BEFORE THE ENVIRONMENT COURT
AT AUCKLAND

I MUA I TE KŌTI TAIAO O AOTEAROA
TĀMAKI MAKAURAU ROHE

UNDER	the Resource Management Act 1991
IN THE MATTER	of appeals under Clause 14 of Schedule 1 of the Act
BETWEEN	**BAY OF ISLANDS MARITIME PARK INCORPORATED**
	(ENV-2019-AKL-000117)
	ROYAL FOREST AND BIRD PROTECTION SOCIETY OF NEW ZEALAND INCORPORATED
	(ENV-2019-AKL-000127)
	Appellants
AND	**NORTHLAND REGIONAL COUNCIL**
	Respondent

STATEMENT OF EVIDENCE OF PETER DEAN REABURN
TOPIC 14 – MARINE PROTECTED AREAS
(PLANNING)
20 March 2021

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1. INTRODUCTION

1.1 My name is Peter Dean Reaburn. I have been engaged by the Royal Forest and Bird Protection Society of New Zealand Inc. (**"Forest and Bird"**) and Bay of Islands Maritime Park Incorporated (**"BOIMP"**) to provide this planning evidence in relation their appeals against decisions of the Northland Regional Council (**"Regional Council"**) on the proposed Northland Regional Plan (**"pNRP"**). I am also authorised to provide this evidence by Ngāti Kuta ki te Rawhiti hapū ("**Ngāti Kuta**").

1.2 I am a Town Planner and Director of Cato Bolam Consultants, Auckland. I have a Bachelor of Regional Planning (Honours) degree from Massey University. I have over 40 years planning/ resource management experience, including managerial positions in policy and consents areas at a number of district councils. I have been an independent planning consultant since 2000. I have successfully completed the Ministry for the Environment course Making Good Decisions, with the Chair Endorsement, and I have acted as an independent commissioner in relation to a range of resource consent and plan change matters. I have been a full member of the New Zealand Planning Institute since 1982. I am a Trustee of the (New Zealand) Environment Foundation.

1.3 I have had extensive experience in planning matters relating to the coastal environment. I presented planning evidence on behalf of the Environmental Defence Society (**"EDS"**) to the Board of Inquiry Review of the New Zealand Coastal Policy Statement in 2008 and have been involved as an expert witness in a range of coastal planning matters since that time. In 2011 I co-authored (with Raewyn Peart) an EDS publication "Strengthening Second Generation Regional Policy Statements". Post *King Salmon*[1] I contributed to coastal and other provisions of the Northland Regional Policy Statement on behalf of EDS. I was a consultant Lead Planner for Auckland Council through the hearings stage in relation to the Proposed Auckland Unitary Plan Outstanding Landscape, Natural Character and Features provisions – these, in part, related to the coastal environment and various issues of concern to Māori. I have been involved in a number of appeals where iwi, hapū and / or whānau ancestral connections with land and moana have been a major issue. In 2017 I presented planning evidence to the Environment Court on behalf of the Western Bay of Plenty District Council in relation to that Council's appeal on the Outstanding Natural Features and Landscape mapping of the Proposed Regional Coastal Environment Plan at Matakana Island. Also in 2017 I presented planning evidence on behalf of the Long Bay - Okura Great Park Society in relation to an appeal against Auckland Unitary Plan provisions at Okura – that was a case involving a sensitive marine environment. In 2018 / 2019 I was engaged by the Northland Regional Council

[1] *Environmental Defence Society Inc v New Zealand King Salmon Company Ltd* [2014] NZSC 38

as its independent s42A reporting planner on submissions to the pNRP in relation to genetically modified organisms. This gave me an understanding of the structure of the pNRP. Of particular relevance to this appeal, I gave rebuttal evidence on behalf of Forest and Bird in relation to the establishment of marine protection areas close to Motiti Islands in the Bay of Plenty Regional Coastal Plan (**"the Motiti case"**)[2].

1.4 In relation to this matter, I was initially engaged by BOIMP in August 2019 to provide planning advice on the appeal, specifically in respect of identifying initial options for pNRP mapping and provisions. I subsequently worked with BOIMP, Forest and Bird and Ngāti Kuta, a section 274 party, to develop a draft of provisions that responded to their concerns. I have also attended meetings with staff representatives of the Northland Regional Council and other section 274 parties including Te Uri o Hikihiki Hapū and Ngāti Kuri Trust Board. I attended the mediation at Whangarei on 6 August 2020.

1.5 I am generally familiar with the Bay of Islands, including having paddled regularly in the bay over many years as part of my sport, waka ama. However, I have relied on detailed knowledge of the marine environment and adverse effects on that environment through the appellant's other experts and research associated with this appeal. As this evidence is part of the first round of evidence exchange, I have currently only seen the evidence provided on behalf of BOIMP and Forest and Bird (listed in paragraph 2.4 below).

1.6 I have read the code of conduct for expert witnesses contained in the Environment Court Practice Note (2014) and agree to comply with it. Except where I state that I am relying on the specified evidence of another person, my evidence in this statement is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

2. SCOPE OF EVIDENCE AND SUMMARY OF CONCLUSIONS REACHED

2.1 The appellants seek a form of spatial marine management focused on controlling flora and fauna extraction methods, to protect and restore marine environments in key locations. I consider the key resource management issues to address are:

1. The extent to which the areas under consideration have existing biodiversity, natural character and cultural values and / or have potential values of that nature that are capable of being restored.

[2] *Motiti Rohe Moana Trust v Bay of Plenty Regional Council* [2020] EnvC 050

2. The extent to which identified flora and fauna extraction activities (primarily, methods of fishing) have in the past, are at present, or may in future, create adverse effects on the environment.

3. The obligations that apply under the various resource management instruments that apply to manage adverse effects.

4. What objectives, policies and methods are most appropriate.

5. The costs and benefits of options available to address adverse effects.

2.2 Geographically, this evidence is focused on the Bay of Islands, or more particularly the proposed Te Hā o Tangaroa Protection Area Rakaumangamanga-Ipipiri. I am also aware of the relief sought by Te Uri o Hikihiki in respect of their relief relating to Te Mana o Tangaroa Protection Areas and the marine area based around Mimiwhangata. Some of the expert evidence that has been prepared on behalf of BOIMP and Forest and Bird refers to Mimiwhangata. I acknowledge the prospect of issues raised being applicable more widely in Northland's coastal marine area and I have considered that in my analysis of the appellant's proposed plan provisions.

2.3 My brief has been to provide a planning assessment of the matters raised in other expert evidence and to review the proposed plan provisions. I do that by way of reference to the various requirements of section 32 of the Resource Management Act 1991 (**"RMA"**).

2.4 I have read and refer in my evidence to evidence prepared by:

1. Dr Vicky Froude (natural character and ecology)
2. Dr Nicholas Shears (ecology)
3. Dr Mark Morrison (ecology)
4. Dr Rebecca Stirnemann (ecology)
5. Dr Tim Denne (economics)
6. Matutaera Te Nana Clendon, Robert Sydney Willoughby and George Frederick Riley (on behalf of themselves and Ngāti Kuta)
7. Jeroen Jongejans, Julia Riddle, Craig Johnston (dive tourism business owners)

2.5 While I have seen the relief sought by Te Uri o Hikihiki as circulated to the parties on 11 December 2020, and evidence for the appellants covers the Mimiwhangata area, I have not seen Te Uri o Hikihiki's evidence. I therefore provide only brief comment on planning matters associated with the Te Mana o Tangaroa Protection Areas / Mimiwhangata provisions at this stage. Where I refer in this evidence to the proposed relief sought by Te Uri o Hikihiki, I am referring to the version of that relief circulated on 11 December.

2.6 My evidence is structured as follows:

2.7 I identify four options, being:

1. The status quo, which includes the pNRP provisions as they stand, and existing measures of management under the Fisheries Act 1996 (**"Fisheries Act"**);

2. Further / future measures available under the Fisheries Act;

3. The pNRP provisions as proposed by the appellants.

4. Amended versions of the pNRP provisions as proposed by the appellants.

2.8 The conclusions I reach are:

1. The evidence shows that there are significant cultural, biodiversity and natural character values in the areas under consideration.

2. The evidence shows that activities involving fishing have and continue to result in significant adverse effects on the marine environment.

3. The existing objectives and policy framework makes it clear that these significant adverse effects are to be avoided where the environmental values discussed are very high[3] and / or the adverse effects are significant. In other cases adverse effects are to be avoided, remedied or mitigated.

[3] Here I use the term "very high", in relation to environmental values, as a shortform reference to the values specified in Policy 11(a) and Policy 4.4.1(1)(b) of the Northland Regional Policy Statement.

4. The only certain way to achieve this is through a method that will manage extraction of flora and fauna and benthic damage from fishing methods that affect the benthos.

5. There is no current certainty of methods being put in place utilising other legislation.

6. This means that appropriate rules should be introduced into the pNRP.

3 THE PROPOSED PROVISIONS

3.1 The appellants' proposed provisions are attached at **Appendix A**. The provisions are an update of those circulated in the relief sought by the appellants. The main amendment is that the rules have been restructured to make them clearer. As is often the case for such new provisions, they do tend to go through iterations as the process develops and I expect that there will be further refinement, including after review by the Court.

3.2 This part of my evidence simply explains the provisions sought. The provisions are assessed in Part 7 of this evidence where I also comment on how the proposed relief sought by Te Uri o Hikihiki varies from the provisions outlined below.

