and parallel to MHWS; and vi) The activity is not contrary to any other provision of the Plan. Control is reserved over: i) Design of reclamation including size and construction materials; ii) The siting and nature of any existing mooring; iii) Provision of waste disposal facilities; iv) Contingency planning to prevent spills of contaminants; v) Noise and light emissions; vi) Public access; vii) Timing of works; viii) Duration of the consent; ix) Information and monitoring requirements; x) Coastal occupation charges; xi) Effects on conservation values; xii) The need for esplanade reserves or esplanade strips in the vicinity of the reclamation; xiii) Effects on navigation.	CMr.53.3 Reclamation and associated draining of foreshore or seabed is a discretionary activity. Reclamation and associated draining of foreshore or seabed is a non-complying activity in the estuaries.
CMr.54 **Light spill** [note – this rule is a regional rule]	CMr.54.1 Exterior lighting is a permitted activity if: a) lights are shielded or directed away from adjacent activities, roads, and navigation channels, so as to avoid the spill of light or glare that might be: i) detrimental to the amenity of residential or other users, and ii) a hazard to traffic safety on roads outside the Coastal Marine Area, and iii) a hazard to navigation in the Coastal Marine Area.	CMr.54.2 not applicable	CMr.54.3 Activities that contravene a permitted condition are discretionary.

Assessment Criteria	Explanation
CMr.52.4 a) effects on conservation values. b) effects on amenity and recreational values. c) ecological effects. d) effects on water quality. e) effects on aquifers within and outside the Coastal Marine Area. f) the effects on historic heritage.	CMr.52.5 The taking and associated use of open coastal water has no significant effect and is permitted, subject to the activity complying with general standards in this Plan. Open coastal water is defined to mean coastal water that is remote from estuaries, fiords, inlets, harbours and embayments. Taking or use of coastal water for domestic, recreational and fire fighting purposes is provided for in section 14 (3) of the Act. Proposals to abstract water from estuaries and freshwater bodies within the Coastal Marine Area are potentially matters of considerable public interest; it is appropriate that they be subject to full Council and public scrutiny via the discretionary consent process.
CMr.53.4 a) effects on conservation values. b) ecological effects including effects on life-support capacity of Coastal Marine Area. c) effects on amenity and recreational values. d) effects on public access. e) the need for esplanade reserves or esplanade strips in the vicinity of the reclamation. f) the value of the reclamation for esplanade purposes. g) any circumstances making the taking of the Esplanade Reserve or Strip inappropriate including the nature of existing development, reasons of security, public safety, minor boundary adjustment. h) alternative ways in which the esplanade values identified in the area can be provided for including the use of esplanade strips and protective covenants. i) effect on sediment transport and deposition. j) the effects on historic heritage.	CMr.53.5 All reclamation and draining of the Coastal Marine Area will have adverse effects. It is therefore appropriate that there be an opportunity for full Council and public scrutiny of all reclamation proposals, with Council retaining the ability to decline the application. Reclamation often results in loss of the existing values associated with the area, including public access, and may impede public access along what was previously the coast.
CMr.54.4 a) the extent to which additional light may adversely affect occupation of residential properties. b) the effect on traffic safety. c) the positive effects of improved pedestrian safety and security. d) the type of light, including its strength, colour, hours of operation, and whether flashing or varying in intensity.	CMr.54.5 The rule is to prevent unreasonable levels of light spilling onto neighbouring activities or properties. The standard recognises the effect that light spillage may have on road traffic on shore, navigation, and people's ability to sleep.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.55 **Noise** [note – this rule is a regional rule]	CMr.55.1 a) Noise levels generated by any activity, other than construction, maintenance or demolition work, measured at, or within any Residential Zone must not exceed: **Day Time** L 10: 55 dBA **Other Times** L10: 45 dBA Lmax: 75 dBA (Day Time means 7am to 10pm Monday to Friday, and 9am to 10pm Saturdays, Sundays and Public Holidays.) b) All measurements and assessment in accordance with NZS 6801:1991 and NZS 6802:1991. c) the above standards do not apply to noise generated by navigational aids, safety signals, warning devices, or emergency pressure relief valves. This rule does not apply to: (i) noise generated by the Airport and received within the Airport Effects Control Overlay; (ii) noise generated within the Port Operational Area and received within the Port Effects Control Overlay, with the exception of noise received from the Port Operational Area at Auckland Point School where it will continue to apply unless the Port Operator has provided entirely at its cost, acoustic treatment to the classrooms at the school as though the school were to be treated as a noise affected property. For the purposes of this rule, the noise limit to be applied at or within the boundary of Auckland Point School in respect to noise from the Port Operational Area shall be 55 dBA $L_{eq(15\ min)}$ between 8.30am to 3.30pm Monday to Friday excluding school holidays for as long as the noise limit continues to apply. In the event the above noise levels are exceeded then the classrooms shall be upgraded where necessary to achieve a level of 40 dBA $L_{eq(15\ min,\ 8.30am-3.30pm)}$ inside from noise from the Port Operational Area with ventilating windows open. Where windows must be closed to achieve 40 dBA $L_{eq(15\ min,\ 8.30am-3.30pm)}$ an alternative ventilation system shall be provided.	CMr.55.2 not applicable	CMr.55.3 Activities that contravene a permitted condition are discretionary.
CMr.56 **Noise** - construction, maintenance or demolition [note – this rule is a regional rule]	CMr.56.1 Noise levels generated by construction, maintenance or demolition work, measured at, or within any Residential Zone must not exceed: a) the standards set out in NZS 6803P: 1984, "The measurement and assessment of noise from construction, maintenance or demolition work". Noise shall be measured and assessed in accordance with the standard.	CMr.56.2 not applicable	CMr.56.3 Activities that contravene a permitted condition are discretionary.

Assessment Criteria	Explanation
CMr.55.4 a) the length of time, and the level by which, the noise standards will be exceeded, particularly at night, and the likely disturbance that may cause. b) the nature and location of nearby activities and the effects they may experience, particularly the night time effects on residential units. c) whether the noise is likely to detract from the general environmental quality being proposed for the area. d) the effectiveness of, and in particular the certainty provided by, any conditions or controls that might be imposed on the activity.	CMr.55.5 The rule is to prevent unreasonable levels of noise affecting neighbouring properties. The standards take account of the time, whether day or night, and whether a week day or weekend. Recurring noise may be more annoying than one off louder events. Temporary noise may also be tolerated more (within reason) than ongoing disturbance e.g. noise associated with construction. NZS 6801:1991 is New Zealand Standard (Measurement of Sound). NZS 6802:1991 is New Zealand Standard (Assessment of Environmental Sound).
CMr.56.4 Criteria contained in the NZ Standard.	CMr.56.5 This rule makes allowance for construction, maintenance or demolition work, which are temporary activities and for which a higher noise tolerance is acceptable.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.57 **Exotic plants** [note – this rule is a regional rule]	CMr.57.1 The introduction of exotic plants is not a permitted activity.	CMr.57.2 not applicable	CMr.57.3 The introduction of an exotic plant species (other than species of the genus Spartina; see prohibited activities) to the Coastal Marine Area, when that plant is already present in an area, is a discretionary activity, (or a non-complying activity within the estuaries).
CMr.58 **Other activities** [note – this rule is a regional rule]	CMr.58.1 Other activities, not covered by rules in this Plan, but referred to in sections 12(1), 12(2), 14 and 15 of the Act or any other subsequent amendments are not permitted activities.	CMr.58.2 not applicable	CMr.58.3 Activities not covered by rules in this Plan but referred to in sections 12(1), 12(2), 14 and 15 of the Act or any other subsequent amendments are discretionary.

Assessment Criteria	Explanation
CMr.57.4 a) biosecurity and ecological considerations. b) the effects on historic heritage.	CMr.57.5 The introduction of an exotic plant species to the Coastal Marine Area, even when it is already known or thought to be present, is treated as a discretionary activity because it may be inappropriate to facilitate the spread of the plant in the proposed locality. Note that as per rule CMr.6 the introduction of an exotic plant species (other than species of the genus Spartina) to the Coastal Marine Area, when that plant is not already present in an area, should be considered a non-complying activity. Spartina is a serious weed in Tasman Bay; the target of an eradication programme.
CMr.58.4 a) effects on the ecology of the Coastal Marine Area. b) effects on conservation values. c) effects on amenity and heritage values. d) effects on public access and recreational values. e) occupation charges. f) effect on water classifications. g) the effect on historic heritage.	CMr.58.5 The provision is a "catch-all" rule designed to make activities discretionary, if they are not covered by other rules in this Plan. A resource consent is therefore required for activities that are not mentioned in the Coastal Marine Area.