3.3 Part F of the pNRP (as currently structured) contains Objectives. Two further objectives are proposed. The first objective has two alternative wordings. These are:

> **F.1.x Te Hā o Tangaroa Protection Areas**
>
> Protect from inappropriate use, disturbance and development the characteristics, qualities and values that make up Te Hā o Tangaroa Protection Areas.
>
> or
>
> Protect from inappropriate disturbance, use and development the mauri and taonga species and their habitats, and customary values that make up Te Hā o Tangaroa Protection Areas.

3.4 The first objective is premised on there being a spatial layer introduced into the pNRP as a basis for activities management. This spatial layer is "Te Hā o Tangaroa Protection Areas." The intention is for that layer to apply to the areas identified in the appellants' relief. The same layer could potentially also be

applied in any appropriate location in the Northland CMA. The objective would apply to that layer, wherever it applies.

3.5 The pNRP generally provides an outline of key characteristics, qualities and values of high value/overlay areas in Assessment Sheets[4]. The draft Schedule for the proposed Te Hā o Tangaroa Protection Area Rakaumangamanga-Ipipiri has been populated by the appellants' team, with Ngāti Kuta preparing the cultural values section. The draft Schedule sets out the various categories of characteristics, qualities and values which, based on known information including the evidence provided to this hearing, include biodiversity, natural character and cultural values. Additional or different values could be used depending on the totality of the evidence.

3.6 The second objective recognises the need to investigate other areas that may qualify as Te Hā o Tangaroa Protection Areas, and is as follows:

> Investigate areas that may qualify as further Te Hā o Tangaroa Protection Areas and implement measures for those areas that will protect them from inappropriate disturbance, use and development.

3.7 Locational differences in biodiversity, natural character and / or cultural values that warrant different management approaches are recognised through the proposal for sub-areas of each Te Hā o Tangaroa Protection Area. Sub-Area A has the highest quality or vulnerability of combined values, followed by Sub-Area B and Sub-Area C. That generic hierarchy is expected to apply wherever there is a Te Hā o Tangaroa Protection Area. However, it may well be the case that the detail of sub-area management varies, depending on the values of that particular area.

3.8 The spatial location of the proposed Te Hā o Tangaroa Protection Area Rakaumangamanga-Ipipiri has been primarily determined by Ngāti Kuta (and is supported by expert kaitiaki, ecology and natural character evidence). This reflects an expectation that, for any Te Hā o Tangaroa Protection Area, tāngata whenua will have a lead role in this spatial planning exercise. The sub-Areas identified by Ngāti Kuta in the Te Hā o Tangaroa Protection Area Rakaumangamanga-Ipipiri are:

Sub-Area A	Maunganui – Oke Bay Rahui Tapu
Sub-Area A Buffer	Manganui – Oke Bay Rahui Tapu Buffer Area
Sub-Area B	Ipipiri Benthic Protection Area
Sub-Area C	Ipipiri-Rakaumangamanga Protection Area

[4] I have included these in Appendix B, except for those relating to natural character which are addressed in Dr Froude's evidence.

3.9 Part D of the pNRP contains policies, with sub-part D2 being "General" policies. Two policies are proposed that provide the basis for how the adverse effects of activities on the identified characteristics, qualities and values of each sub-area are required to be managed. This is to avoid adverse effects in the areas that have the highest value/vulnerability and to avoid, remedy or mitigate adverse effects in other sub-areas. The proposed policies are:

> **D.2.x Te Hā o Tangaroa Protection Areas – manage adverse effects**
>
> (1) Avoid adverse effects of activities on the identified characteristics, qualities and customary values of Te Hāo Tangaroa Protection Areas – Sub Areas A
>
> (2) Avoid, remedy or mitigate adverse effects of activities on the identified characteristics, qualities and customary values of Te Hāo Tangaroa Protection Areas – Sub Areas other than Sub Areas A

3.10 Further policies relate to future Te Hā o Tangaroa Protection Areas (linking to the second objective), and are:

> (1) Consider proposals from tāngata whenua and/or the community to identify, investigate and monitor areas of the coastal marine area that are, or are likely to be, adversely affected by activities (including fishing).
>
> (2) Where Te Hā o Tangaroa Protection Areas have been identified, introduce the further marine spatial planning mechanisms that may be required to protect and restore them.

3.11 Part C of the pNRP contains rules, with sub-part C.1 covering Coastal activities.

3.12 Based on the evidence that temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed is a major contributor to adverse effects on the marine environment in Te Hā o Tangaroa Protection Areas, the rules manage those activities. No distinction is made between commercial and recreational activities, or customary fishing – all activities are covered without distinguishing between who conducts them or why (except in the case of very low impact activities that the rules would permit).

3.13 It should be noted that, with the exception of kina/sea urchin[5], the proposed rules do not manage individual fish species. This is further explained in Section 7 of this evidence.

3.14 The proposed rules can be described in three parts. The first part relates to permitted activities involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed in all sub-areas of Te Hā o Tangaroa Protection Area. These are (C.1.9.1):

(a) All Sub-Areas (Sub-Area A, Sub-Area A buffer zone, Sub-Area B and Sub-Area C)

i. Kina/sea urchin harvest;
ii. Resource consent monitoring undertaken in accordance with resource consent conditions;
iii. Marine biosecurity incursion investigation and/or response;
iv. Wildlife rescue;
v. Monitoring and enforcement carried out by a regulatory agency;
vi. Mooring, anchoring and hauling small vessels ashore;
vii. Scientific research, conservation activities and monitoring undertaken by, under the supervision of, or on behalf of, the following entities:
- Crown research Institutes;
- Recognised Māori research entities;
- Tertiary education providers;
- Regional Councils;
- Department of Conservation;
- Ministry for Primary Industries;
- An incorporated society having as one of its objectives the scientific study of marine life or natural history.

3.15 The second part relates to additional permitted activities involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed in identified sub-areas. These are:

1. In the Sub-Area A buffer zone (permitted activities in addition to those listed in (a)):

i. hand fishing with one line and one hook per person

[5] The intention is to cover both *Evechinus chloroticus (also known as* sea *egg) and Centrostephanus rodgersii (also known as purple urchin).*

ii. hand gathering of aquatic life that does not involve the use of scuba equipment or any implement (such as a knife, hook or spear).

2. In Sub-Area B (permitted activities in addition to those listed in (a)):

   Any activity involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed that is not a prohibited activity in Section C.1.9 of this Plan.

3. In Sub-Area C (permitted activities in addition to those listed in (a)):

   Any activity involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed that is not a prohibited activity in Section C.1.9 of this Plan.

3.16 The third part (C.1.9.2) is prohibited activities involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed in each of the sub-areas, which are as follows:

1. In Sub Area A:

   Any activity involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed that is not a permitted activity in Section C.1.9 of this Plan.

2. In the Sub-Area A buffer zone:

   Any activity involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed that is not a permitted activity in Section C.1.9 of this Plan.

3. In Sub-Area B:

   a. Bottom trawling;
   b. Bottom pair trawling;
   c. Danish seining;
   d. Purse seining,
   e. Longlining without approved seabird mitigation devices;
   f. Drift netting;
   g. Scallop or other dredging.

4. In Sub-Area C:

a. Bottom trawling;
b. Bottom pair trawling;
c. Danish seining;
d. Purse seining,
e. Longlining without approved seabird mitigation devices;
f. Drift netting.

The rules in the appellants' relief circulated on 11 December also contained a discretionary activity rule. I have recommended that be deleted as all activities are either permitted or prohibited.

3.17 At this stage, no definitions of terms have been proposed. It is expected that the activities described will have commonly accepted meanings, however if it is seen as being necessary definitions can be devised.

4 RESOURCE MANAGEMENT FRAMEWORK

4.1 I have identified what I regard as being the most relevant provisions in **Appendix B** to this evidence, including with particularly relevant parts of those provisions highlighted. Mapping of natural resources, with associated schedules, is shown in **Appendix C**, with the key maps shown with the proposed sub-Areas overlaid. I briefly comment on the provisions below.

RMA

4.2 In relation to Section 30, regional councils are tasked with the functions of controlling the use of land (including seabed) and associated natural and physical resources in the coastal marine area, extraction of natural material from the coastal marine area, and the establishment, implementation, and review of objectives, policies, and methods for maintaining indigenous biological diversity. However, there is a particular limitation on controlling the taking, allocation or enhancement of fisheries resources for the purpose of managing fishing or fisheries resources controlled under the Fisheries Act. This limitation has been the subject of a decision by the Court of Appeal as to the extent to which there can be RMA management of activities involving fishing. In this evidence I defer to the legal submissions on that matter. The legal advice I have received is that the provisions sought by the appellants are within jurisdiction.

4.3 In relation to Section 6 Matters of national importance I consider (a) – preservation of the natural character of the coastal environment, (c) - protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna and (e) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga

to be relevant to this case. In relation to Section 7 Other Matters I consider (a) kaitiakitanga, (aa) the ethic of stewardship, 7(c) the maintenance and enhancement of amenity values, (d) intrinsic values of ecosystems and (g) any finite characteristics of natural and physical resources to be relevant.

New Zealand Coastal Policy Statement 2010

4.4 I consider the key objectives of the NZCPS to be as follows.

4.5 Objective 1 - to safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas.

4.6 Objective 2 - to preserve the natural character of the coastal environment.

4.7 Objective 3 – to take into account the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment (by the methods specified)

4.8 Objective 4 - to maintain and enhance the public open space qualities and recreation opportunities of the coastal environment.