Item	Permitted	Controlled	Discretionary/Non-complying
Rules relating to Overlays on the Planning Maps			
CMr.59 **Coastal Marine Area within the Industrial Zone** [note – this rule is a regional and a district rule]	CMr.59.1 Any activity in the portion of the Industrial Zone within the Coastal Marine Area is permitted if: a) the activity is specified in an Industrial Zone rule as a permitted activity, and b) any conditions specified in the Industrial Zone rule are complied with.	CMr.59.2 Any activity in the portion of the Industrial Zone within the Coastal Marine Area is controlled if: a) the activity is specified in an Industrial Zone Rule as a controlled activity, and b) any standards and terms specified in the Industrial Zone Rule are complied with. Control reserved over: i) the matters that control is reserved over in the Industrial Zone Rule, and ii) life-supporting capacity of Coastal Marine Area, and iii) conservation values, and iv) amenity and heritage values, and v) public access and recreational values, and vi) occupation charges.	CMr.59.3 Activities in the portion of the Industrial Zone within the Coastal Marine Area are discretionary if: a) the activity contravenes a permitted condition, or controlled standard or term, and b) the activity is stated in an Industrial Zone rule to be discretionary . Activities are non-complying if the activity is stated in an Industrial Zone rule to be non-complying. Activities are prohibited if the activity is stated in an Industrial Zone rule to be prohibited.
CMr.60 **Wakefield Quay Precinct**	CMr.60.1 Alteration of any building in the Wakefield Quay Precinct as shown on the Planning Maps is permitted if: a) the work is redecoration, restoration or insignificant alteration of existing fabric or detailing within the existing building envelope, and b) the work is carried out with materials similar to, or having the same appearance to those originally used.	CMr.60.2 not applicable	CMr.60.3 Activities that contravene a permitted standard are a discretionary activity.
CMr.61 **Heritage Buildings, Places and Objects** Alterations to Group A and B items	CMr.61.1 Alteration to any Group A or B building, place or object listed in Appendix 1 is permitted, if: a) i) the work is redecoration, restoration or insignificant alteration of any existing fabric or detailing, and ii) it is carried out to the same scale as the original, including window scale, and with materials and details similar to, or having the same appearance to those originally used, or b) the work is on the interior of a building or its site surrounds (unless otherwise specified in Appendix 1 in which case (a) also applies).	CMr.61.2 not applicable	CMr.61.3 a) alteration to any Group A building, place or object listed in Appendix 1 which does not comply with the conditions for a permitted activity is discretionary. b) alteration to any Group B building, place or object listed in Appendix 1 which does not comply with the conditions for a permitted activity is a restricted discretionary activity. Discretion restricted to: i) design and appearance. Resource consent applications for restricted discretionary activities will be considered without notification, or obtaining written approval of affected persons, under section 94 of the Act.

Assessment Criteria	Explanation
CMr.59.4 a) Assessment Criteria set out for the Industrial Zone rule for the relevant activity. b) Effects on the ecology of the Coastal Marine Area. c) Effects on conservation values. d) Effects on amenity and heritage values. e) Effects on public access and recreational values. f) Occupation charges.	CMr.59.5 This rule applies to the portion of the Industrial Zone in the vicinity of the Port that overlaps with the Coastal Marine Area, as shown on the Planning Maps. In the area of overlap, rules for the Industrial Zone that specifically prohibit, regulate or control an activity apply in the Area of overlap. (This includes Schedule M in the Industrial Zone relating to the Marina). Additional matters of control and assessment criteria are introduced to recognise the sensitivity of the Coastal Marine Area. Activities in the area of overlap that are not specifically dealt with in the Industrial Zone rules will be governed by the Coastal Marine Area rules. For example, the Industrial Zone rules say nothing about reclamation of the seabed, so reclamation is governed by the Coastal Marine Area rules. Rule CMr.57 (other activities) applies to any activity not specifically mentioned in the Coastal Marine Area rules.
CMr.60.4 a) effects on coastal processes and ecosystems. b) Compliance with the design guide and rules for Wakefield Quay (Appendix 23). c) for alteration of Group A or B heritage buildings, refer to rule REr.85 (alterations to Group A and B items) and to the design guide and rules for Wakefield Quay (Appendix 23). d) for demolition of listed heritage buildings, see criteria in: i) rule REr.87 (demolition or removal of Group A and B items), and the design guide and rules for Wakefield Quay, and ii) rule REr.88 (demolition or removal of Group C items).	CMr.60.5 The Wakefield Quay precinct has been identified on the Planning Maps as an area with special qualities that need protection. It is not a heritage precinct, but it does contain a number of listed Heritage Buildings. It is also recognised that the area is suited to multi-level development if it is done in such a way as to protect these qualities. A small part of the precinct extends into the Coastal Marine Area on the seaward side of the road. This area includes a number of existing buildings. Various Residential Zone rules are referred to ensure that building standards are the same on both sides of the road. Construction of a new building in this area will be subject to the Coastal Marine Area rules about new structures.