4.9 Objective 6 – to enable people and communities to provide for their social, economic and cultural wellbeing.

4.10 Objective 7 – to ensure that management of the coastal environment recognises and provides for New Zealand's international obligations regarding the coastal environment, including the coastal marine area.[6]

4.11 I consider the key policies of the NZCPS to be as follows[7].

4.12 Policy 2 - The Treaty of Waitangi, tangata whenua and Māori heritage – contains a number of parts relevant to the consideration of cultural values.

4.13 Policy 3 - Precautionary approach is particularly relevant in those areas, in particular the outer part of sub-Area C, where adverse effects are uncertain, unknown, or little understood, but potentially significantly adverse.

4.14 Policy 6 – Directs buffering of areas and sites of significant indigenous biological diversity where appropriate. It also requires recognition of potential

[6] I consider the United Nations Convention on the Law of the Sea ("UNCLOS") and the Convention on Biological Diversity ("CBD") are likely to be relevant under Objective 7 but I defer to legal submissions for analysis of their relevance.

[7] Other policies that have relevance are 4, 5, 15 and 22

contributions to social, economic and cultural wellbeing of people and communities from use of the coastal marine area and requires recognition of the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area.

4.15 Policy 7 - Strategic planning requires attention to be given in plans to where to provide for particular activities, including where those activities may be inappropriate or require consideration through a resource consent.

4.16 Policy 11- Indigenous Biological Diversity (biodiversity) requires the avoidance of adverse effects on species and areas prescribed in Policy 11(a). Under Policy 11(b) "significant" adverse effects must be avoided and other effects avoided, remedied or mitigated.

4.17 Policy 13 - Preservation of Natural Character requires, under Policy 13(a), avoidance of adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character. Policy (13(b)) is to avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment.

4.18 Policy 14 - Promote restoration or rehabilitation of natural character, requires that areas and opportunities for restoration or rehabilitation are identified and that policies rules or other methods directed at restoration or rehabilitation are included in plans, recognising that where degraded areas of the coastal environment require restoration or rehabilitation possible approaches include restoring indigenous habitats and ecosystems, encouraging natural regeneration, and creating or enhancing habitat for indigenous species

Regional Policy Statement for Northland (RPS)

4.19 The RPS is operative. The RPS is required to give effect to the NZCPS. I consider the key provisions to be as follows.

4.20 Objective 3.4 Indigenous ecosystems and biodiversity gives effect to Policies 11 and 14 of the NZCPS. Reference is made to *protecting* areas of significant indigenous vegetation and significant habitats of indigenous fauna, *maintaining* the extent and diversity of indigenous ecosystems and habitats in the region and, where practicable, *enhancing* indigenous ecosystems and habitats - particularly where this contributes to the reduction in the overall threat status of regionally and nationally threatened species.

4.21 Policy 4.4.1 - Maintaining and protecting significant ecological areas and habitats –requires, under part (1) of the policy, the avoidance of adverse effects in the coastal environment, including areas of indigenous vegetation and habitats of

indigenous fauna that are significant using the criteria in RPS Appendix 5. Under part (2) of the policy "significant" adverse effects must be avoided and other adverse effects avoided, remedied or mitigated in specified areas that include areas of predominantly indigenous vegetation, and habitats that are important for cultural or recreational purposes or are particularly vulnerable to modification, such as rocky reef systems. This part is particularly relevant given the high cultural and recreational values of areas described in the evidence.

4.22 The Explanation notes that Policy 4.4.1(1) provides the highest level of protection to ecosystems, habitats, and species (biological values) most at risk of irreversible loss, with the appropriate management response being to avoid adverse effects in the coastal environment. I note that by applying an "avoid adverse effects" approach to all areas assessed as ecologically significant under the RPS (whether they would meet Policy 11(a) or (b) of the NZCPS) the Northland RPS is potentially more stringent than Policy 11 itself. However, this approach has been introduced for the Northland region specifically and is appropriate in that context. The Northland RPS does not separately address the precautionary approach required by NZCPS Policy 3, so this higher stringency approach can be seen as incorporating the precautionary approach.

4.23 The Explanation also notes that parts (2) and (3)[8] of the policy are broader in scope than section 6(c) of the Resource Management Act, which requires the protection of areas of significant indigenous vegetation and significant habitats of indigenous species as a matter of national importance. This is because in Northland many such habitats have been degraded, so there is a greater need to give some protection to the valued habitats that remain extant. This likely also explains the greater stringency of part (1).

4.24 Appendix 5 sets out the criteria used to determine whether indigenous vegetation or habitat(s) of indigenous fauna are "significant". The criteria appear under the headings of Representativeness, Rarity / distinctiveness, Diversity and pattern and Ecological context.

4.25 Method 4.4.3 Statutory plans and strategies contains an obligation on the regional council to amend regional plans to the extent needed to ensure the plans implement Policy 4.4.1, including controls on use of the coastal marine area.

4.26 Objective 3.12 is that tangata whenua kaitiaki role is recognised and provided for in decision-making over natural and physical resources. It is supported by policies of providing for opportunities for tangata whenua to participate in planning and consenting processes (8.1.1) and for incorporation of mātauranga māori in decision-making, management, implementation and monitoring (8.1.3), plus recognition of the value of iwi and hapū management plans (8.2.1).

[8] Part (3) is not relevant as it applies outside the coastal environment.

4.27 Objective 3.14 addresses Natural character, outstanding natural features, outstanding natural landscapes and historic heritage. It seeks to identify and protect from inappropriate subdivision, use and development the qualities and characteristics that make up the natural character of the coastal environment.

4.28 Policy 4.5.2 refers to the RPS mapping of high and outstanding natural character where caution is required to ensure activities are appropriate (see **Appendix C** for the maps). I note that Dr Froude has identified updates to the natural character identification gaps that exist in the current RPS (and the pNRP). Much of the extra area identified (in proposed sub-Area C) has been assessed by Dr Froude as being of High Natural Character[9].

4.29 Policy 4.6.1 – management requires avoidance of the adverse effects of use on the characteristics and qualities which make up the outstanding values of areas of outstanding natural character. In other areas significant adverse effects are to be avoided and other adverse effects avoided, remedied or mitigated. Dr Froude describes the characteristics and values that have led to identification of ONC and HNC areas and the activities that require management in order to avoid significant adverse effects in her evidence.

4.30 Objective 3.15 Active Management seeks to maintain and / or improve the natural character of the coastal environment and freshwater bodies and their margins and areas of significant indigenous vegetation and significant habitats of indigenous fauna. The relevant Policy 4.7.3 - Improving natural character - promotes rehabilitation and restoration of natural character including in areas or on the values identified in Policy 4.4.1.

4.31 Objective 3.12 seeks to ensure tangata whenua's kaitiaki role is recognised and provided for in decision-making over natural and physical resources. When developing plans, Policy 8.2.1 requires the regional council to recognise and provide for the relationship of tangata whenua and their culture and traditions with their ancestral land, water, sites wāhi tapu, and other taonga, including with particular regard to kaitiakitanga.

4.32 In general, I consider these provisions give effect to the key policies I have identified in the NZCPS. I would prefer to see a policy addressing buffering of significant ecological areas, and there is no specific precautionary approach policy.

4.33 It will be seen on the relevant maps in Appendix C that the RPS identifies outstanding natural landscapes and outstanding natural features on land areas adjoining the proposed sub-areas. The appellants' evidence does not raise the presence of ONLs or ONFs as being of particular relevance to the provisions as sought and at this stage that information is provided for reference purposes.

[9] Dr Froude's EIC, Paragraphs 61 - 65

As far as a planning analysis is concerned I would prefer to leave any final comment about the relevance of the ONFs, ONLs and any other landscape matters until I have seen any other evidence that may relate to those matters. If landscape or features were seen to be relevant then additional plan provisions would become relevant, including Policy 15 of the NZCPS and related RPS policies.

Proposed Regional Plan (pNRP)

4.34 The pNRP is a combined regional coastal plan (for the coastal marine area) and regional plan (for the land). A regional plan (including a regional coastal plan) is required to give effect to the RPS (and the NZCPS).

4.35 There are a number of mapped overlays that apply to the CMA, including the areas under consideration. These include overlays relating to Marine Pathways, Significant Ecological Areas, Significant Bird Areas, Significant Marine Mammal areas and Natural Character. These plans appear in **Appendix C**, together with the information that relates to them.

4.36 As noted above, Dr Froude has identified updates to the areas mapped as having natural character values.

4.37 There are a number of relevant provisions in the pNRP. I note that most of these are still subject to appeal and the weight to be given to them must recognise the possibility of amendment before they become operative. Of these provisions still subject to appeal I note that key ones, including D.2.15 (natural character) and Policy D.2.16 (ecology) use similar language to that used in the corresponding key RPS provisions. However, there are parts of these policies that are of particular relevance to this case.

4.38 In respect of Policy D.2.15 specific reference is made (in part (2)) to appropriate methods of avoiding, remedying or mitigating adverse effects including ensuring the location, intensity, scale and form of activities is appropriate having regard to natural elements and processes, and, in areas of high natural character, minimising to the extent practicable indigenous vegetation clearance and modification (such as the seabed).

4.39 In respect of Policy D.2.16 specific reference is made (in part (3)) to areas of significant indigenous vegetation and significant habitats of indigenous fauna include Significant Ecological Areas, Significant Bird Areas, Significant Marine Mammal Areas and Seabird Areas. In respect of potential adverse effects the policy refers to connections between areas of indigenous biodiversity, the life-supporting capacity of the area of indigenous biodiversity, flora and fauna that are supported by the area of indigenous biodiversity, and natural processes or systems that contribute to the area of indigenous biodiversity (in part (4)). In

assessing the potential for adverse effects the policy refers to taking a system-wide approach to large areas of indigenous biodiversity and that the scale of the effect of an activity is proportional to the size and sensitivity of the area of indigenous biodiversity (in part (5)). Appropriate methods of avoiding, remedying or mitigating adverse effects include careful design, scale and location proposed in relation to areas of indigenous biodiversity, maintaining and enhancing connections within and between areas of indigenous biodiversity, and maintaining the continuity of natural processes and systems contributing to the integrity of ecological areas ((in part (6)).

4.40 Policy D.2.18 Precautionary approach to managing effects on significant indigenous biodiversity (also subject to appeal) is relevant. The policy states that, where there is scientific uncertainty about adverse effects of activities on species listed as Threatened or At Risk in the New Zealand Threat Classification System including those identified by reference to the Significant Bird Area and Significant Marine Mammal and Seabird Area maps, or any values ranked high by the Significant Ecological Areas maps then the greatest extent of adverse effects reasonably predicted by science, must be given the most weight.

4.41 In respect of issues of relevance to tangata whenua, there are key provisions that are not subject to appeal. These include Objective F.1.8 which requires that tangata whenua's kaitiaki role is recognised and provided for in decision-making over natural and physical resources. Policy D1.1 requires that, when assessing resource consents require consideration to be given to adverse effects on indigenous biodiversity where it impacts on the ability of tangata whenua to carry out cultural and traditional activities and adverse effects on tāiapure, mataitai or Māori non-commercial fisheries.

5. SIGNIFICANCE OF THE ENVIRONMENT AND ADVERSE EFFECTS

5.1 I defer to the factual and expert evidence that relates to the environmental values and significance of the areas under consideration, and adverse effects in respect of ecology, natural character and cultural values. In this section of my evidence I summarise what I consider to be the important conclusions reached by the expert evidence I have reviewed to date.

Ecology

5.2 In respect of ecology / biodiversity all of the appellants' ecologists present a combination of general assessments and further assessments relating to specific areas. Dr Shears provides evidence focussing on sub-Area A and the sub-Area A buffer; Dr Morrison provides evidence focussing on sub-Area B and Dr

Stirnemann provides evidence focussing on sub-Area C and seabirds. Dr Froude also provides an analysis of ecology.

5.3 There is a shared view amongst all ecologists that the eastern coast of Northland including, in particular, the Bay of Islands and open coast to Mimiwhangata includes a wide variety of ecologically important marine habitats and high diversity of species, overall being an area of high ecological significance that includes a combination of representative and significant natural ecosystems.

5.4 There is a shared view amongst all ecologists that the main threat to indigenous vegetation and biodiversity on shallow reefs in these areas is fishing. Habitats are adversely affected by fishing, including through removal of kina/sea urchin predators. Large areas of kelp forests have been lost from shallow and rocky reefs as a result. Other effects on marine ecology include reduced fish "work-ups" resulting in loss of seabird feeding habitat and associated impacts on the ecological relationship between marine and land habitats, impacts on threatened or valued species caught as bycatch, and direct damage caused to the benthic environment (e.g. seagrass beds) from such activities as trawling and dredging.

5.5 There is a shared view amongst all ecologists that the measures proposed by the appellants will be effective in addressing the adverse effects of fishing methods and protecting, maintaining and enhancing indigenous biological diversity in the area to which the provisions would apply. The only reservation is in respect of the proposed sub-area A buffer – both Dr Shaw and Dr Froude consider better protection may be achieved through incorporating that buffer in sub-area A.

Sub-Area A

5.6 Most of sub-Area A is located in an identified Significant Ecological Area (Eastern Bay of Islands and Cape Brett Coast). SEAs are identified in the pNRP as including significant indigenous vegetation and / or fauna habitats. Dr Shears explains that the western side of Cape Brett represents a unique stretch of coast in Aotearoa as it is largely protected from ocean swells, there is limited influence of land-based stressors such as sediment, and it is strongly influenced by the East Auckland Current. As a result, the relatively steep sloping reefs in this area support some of the highest diversity of reef fish in Northland, second only to the Poor Knights Islands[10].

5.7 Dr Froude presents her analysis of the significance of sub-Area A (and the sub-Area A buffer area) having regard to the RPS Appendix 5 significance criteria[11]. Dr Froude considers this area to be a good representative example of largely indigenous flora and benthic fauna that is representative of the area's natural diversity, including most of the faunal assemblages in most of the guilds

[10] Dr Shears EIC Paragraph 16
[11] Dr Froude, EIC Paragraph 111

expected for the various habitat types. Dr Froude further observes that the area contains a variety of tropical and subtropical species that are at their southern distributional limits. This has been enhanced by more than ten years of no-take status for Maunganui Bay. The frigate Canterbury (sunk in 2007) is now covered in a variety of encrusting organisms and habitat to a variety of fish species.

5.8 Dr Shears is of the view that sub-Area A (and the sub-Area A buffer area) has "significant" values with reference to Policy 11 of the NZCPS[12] and Appendix 5 of the RPS[13]. In order to effectively maintain and restore indigenous biological diversity on reef ecosystems Dr Shears considers it necessary to protect exploited predatory species within marine protected areas. This requires protection from all forms of fishing and effectively designed marine protected areas[14]. Dr Shears considers the proposed sub-Area A[15] meets the Marine Protection Area (**"MPA")** design guidelines in the NZ Marine Protected Areas Classification, Protection Standard and Implementation Guidelines[16]. He considers a reduction in the size of this no-take area would severely compromise its ability to achieve this outcome[17].

5.9 The evidence identifies significant adverse effects with the following parts of NZCPS Policy 11(a) being relevant to sub-Area A and the sub-Area A buffer:

(a) Policy 11(a)(v) areas containing nationally significant examples of indigenous community types:

- Maunganui Bay is nationally significant in terms of the number of subtropical species that are found there (eg reef fish species, turtles and sea urchins).

(b) Policy 11(a)(vi) areas set aside for full or partial protection of indigenous biological diversity under other legislation:

- Maunganui Bay (part of sub-Area A) has a form of current protection (s186 Temporary Closure). However, as explained in the ecology evidence, the indigenous biological diversity in these areas is still adversely affected by fishing.

5.10 The evidence identifies significant adverse effects with the following parts of NZCPS Policy 11(b) being relevant to sub-Area A and the sub-Area A buffer::

[12] Dr Shears EIC Paragraph 28
[13] Ibid Paragraph 18
[14] Ibid Paragraph 40
[15] With the possible addition of the sub-Area A buffer – see Dr Shears EIC Paragraph 54
[16] Note that, on all these matters, Dr Shears makes the same conclusions in respect of the Mimiwhangata rahui tapu area.
[17] Dr Shears EIC Paragraph 52

(a) Policy 11(b)(i) areas of predominantly indigenous vegetation in the coastal environment:

- Sub-Area A includes extensive areas of predominantly (exclusively) indigenous vegetation including sea grass, kelp forests and other macroalgal dominated habitats.

(b) Policy 11(b)(ii) habitats in the coastal environment that are important during the vulnerable life stages of indigenous species.

- Sea grass, kelp forests and other macroalgal dominated habitats provide nursery grounds, food and shelter for other indigenous marine species (e.g. crayfish, reef fish, paua).

(c) Policy 11(b)(iii) indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh;

- Sub-Area A includes intertidal zones, extensive rocky reef systems and eelgrass (sea grass).

(d) Policy 11(b)(iv) habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes:

- Coastal reefs provide home to many species, including crayfish (koura), snapper (tamure), kina and paua, that are important for all of these purposes.

(e) Policy 11(b)(vi) ecological corridors, and areas important for linking or maintaining biological values identified under this policy:

- Sub-Area A includes a variety of marine habitats (reef and soft sediment) spanning a depth continuum from the intertidal to deeper offshore water (>40 m depth). This recognises the linkages and connectivity among habitats and across depth gradients and ensures protection of these biological values.

5.11 As noted earlier, Dr Froude gives an analysis of this area concluding that it meets a number of the significance criteria in Appendix 5 of the RPS[18]. Dr Shears agrees.[19]

[18] Dr Froude's EIC, Paragraph 111
[19] Dr Shears EIC, Paragraph 23

5.12 Dr Shears notes that only a small part of this ecologically significant area is protected from fishing in a rahui. Preliminary evidence suggests that populations of koura have recovered to some extent and evidence from hapū and dive operators suggests that the number and diversity of other species has increased significantly. However, Dr Shears believes "it is unlikely the existing area will be effective in protecting exploited species to the point that the adverse effects of fishing on wider biodiversity are reversed and the reef ecosystems are restored"[20]. Dr Shears notes that indigenous vegetation such as sea grass, kelp forests and other macroalgal dominated habitats provide nursery grounds, food and shelter for many ecologically, culturally, recreationally and commercially important species, and can be directly and indirectly impacted by fishing[21]. He considers fishing is the primary threat to biodiversity in the outer Bay of Islands[22].

5.13 Drs Shears and Froude's evidence is complemented by evidence from dive tourism operators[23] as to their experiences of the marine diversity within and outside the rahui.