CMr.61.4 a) the historic, cultural or architectural significance of the item, having regard to the site on which the item is located. b) the extent to which the item has particular value because of the scarcity of heritage buildings, places or objects in the area, or because it forms part of a precinct of heritage buildings. c) the effect of the proposed alterations or additions on the integrity of the original heritage building or object, taking account of the scale of additions to the heritage building and the extent of loss (if any) of material of heritage significance, and how visible the change will be. d) the degree to which the addition or alteration is compatible with the heritage building, place or object, and whether the alteration or addition is clearly distinguishable from the original as new work. e) the ability of the applicant to develop or use the site without the alteration, and the economic effects of this. f) Whether the heritage value of the building, place or object has altered since the item was listed in the plan. g) any immediate or cumulative effects of the alteration on the quality of heritage features in the vicinity and the city as a whole.	CMr.61.5 The rules provide three levels of protection depending on the categorisation of the heritage building, place or object. Minor maintenance is allowed for Group A and B items. More major work requires a resource consent to ensure the work is compatible with the heritage feature being protected. For Group B items discretion is restricted to the design and appearance of the alteration. Note: Buildings must comply with the general rules on bulk and location. See also Ap20r.4 in relation to signs on heritage buildings and trees.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.62 **Heritage Buildings, Places and Objects** New buildings on the site of a Heritage Item	CMr.62.1 Erection of a new building on the site of a Group A or Group B heritage item is not a permitted activity.	CMr.62.2 Erection of a new building on the site of a Group A or Group B heritage item is a controlled activity. Control reserved over: i) design and appearance in relation to existing heritage item, and ii) ii) distance of new building from, and location and relationship to existing heritage item	CMr.62.3 not applicable
CMr.63 **Heritage Buildings, Places and Objects** Demolition or removal of Group A and B items	CMr.63.1 Demolition or removal of a Group A and B item is not a permitted activity.	CMr.63.2 not applicable	CMr.63.3 **Group B** Whole or partial demolition or removal of any Group B heritage building, place or object listed in Appendix 1 is discretionary. **Group A** Whole or partial demolition or removal of any Group A heritage building, place or object listed in Appendix 1 is a non-complying activity.
CMr.64 Heritage Buildings, Places and Objects Demolition or removal of Group C items	CMr.64.1 Whole or partial demolition or removal of any Group C heritage building, place or object listed in Appendix 1 is permitted if: a) 2 months written notice is given to the Council prior to the work being done.	CMr.64.2 not applicable	CMr.64.3 Activities that contravene the permitted conditions are discretionary.

Assessment Criteria	Explanation
CMr.62.4 a) the effect of the proposed new building on the integrity of the original heritage building or object, taking account of how visible the change will be. b) the degree to which the new building is compatible with the heritage building or object, including size, scale and materials used. c) the location of the new building in relation to the heritage building or object and whether it dominates or detracts from the heritage building or object.	CMr.62.5 This rule ensures that new buildings on the site of an existing heritage building, place or object are compatible with the existing heritage item. Distance from the heritage item is an important consideration, particularly where the proposed new building is in very close proximity to the heritage item. See separate rules for Heritage Precincts.
CMr.63.4 a) the historic, cultural or architectural significance of the item, having regard to the site on which the item is located. b) the extent to which the building has particular value because of the scarcity of heritage buildings in the area, or because it forms part of a precinct of heritage buildings. c) for removal, the degree of heritage loss due to the association of the building or object with the present site and the physical extent of relocation. d) the location a building or object is to be moved to, having regard to whether this yields a net environmental gain (eg. the new site is more accessible or visible); whether the item is to be protected or covenanted on its new site. e) Whether part of the building, place or object can be kept, while still maintaining to a reasonable degree, the features for which the item was listed. f) the ability of the applicant to economically develop or use the site without demolition, alteration or removal. g) the nature of any activity that is proposed to occur on the site, including the design and appearance of any replacement building or object (for the Wakefield Quay Precinct, the degree of compliance with the design guide for Wakefield Quay (Appendix 23)). h) Whether the heritage value of the building, place or object has altered since the item was listed in the Plan. i) any immediate or cumulative effects of the loss or removal of the listed building, place or object on the range, number; quality of heritage features in the vicinity and the city as a whole.	CMr.63.5 Group A buildings, places and objects are the premier heritage items in the District. Their removal or demolition therefore is a non-complying activity under the Plan. A lower threshold can be applied to Group B items, while recognising that their retention is still important. Buildings and objects may have different strengths of association with their site and situation. Relocation on the same site or to an adjoining site may have limited adverse effects, while a relocation to a site further away may have a greater adverse effect.