5.14 In my view, the evidence of Dr Shears and Dr Froude confirms that sub-Area A, and the sub-Area A buffer, is a significant area of marine biodiversity, meeting the criteria of significance in NZCPS Policy 11 and RPS Appendix 5. The evidence confirms significant adverse effects that arise from methods of fauna extraction by fishing. These are effects that must be avoided under NZCPS Policy 11, RPS Policy 4.4.1 and (subject to appeal outcomes) pNRP Policy D.2.16. Dr Shears further identifies the potential for restoration of the quality of marine biodiversity, if (further) management of fishing methods was introduced. This is consistent with NZCPS Policy 14 Policy 4.7.3 of the RPS and (subject to appeal outcomes) pNRP Policy D.2.16.

Sub-Area B

5.15 A significant part, although not all, of sub-Area B is located within an identified Significant Ecological Area (Eastern Bay of Island Biogenic Soft Sediment Complex). SEAs are identified in the pNRP as including significant indigenous vegetation and / or fauna habitats. It is the evidence of Dr Morrison that sub-Area B is a biodiverse area particularly notable for its biogenic habitats[24]. He considers there are a number of ecological features that meet the criteria of Policy 11 of the NZCPS. This includes the following parts of NZCPS Policy 11(a).

[20] Ibid, Paragraph 20
[21] Ibid, Paragraph 27
[22] Ibid, Paragraphs 29 - 33
[23] EIC Ms Riddle, Mr Johnston and Mr Jongejans
[24] Dr Morrison EIC, Paragraph 13

(a) Policy 11(a)(iii) - subtidal seagrass meadows and rhodolith/maerl beds are indigenous ecosystems and vegetation types that are threatened in the coastal environment or naturally rare.[25]

(b) Policy 11(a)(v) - subtidal seagrass meadows and soft sediment macroalgal meadows are nationally significant examples of indigenous community types.[26]

5.16 The evidence identifies significant adverse effects with the following parts of NZCPS Policy 11(b) being relevant to sub-Area B:

(c) Policy 11(b)(ii) - habitats in the coastal environment that are important during the vulnerable life stages of indigenous species:

- subtidal seagrass meadows and horse mussel beds, being habitats in the coastal environment that are important during the vulnerable life stages of indigenous species[27]

(d) Policy 11(b)(iii) - indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh:

- subtidal seagrass meadows, bivalve shellfish beds and rhodolith/maerl beds, being indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification[28]

5.17 Dr Morrison identifies the same natural resources as meeting a number of criteria for significance in the RPS Appendix 5[29]. Dr Froude also concludes that this sub-Area meets a number of the significance criteria in Appendix 5 of the RPS[30].

5.18 Dr Morrison outlines the adverse effects on marine ecology from various fishing methods[31]. This includes fishing using mechanical bottom contact methods such as trawling, Danish seining, and scallop dredging (including by recreational means) and fish and shellfish that are being targeted for capture; with the

[26] Ibid
[27] Ibid
[28] Ibid
[29] Ibid, Paragraph 28
[30] Dr Froude's EIC, Paragraph 116
[31] Dr Morrison's EIC, Paragraphs 30 - 35

unwanted component that is caught being known as bycatch. With particular regard to the effects of scallop dredging Dr Morrison refers to a concern that the "positive feed-back mechanism/relationships" between organisms can be removed[32].

5.19 In my view, Dr Morrison's evidence confirms that sub-Area B, or at least that part within the identified SEA, is a significant area of marine biodiversity, meeting the criteria of significance in NZCPS Policy 11 and RPS Appendix 5. The evidence confirms significant adverse effects that arise from methods of fauna extraction by fishing, and in particular dredging activities. These are effects that must be avoided under NZCPS Policy 11, RPS Policy 4.4.1 and (subject to appeal outcomes) pNRP Policy D.2.16.

Sub-Area C

5.20 A significant part of sub-Area C is located within an identified Significant Ecological Area (Eastern Bay of Islands and Cape Brett Coast, Black Rocks and the Te Pahi Islands coast reefs, some parts of the inner estuaries and inlets), the notable exceptions being the bulk of the inner Bay of Islands and the outer (sea) part of the sub area. SEAs are identified in the pNRP as including significant indigenous vegetation and / or fauna habitats.

5.21 Dr Stirnemann's evidence focusses on the outer Bay of Islands area. Dr Stirnemann describes the Cape Brett to Mimiwhangata area and broader North Eastern Northland region as being highly important for seabirds, many of which are Threatened or At Risk with declining populations. There are substantial anthropogenic threats to seabirds and various marine species, including from fishing activities. Dr Stirnemann's evidence also describes how threats to seabirds also threaten terrestrial ecological function and restoration, because of the important ecological function that seabirds carry out in linking sea to land through marine nutrient transfers.[33]

5.22 The ecology evidence identifies the following parts of NZCPS Policy 11(a) to be relevant to sub-Area C:

(a) Threatened seabirds – Policy (a)(i) and (a)(iii)[34]
(b) Habitat of indigenous marine mammal fauna, ray species, sponges and corals that are Threatened, at risk and data deficient – Policy (a)(i)[35]

(c) Policy 11(b)(ii) - habitats in the coastal environment that are important during the vulnerable life stages of indigenous species:

[32] Ibid, Paragraph 32
[33] Dr Stirnemann's EIC Paragraph 103-104
[34] Ibid, Paragraph 114
[35] Ibid

- habitats of indigenous marine mammal fauna and ray species that are threatened, at risk and data deficient - an important foraging habitat for rays, marine turtles and marine mammals[36]

5.23 Dr Stirnemann also confirms, in relation to both seabirds and benthic life, that a number of the criteria in RPS Appendix 5 are met[37].

5.24 Dr Froude's evidence refers to the whole of Area C, including the part within the inner Bay of Islands. Dr Froude confirms her view that the mapped SEAs, which cover a high proportion of the outer Bay of Islands and open coast, are ecologically significant using the criteria in Appendix 5 of the operative Northland RPS and collectively meet the criteria for ecological significance[38]. Dr Froude notes that the open coast beyond the outer reefs and their associated reef edge habitats may not have been assessed to delineate marine areas of ecological significance[39]. However it is further noted that Dr Stirnemann does include a comprehensive assessment of the ecological significance of this area and that there are additional mangrove, saltmarsh and associated intertidal flats in the inner Bay of Islands that would meet the criteria for ecological significance[40].

5.25 In the area covered by Dr Stirnemann the evidence confirms that sub-Area C has some significant characteristics that meet criteria of significance in NZCPS Policy 11 and RPS Appendix 5. The evidence confirms significant adverse effects that arise from methods of fauna extraction by fishing, and in particular bottom trawling, danish seining, longlining without approved seabird mitigation devices and drift netting. These are effects that must be avoided under NZCPS Policy 11, RPS Policy 4.4.1 and (subject to appeal outcomes) pNRP Policy D.2.16. Dr Stirnemann further identifies the potential for restoration of the quality of marine biodiversity, if (further) management of fishing methods was introduced[41]. This is consistent with NZCPS Policy 14, Policy 4.7.3 of the RPS and (subject to appeal outcomes) pNRP Policy D.2.16. Dr Stirnemann considers a precautionary approach should be adopted as marine ecosystems are altering due to climatic changes and marine acidification affecting prey density and availability which flow on to higher trophic levels, with effects on abundance, productivity, behaviour and community structure of seabirds. Dr Stirnemann is concerned that the combined impact of fishing methods and climate change has a cumulative impact, and a precautionary approach is

[36] Ibid, Paragraph 116
[37] Ibid, Paragraphs 114 - 115
[38] Dr Froude's EIC, Paragraph 121
[39] Ibid, Paragraph 123
[40] Ibid, Paragraphs 123 - 124
[41] Dr Stirnemann's EIC, Paragraph 119

justified[42]. This is relevant to Policy 3 of the NZCPS, Policy 4.4.1 of the RPS and Policy D.2.18 (subject to appeal outcomes) of the pNRP.

5.26 I note that there are parts of Area C, particularly around Cape Brett and within the same depth from the coast as sub-Area A that are in an SEA and have the same or similar characteristics as sub-Area A, as canvassed in Dr Shears' evidence. Other SEAs in sub-Area C, including those in the inner Bay of Islands, have not been fully covered in evidence.

Natural Character

5.27 The current natural character mapping in both the RPS and pNRP identifies areas of Outstanding Natural Character around Cape Brett which are within parts of proposed sub-Areas A and C and small areas that are in the inner Bay of Islands in sub-Area C. The balance of sub-Area A, about half of sub-Area B and a large part of sub-Area C is identified as High Natural Character. Dr Froude gives a natural character assessment for all areas, notably updating this with further work she has carried out to supplement that already contained in the pNRP. In that respect, Dr Froude points out that only about 25% of the area within which marine protection provisions are now sought was mapped for the RPS – the remaining 75% was assessed and mapped by Dr Froude in 2021[43].

5.28 Dr Froude considers the natural character values of that area of Maunganui Bay where fishing has been excluded for the last ten years and extending from there to and around the Twins, Bird Rock and Cape Brett as "outstanding". For the remainder of sub-Area A and the sub-Area A buffer strip - Maunganui Bay to Oke Bay the current natural character level is assessed as being "high".

5.29 A more complex pattern of natural character significance applies to the larger areas identified by Ngati Kuta (Area C) and Te Uri o Hikihiki (Te Au o Mounga Protection Area).

5.30 Dr Froude (and the other ecologists) consider that current extraction (fishing) methods continue to have significant adverse effects on natural resources that contribute to natural character[44].

5.31 Dr Froude considers natural restoration is likely to occur through managing commercial and recreational extraction/harvest of marine life and dredging, and trawling damage to the seabed[45].

[42] Ibid, Paragraph 120
[43] Dr Froude's evidence, Paragraph 53
[44] Ibid, Paragraphs 73 - 87
[45] Ibid, Paragraph 90

5.32 Dr Froude's findings in respect of natural character closely align, in relation to the areas of significance and significant adverse effects, with those of the ecologists. There is also a similar response, in this case in respect of the relevance of Policies 13 and 14 of the NZCPS. Policies 4.5.2 and 4.6.1 of the RPS and (subject to appeal) Policy D.2.15 of the pNRP. There are significant adverse effects that need to be avoided, and those significant effects arise primarily through fishing activities.

Cultural Values

5.33 Matutaera Te Nana Clendon, Robert Sydney Willoughby and George Frederick Riley give evidence on behalf of themselves and Ngāti Kuta hapū. I refer to this as the hapū evidence.

5.34 The hapū evidence explains the rohe moana of Ngāti Kuta me Patukeha and recognises that there are overlaps with other hapū rohe moana[46]. The evidence outlines the basis for customary management of the rohe moana fishery and the ongoing responsibilities of the hapū as kaitiaki and in maintaining ahi kā[47]. Importantly, taonga species are not fished[48]. The evidence explains, with examples, the importance of rāhui as part of the kaitiaki work[49].

5.35 The hapū evidence explains the cultural values and customary practices within each of the proposed management sub-Areas[50]. This is followed by details of how overfishing has resulted in a loss of mauri in each of these areas[51], and what controls the hapū consider are necessary to manage those effects[52].

5.36 As with the ecology and natural character evidence, the cultural evidence identifies overfishing as having significant adverse effects on the marine environment, including the loss of taonga species that diminishes the hapū's wairua. I consider this linking of issues to be important. As the evidence states, in Te Ao Māori everything is connected.

5.37 Ngāti Kuta has a traditional and continuing cultural relationship with the area of coastal environment under consideration. Ngāti Kuta is responsible for kaitiakitanga in this area and seeks appropriate methods for the management, maintenance and protection of their taonga. This has relevance in respect of obligations under Policy 2 of the NZCPS, Objective 3.12, Policy 8.2.1 of the RPS and Objective F.1.8 and Policy D.1.1 of the pNRP.

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[46] Ngati Kuta hapū evidence, Paragraphs 12 - 14
[47] Ibid, Paragraphs 21 - 35
[48] Ibid, Paragraphs 60 - 63
[49] Ibid, Paragraph 57
[50] Ibid, Paragraphs 65 - 88
[51] Ibid, Paragraphs 89 - 122
[52] Ibid, Paragraphs 123 - 141

6. PROPOSED OBJECTIVES

6.1 This proposal amends an existing proposal (the pNRP as it currently stands). RMA section 32AA requires a further evaluation on any proposed changes to a proposed plan. The further evaluation must be undertaken in accordance with section 32(1) to (4), and at a level of detail that corresponds to the scale and significance of the changes. RMA Section 32(1)(a) requires an examination of the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of the Act.

6.2 The proposed provisions do not rely entirely on their new objectives – there are other pNRP objectives that are relevant, including Objective F.1.3 (indigenous ecosystems and biodiversity), Objective F.1.7 (use and development in the coastal marine area), Objective F.1.8 (tangata whenua role in decision making) and Objective F.1.11 (including natural character and places of significance to tangata whenua). However the framework of Te Hā o Tangaroa would be introduced by the new objectives.

6.3 In addition, much of the evidence relating to ecology and natural character reflects what is already in, or referred to in, the pNRP (see **Appendix C**).

6.4 The cultural values referred to in the hapū evidence are place-specific. That evidence is consistent with what is expected under the various tangata whenua provisions I have cited. RMA Section 6(e) and 7(a), NZCPS Objective 3 and Policy 2, RPS Policy 3.12 and pNRP Objective F.1.8 all require that tangata whenua's kaitiaki role is recognised and provided for in decision-making. The hapū evidence describes what those kaitiaki responsibilities are, and they are in turn based on principles of Te Ao Māori, mātauranga and tikanga. Ngāti Kuta has taken a lead role in identifying Te Hā o Tangaroa Protection Area Rakaumangamanga-Ipipiri and the boundaries of its sub-Areas, and a fundamental reason for the provisions as sought is achieving regulatory alignment with those kaitiaki responsibilities.

6.5 Te Uri o Hikihiki seek a similar response in their rohe moana and I am aware of other iwi / hapū interest in other parts of Tai Tokerau.

6.6 The most appropriate way these concerns can be addressed is through a form of spatial planning. Critically, planning that includes as an integral component cultural values, even if not initiated by tangata whenua (which I consider would be most likely), would need to be informed by tangata whenua involvement. This should then be supported by other inputs that, as currently proposed, include biodiversity and natural character. These characteristics, qualities and values, and existing or potential adverse effects on those characteristics, qualities and values combine, to inform the spatial layer. That is why a specific overlay is sought rather than amendments to the SEA and natural character overlays.

6.7 There is a gap in the pNRP, which does not currently recognise in a spatial way how particular areas of the marine environment can be managed to reflect a combination of ecology, natural character and iwi / hapū values. It is accordingly appropriate to add an objective that recognises the need to identify Te Hā o Tangaroa Protection Areas[53] and the characteristics, qualities and values of those areas, and the need to protect those areas from inappropriate use. It is also appropriate, acknowledging that not all possible Te Hā o Tangaroa Protection Areas have been identified yet, to add an objective relating to future Te Hā o Tangaroa Protection Areas.

6.8 On this basis, I support the two objectives proposed and repeated below.

> Protect from inappropriate use, disturbance and development the characteristics, qualities and values that make up Te Hā o Tangaroa Protection Areas.
>
> Investigate areas that may qualify as further Te Hā o Tangaroa Protection Areas and implement measures for those areas that will protect them from inappropriate disturbance, use and development.

6.10 In my view these objectives are the most appropriate way to achieve the purpose of the Act.

6.11 The alternative first objective wording is[54]:

> Protect from inappropriate disturbance, use and development the mauri and taonga species and their habitats, and customary values that make up Te Hā o Tangaroa Protection Areas.

6.12 I acknowledge this wording may be appropriate, however I prefer the objective wording in Paragraph 6.8 above. My primary reason for not preferring the alternative objective wording is that the proposed schedule is of "characteristics, qualities and values", which are terms used in other relevant provisions. Cultural values, which in any area will likely include mauri and taonga species and their habitats, are an integral part of those characteristics, qualities and values. However there are other relevant matters that are separately recorded in the schedule, including those characteristics, qualities and values already referred to in the pNRP relating to natural character and ecology. I note, also, that with the exception of kina / sea urchins the proposed rules do not specifically relate to individual species.

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[53] This is the name preferred by the appellants, but I acknowledge there are alternatives that may be preferred, and it could change.

[54] I note this wording is preferred in the relief sought by Te Uri o Hikihiki

6.13 I have given consideration as to whether the objectives should include reference to restoration outcomes. The evidence, in particular relating to sub-Area A, is that restoration is a key outcome sought, and there is a high likelihood, over time, that restoration of natural values will occur. Existing provisions in the pNRP refer to restoration and may be sufficient. However, I would support further consideration of a targeted outcome in these provisions.

7 ASSESSMENT OF THE PROPOSED PROVISIONS AND OPTIONS

Policies and Spatial Planning

7.1 RMA Section 32 (1)(b) requires an examination as to whether the provisions in the proposal are the most appropriate way to achieve the objectives. An important part of this examination is an assessment of the efficiency and effectiveness of the provisions in achieving the objectives (section 32(1)(b)(ii)).

7.2 The proposed policies are:

> D.2.x Te Hā o Tangaroa Protection Areas – manage adverse effects
>
> In Te Hā o Tangaroa Protection Areas
>
> (1) Avoid adverse effects of activities on the identified characteristics, qualities and customary values of Te Hā o Tangaroa Protection Areas – Sub Areas A
>
> (2) Avoid, remedy or mitigate adverse effects of activities on the identified characteristics, qualities and customary values of Te Hā o Tangaroa Protection Areas – Sub Areas other than Sub Areas A
>
> D.2.x Possible Future Te Hā o Tangaroa Protection Areas
>
> (1) Consider proposals from tāngata whenua and/or the community to identify, investigate and monitor areas of the coastal marine area that are, or are likely to be, adversely affected by activities (including fishing).
>
> (2) Where Te Hā o Tangaroa Protection Areas have been identified, introduce the further marine spatial planning mechanisms that may be required to protect and restore them.

7.3 The proposed objectives and policies envisage the identification of Te Hā o Tangaroa Protection Areas and sub-areas. There are a number of overlays, both in the RPS and the pNRP, that relate to the areas under consideration. These are

already a form of spatial planning, as they identify particular resources and values and are the basis to objectives, policies and rules relating to those values. However these overlays arise more from the identification and mapping of constraints than the identification of areas which have a place-based forward-thinking objective.

7.4 The Environment Foundation Environment Guide[55] includes the following statements about marine spatial planning:

> As the marine area becomes more utilised, conflicts between activities are becoming more acute. This has been increasingly evident in New Zealand, with recent conflicts between marine protection and fisheries interests; between fishing and mining activity; and between aquaculture and landscape protection. Such poorly managed conflicts create cost and uncertainty for all parties and the environment.
>
> Marine spatial planning is a rational and strategic approach which can be used to proactively plan for the future use of the marine environment. At its heart is a concern to protect the underlying ecological backbone or productivity of the marine area, but it also seeks to reduce conflict and maximise synergies, providing greater certainty on where marine activities can and cannot locate.
>
> Marine spatial planning seeks to provide greater direction on how defined areas of marine space, including coastal and offshore areas, are to be managed in order to meet desired societal outcomes.