CMr.64.4 a) whether reducing the notification time would disadvantage any party, or would preclude effort to negotiate retention of the item.	CMr.64.5 The requirement for 2 months notice for Group C items allows time for photographic or other records to be made of the heritage building or item prior to it being demolished (the Council will maintain such records and archival material). It also provides the opportunity for interested parties to negotiate voluntary protection of the heritage item. This might include purchase or some other arrangement to the satisfaction of the property owner.

Item	Permitted	Controlled	Discretionary/Non-complying
CMr.65 **Archaeological Sites and Archaeological Overlays** [note – this rule is a regional and a district rule]	CMr.65.1 The following are not permitted within an Archaeological Overlay, or within 50m of any archaeological site listed in Appendix 3 (archaeological sites) and identified on the Planning Maps: a) erection or extension of any building or other structure, or b) disturbance of the foreshore or seabed, or c) earthworks.	CMr.65.2 not applicable	CMr.65.3 Activities that contravene a permitted condition are discretionary. (In situations where the extent of the archaeological site is unclear, the application may be required to be accompanied by an archaeological survey of the area surrounding the site, carried out by a person suitably competent in archaeological survey).
CMr.66 **Marine ASCV Overlay**	CMr.66.1 Note: no special rules apply to this overlay although rules CMr.20 (exclusive occupation), CMr.31 (damage to or removal of vegetation), CMr.35 (drilling), and CMr.66 (subdivision) make reference to it. The overlay is to advise that the particular part of the Coastal Marine Area is within a Marine Area of Significant Conservation Value.	CMr.66.2 not applicable	CMr.66.3 not applicable
CMr.67 **Subdivision**	CMr.67.1 Subdivision is not a permitted activity in this Area.	CMr.67.2 Creation of separate certificates of title for the protection of areas of significant conservation value within the Marine ASCV Overlay. Control reserved over: i) the extent of the new title created.	CMr.67.3 Activities that contravene a permitted or controlled condition are non-complying.

Assessment Criteria	Explanation
CMr.65.4 a) the nature, form and extent of the proposed activity and its effects on the site. b) the impacts on the integrity or heritage value of the site. c) the findings of an archaeological survey of the area surrounding the site commissioned by the applicant, and carried out by a person suitably competent in archaeological survey. d) Where the application relates to a Maori archaeological site, the response of the tangata whenua. e) if the site is to be modified, whether there is sufficient time and expertise to record the site. f) the ability to avoid, remedy or mitigate any adverse effects of the activity on the site.	CMr.65.5 Archaeological sites are sites of human activity before 1900. In this Plan the majority are Maori sites, with most non-Maori sites being on the Heritage Buildings, Places and Objects list (Appendix 1). The archaeological sites identified on the Planning Maps are from the registers of the Historic Places Trust and the NZ Archaeological Association. A resource consent is required for the listed activities within 50m of the identified site or within an Archaeological Overlay. This allows examination of whether there are unidentified sites in close proximity. It also allows scrutiny of activities near a site which, while not damaging the site itself, might indirectly affect the value of the site. Applicants are reminded that authority is needed from the Historic Places Trust before any archaeological site is destroyed, damaged or modified. This applies to any archaeological site, whether or not it is identified on the maps in this Plan or in any other way. In other words, it applies to archaeological sites uncovered accidentally. Under section 10 of the Historic Places Act 1993 it is an offence to damage an archaeological site without authority. In the case of accidental discovery, the relevant iwi should be contacted immediately so that they can decide what action should be taken. In addition, the Historic Places Trust should be notified.
CMr.66.4 In the case of discretionary applications, consideration will be given to the nature of the activity and its effect on the values associated with the Marine Area of Significant Conservation Value.	CMr.66.5 This rule ensures that the values associated with the Marine Areas of Significant Conservation Value are not compromised by activities in this area.
CMr.67.4 a) the future use of the land proposed to be subdivided. b) the existing character of the land and its importance to the integrity of the Coastal Marine Area and the values which the Area seeks to protect. c) Whether subdivision will grant a higher level of protection to natural values than that which already exists. d) the protection of areas of significant conservation value contained within the Marine ASCV Overlay and detailed in Appendix 4. e) the protection of riparian and coastal values including those detailed in Tables 6.1 and 6.2 of Appendix 6 (riparian and coastal margin overlays). f) the protection of archaeological sites, including any site of significance to tangata whenua.	CMr.67.5 Subdivision is considered fairly unlikely given the present tenure of the land. Should for some reason subdivision be sought, consideration shall be given to the effects that will have on the integrity of the values which the Area seeks to protect.