7.5 A definition of marine spatial planning is:

> Ecosystem-based MSP [marine spatial planning] is an integrated planning framework that informs the spatial distribution of activities in and on the ocean in order to support current and future uses of ocean ecosystems and maintain the delivery of valuable ecosystem services for future generations in a way that meets ecological, economic, and social objectives[56].

7.6 I agree with these statements, subject to adding "cultural objectives" to the definition. The Guideline referred to specifically refers to best practice including the need to integrate mātauranga Māori into the understanding of the issues and potential solutions.

[55] http://www.environmentguide.org.nz/issues/marine/marine-spatial-planning/
[56] Definition proposed by 21 scientists in Foley et al "Guiding ecological principles for marine spatial planning", Marine Policy 2010

7.7 A more recent publication from the Environmental Defence Society makes the following observation about marine spatial planning in New Zealand: [57]

> Marine spatial planning is at the cutting edge of marine management internationally and there is a growing international convergence towards fisheries ecosystem planning as a way of managing ecosystem scale impacts associated with the fishing sector. New Zealand is currently behind many other countries in adopting such approaches and needs to rapidly improve in this important area.

7.8 From a marine spatial planning perspective, I support the introduction of new provisions as proposed. The provisions are forward-thinking in that they focus on protection and restoration of ecological and cultural resources and provide for an ongoing identification process, recognising the limitations of the current process. They are also consistent with other, albeit more general, provisions in the pNRP identified in section 4 of my evidence and in Appendix B. The proposed Te Hā o Tangaroa Protection Areas have similarities to the zone method we are familiar with in land-based planning.

7.9 The protection policies set up a hierarchy of expected management outcomes consistent with the assessed qualities of the various sub-areas. Sub-Areas A contain, either individually or collectively, identified characteristics, qualities and customary values that are significant to the extent that a "no adverse effects" threshold is appropriate. In other sub-areas an opportunity is available, where adverse effects cannot be avoided, for remedy or mitigation.

7.10 Ngāti Kuta has taken a lead role in identifying the Te Hā o Tangaroa Protection Area Rakaumangamanga-Ipipiri and the boundaries of its sub-Areas. The expert evidence given of each sub-area's identified characteristics, qualities and customary values and the adverse effects that impact on those matters are the justification for the proposed policy thresholds.

7.11 The proposed future Te Hā o Tangaroa Protection Areas policies appropriately respond to the second objective. I would expect that future requests for a Te Hā o Tangaroa Protection Area will most likely come from or in close association

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[57] Voices From the Sea: Managing New Zealand's Fisheries: Raewyn Peart EDS 2018, Page x. This report "takes an in depth look at the country's fisheries management system, as applied to inshore fisheries, from the perspective of those directly involved in its operation. The methodology adopted for the research included a national and international literature review; an economic analysis and review of stock assessment data for some key stocks; and around 60 in-depth interviews with people closely involved in fisheries management. The interviews focused on several case study areas; the Hauraki Gulf, Kaipara Harbour, Marlborough Sounds and Tasman / Golden Bays and associated fish stocks but also probed broader issues." (Page vi)
https://www.eds.org.nz/assets/Publications/Voices%20from%20the%20Sea_LO-RES.pdf?k=83267e639e

with tāngata whenua, and in any case would need to have tāngata whenua involvement.

7.12 As noted in Paragraph 6.13 above, a possible further development of the policies would address restoration of the marine environment. Subject to confirmation from the ecology experts, this policy could relate specifically to sub-Area A, or to all sub-Areas.

Existing Management

7.13 One of the reasonably practicable options[58] is the status quo, which includes the pNRP provisions as they stand, and existing measures of management under the other legislation, including the Fisheries Act.

7.14 Dr Froude has a comprehensive knowledge of the range of existing management mechanisms applying to the area under consideration, including the history of their development over a number of years, and describes these in her evidence[59].

7.15 Dr Shears provides comment on the effectiveness of the Fisheries Act, stating:

> Existing management under the Fisheries Act 1996 focuses on managing catch levels of certain species and does not ensure protection and restoration of the complexity of marine ecosystems or adequately address wider impacts on biodiversity. As a result, current management under the Fisheries Act does not achieve the objectives and policies of the New Zealand Coastal Policy Statement (NZCPS) or the Northland Regional Policy Statement[60].

7.16 In general, the evidence illustrates that existing management mechanisms are not being effective in preventing further degradation of the marine environment. The most effective measure has been the Fisheries Act s186 temporary closure area at Maunganui Bay which has been in existence since November 2010, and renewed biannually. Dr Shears states the following in relation to that area:

> Sub-Area A would extend the existing no-take rahui at Maunganui Bay to Oke Bay. The current rahui area is very small (~1.6 km^2) and therefore the biodiversity values are greatly impacted by edge-effects/fishing on the boundary (Appendix 3(A): effective area of MPA is only ~1km^2). High levels of fishing for snapper on the boundary at the entrance of the bay likely explains the limited response of snapper to protection in the rahui area. By increasing the size of the protected area this will encompass a wider range of

[58] RMA Section 32 (1) requires identification of other reasonably practicable options for achieving the objectives
[59] Dr Froude's EIC, Part 4, from Paragraph 125
[60] Dr Shears' EIC, Paragraph 5

habitats, reduce the adverse effects of fishing on the area, and provide more effective protection for indigenous biological diversity[61].

7.16 I discuss the option of continuing temporary closures below.

Future Management Using Means Other than the pNRP

7.17 Another reasonably practicable option is to further pursue opportunities available under the other legislation, including the Fisheries Act 1996 and the Marine Reserves Act 1971.

7.18 The purpose of the Fisheries Act is (Section 8):

> (1) …to provide for the utilisation of fisheries resources while ensuring sustainability.
> (2) In this Act,—
>
> ensuring sustainability means—
>
> (a) maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and
> (b) avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment
>
> utilisation means conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural well-being.

7.19 Section 11 of the Fisheries Act relates to Sustainability measures. Under this section the Minister of Fisheries may set or vary any sustainability measure for 1 or more stocks or areas, after taking into account a range of matters, including any effects of fishing on any stock and the aquatic environment. Before setting or varying any sustainability measure the Minister shall have regard to any provisions of, amongst other matters, any regional policy statement, regional plan, or proposed regional plan under the RMA. The range of range of fisheries management tools to manage the impacts of fishing activity can include:

1. the catch limit (including a commercial catch limit)
2. restricting the size, sex or biological state of the species harvested
3. restricting the areas from which any species may be harvested
4. restricting the fishing methods that can be used to harvest any stock or which are deployed in any area

[61] Dr Shears EIC, Paragraph 51

5. restricting the fishing seasons that apply to any stock, any area, any fishing method or any fishing vessel

7.20 The EDS publication Voices of the Sea makes the following statement about the purpose of the Fisheries Act:

> The definitions of "utilisation" and "sustainability" are broad and refer to the needs of future generations, addressing adverse effects on the marine environment and enabling people to provide for the social economic and cultural wellbeing. Confusion can arise in the fisheries management context, between the use of the concept sustainability when referencing biological fish production through the term "maximum sustainable yield" and the use of "sustainability" in the broader context of addressing impacts on the marine environment, with the two concepts often unhelpfully conflated and the disentangling drawing great ire.[62]

7.21 Dr Shears makes a similar observation about the potential effectiveness of Fisheries Act measures:

> Fishing activity is managed under the Fisheries Act 1996, which gives commercial, recreational, and customary fishers access to resources while ensuring fish stocks are managed sustainably. While there are provisions for avoiding, remedying or mitigating any adverse effects of fishing on the aquatic environment, implementation of the Fisheries Act is focussed on setting sustainable catch levels on a species by species basis and determining how many fish can be harvested from large-scale fishery management areas. Sustainability targets are set according to fishery rather than biodiversity values. As recognised in the NZCPS, coastal ecosystems are complex and interconnected. This single species approach does not maintain natural and biological processes, having regard to the dynamic, complex and interdependent nature of ecosystems[63].

7.21 Neither does the Fisheries Act address effects on natural character in the manner that the RMA and its policy documents require.

7.22 Temporary Closures under s186A of the Fisheries Act 1996 are temporary and are made only if the Minister is satisfied (S186A (2)):

[62] Voices from the Sea, Page 35
[63] Dr Shears' EIC, Paragraph 30

> .. that it will recognise and make provision for the use and management practices of tangata whenua in the exercise of non-commercial fishing rights by-
>
> (a) improving the availability or size (or both) of a species of fish, aquatic life, or seaweed in the area subject to the closure, restriction, or prohibition; or
>
> (b) recognising a customary fishing practice in that area.

7.23 Apart from the continuing need and uncertainty of applying for temporary closures, the issue with this section is that it is focussed on improving aquatic life for non-commercial fishing purposes – it does not provide for biodiversity outcomes, or long-term protection.

7.24 Taiapure-local fisheries are created by Order in Council for areas that have customarily been of special significance to any iwi or hapū as a source of food or for spiritual or cultural reasons. Where a taiapure is established a management committee appointed by the Minister of Fisheries, and there is potential for fishing controls to be included, but only through the management committee making recommendations to the Minister for the promulgation of fishing regulations and the Minister making those recommendations (Fisheries Act Part 9).

7.25 Mataitai reserves are declared by the Minister of Fisheries through notice in the Gazette where there is a special relationship between tangata whenua and the area. The minister appoints a tangata kaitiaki /tiaki to manage the mataitai, who is then empowered to make bylaws restricting fishing activity. Commercial fishing is not normally permitted in a mataitai reserve.

7.26 The taiapure and mataitai options already exist in the Bay of Islands and have been excluded from the proposed Te Hā o Tangaroa Protection Area Rakaumangamanga-Ipipiri as they are managed by other hapū. I understand from discussions with the appellants that the Waikare Inlet Taiapure of 1800ha has no additional restrictions on fishing activities or impacts. Te Puna Mataitai, which I understand is one of the largest in the country, covers 20sq km within waters around islands at the entrance to the Bay. This area prohibits commercial fishing and the taking of mussels (temporary bylaw to address significant overharvesting of green-lipped mussels)[64].

7.27 Under the Marine Reserves Act 1971, marine reserves may be established in areas that:

[64] Dr Froude's EIC, Paragraph 126

- contain underwater scenery, natural features, or marine life of such distinctive quality, or
- so typical, beautiful or unique that their continued preservation is in the national interest.

Marine reserves are strictly 'no take', including marine life, shells, rocks and driftwood.
Examples within eastern Northland and northern Auckland include the Poor Knights, Leigh and Tawharanui.

7.28 Ngati Kuta's hapū Management Plan opposes marine protection by way of marine reserves[65] and the hapū evidence also refers to this[66].

7.29 Taking all of the above into account, I acknowledge the Fisheries Act, Marine Reserves Act and other legislation may provide possibilities to achieve the stated Objectives. If, under other legislation, there was confidence controls on fishing were already in place, or to be put in place, then a cross-reference to those protections in the pRECP could be seen as satisfying those objectives.

7.30 However alternative measures are not in place and there is no current initiative or prospect of any of them being pursued. Conversely, much of the necessary RMA framework is already in place, and this regional plan process allows the necessary protection / management mechanisms to be secured.

7.31 On this basis I consider a pNRP method is necessary, and to achieve the objectives and policies that method should include rules controlling fishing. The benefit of those rules will be in ensuring a restoration of marine ecology (necessary for the maintenance of indigenous biodiversity) in the subject areas, including recognition of the tangata whenua values relating to that area.

Proposed Method – pNRP Rules

7.32 The factual and expert evidence given on behalf of the appellants is that methods of fishing, and, specifically in sub-Area A, any fish-take (apart from kina / sea urchins) has and continues to result in significant adverse effects on marine ecology and natural character. The hapū evidence is also that fishing has and continues to result in significant adverse effects on resources or areas of cultural significance to tāngata whenua.

7.33 If this evidence is to be accepted, then it is methods of fishing, and in some areas the removal of fish generally that needs to be managed to achieve the environmental outcome sought, i.e. protection from inappropriate use, disturbance and development of the characteristics, qualities and values that make

[65] Whakatakoto Kaupapa Mo Te Hapū o Ngāti Kuta kit e Rawhiti Page 115
[66] Hapū evidence, Paragraph 91

up Te Hā o Tangaroa Protection Areas. Damage or destruction of other aquatic life or seaweed are other matters that justify appropriate management control.

7.34 I note that "fishing" in this context does not include aquaculture, which is separately managed in the pNRP. A note in the provisions clarifies this.

7.35 The proposed rules have been devised according to expert advice (including from hapū) as to what level of management is appropriate in each sub-area.

7.36 The proposed permitted activities rule C.1.9.1(a) would apply to any Te Hā o Tangaroa Protection Area. The permitted activities are similar to those put in place in the *Motiti* case and in my opinion can be regarded as appropriate activities that would at most have minor or transitory adverse effects. The major addition is allowance for the taking of kina / sea urchins[67]. In that respect I note that the taking of kina is already the sole exclusion from the no-take prohibition under the Maunganui Bay s186 closure.

7.37 Apart from the activities permitted in rule C.1.9.1(a), all other activities in sub-Area A would be prohibited under rule C.1.9.2 (a). This effectively makes permanent for the life of the pNRP, rather than temporary for two years, the prohibitions that already exist under the temporary s186A closure. It would also extend the application of those prohibitions from Maunganui Bay to Oke Bay. Dr Shears provides comprehensive evidence justifying why it is appropriate to increase the size of this no-take area[68]. This is also an area supported in the hapū evidence[69].

7.38 The proposed permitted activities rule C.1.9.1(b) relates to the sub-Area A buffer only. It allows hand fishing and hand gathering of aquatic life. These have been assessed in the expert evidence as being activities with acceptable adverse effects[70]. I consider that provision of a buffer area would be consistent with NZCPS Policy 6.1.j. I do note however that Dr Shears and Dr Froude have both indicated that their independent expert opinion is that this area should be incorporated in the "no-take" sub-Area A.

7.39 The proposed permitted activities rules C.1.9.1(c) and (d) allow, as permitted activities, for any activity that is not otherwise a prohibited activity in those sub-areas.

7.40 The prohibited activities in sub-Area B are:

a. Bottom trawling;

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[67] Any take of kina/sea urchins would be permitted under the pNRP but would still be subject to any Fisheries Act controls that may apply.
[68] Dr Shears' EIC, Paragraphs 20, 42, 51(b)
[69] Hapū evidence, Paragraphs 65 – 72, 89 -99 and 126
[70] Dr Shears' EIC, Paragraph 55, Hapū evidence, Paragraph 128

b. Bottom pair trawling;
c. Danish seining;
d. Purse seining,
e. Longlining without approved seabird mitigation devices;
f. Drift netting;
g. Scallop or other dredging.

7.41 The prohibited activities in sub-Area C are:

a. Bottom trawling;
b. Bottom pair trawling;
c. Danish seining;
d. Purse seining,
e. Longlining without approved seabird mitigation devices;
f. Drift netting.

7.42 In these sub-areas it has been regarded as most appropriate to target those activities that have the most damage, in particular to the benthic environment. Activities including bottom trawling proposed to be prohibited have the potential for significant benthic ecosystem damage[71].

7.43 Dr Morrison discusses the adverse effect and controls necessary to manage effects of fishing on soft sediment ecosystems in Sub-area B, and this includes the need to manage recreational scallop dredging, which is currently not controlled[72]. Dr Froude also discusses the positive effects of controlling recreational scallop dredging in her evidence[73]. The hapu evidence discusses the adverse effects of fishing, including scallop dredging and supports the proposed prohibited activities[74].

7.44 In respect of sub-Area C Dr Stirnemann supports controls on trawling, purse seining and long-lining to manage adverse effects on benthic invertebrates, food resources for threatened seabirds and managing effects of bycatch. Dr Stirnemann also supports additional controls on fishing, or fishing methods, to improve the resilience of seabird populations against both natural and human impacts as well as changing climatic effects[75]. The mitigating effects of seabird mitigation devices are also discussed[76].

7.45 Dr Froude confirms her view that prohibitions on bottom trawling should help to restore the natural character of the benthic habitats in those areas where

[71] Dr Stirnemann's EIC, Paragraphs 89-90
[72] Dr Morrison's EIC, Paragraphs 30 -37.
[73] Dr Froude's EIC, Paragraphs 13 and 89?
[74] Hapu Evidence, Paragraphs 100 – 109, 133 - 134
[75] Dr Stirnemann's EIC (summary), Paragraphs 14 - 18
[76] Ibid, Paragraphs 16, 98, 120

trawling occurs (primarily north of the Bay of Islands and Cape Brett)[77]. In respect of purse seining Dr Froude considers the prohibition of that activity would help to restore more natural levels of schooling fish for a variety of species and improve the survival chances for some tropical vagrants. This would again improve natural character in this area[78].

7.46 Dr Stirnemann discusses the effects of drift netting. Because drift nets are not selective of species, their use results in a large by-catch of non-target fish, sharks, turtles, seabirds, and marine mammals. Given this threat, to avoid adverse effect they should not be used[79]. I understand that drift netting is prohibited throughout New Zealand under the Driftnet Prohibition Act 1991, and that its inclusion in the list of prohibited activities in the pNRP is to reflect its already prohibited status (i.e. there is no change to the status quo).

7.47 The hapū evidence supports the prohibited activity rules as proposed for sub-Area C, also raising a concern about taonga species[80].

7.48 Based on the expert advice, I support the prohibitions proposed in these sub-areas.

Efficiency, effectiveness and benefit and cost

7.49 Under section 32(2) the assessment must:

(a) identify and assess the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions, including the opportunities for—

(i) economic growth that are anticipated to be provided or reduced; and
(ii) employment that are anticipated to be provided or reduced; and

(b) if practicable, quantify the benefits and costs referred to in paragraph (a); and

(c) assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions

7.50 Dr Denne provides expert evidence on benefits and costs. He uses a Cost Benefit Analysis framework to identify the expected economic effects of

[77] Dr Froude's EIC, Paragraph 90
[78] Ibid, Paragraph 91
[79] Dr Stirnemann's EIC, Paragraph 117
[80] Hapu evidence, Paragraphs 135 - 141

establishing what he describes as marine protected areas (MPAs) on commercial and recreational fishers, on divers and snorkellers, and on the wider community. Dr Denne works from the basis of what extra restrictions would be introduced by the proposed measures and discusses modifications and costs that would occur in relation to fishing practices for both commercial[81] and recreational fishers[82].

7.51 In respect of commercial fishing Dr Denne states that the availability of Annual Catch Entitlements under the Quota Management System is the binding constraint. The area available for fishing may not be the binding constraint on the quantity of fish caught and the revenue obtained, as a commercial fisher, restricted from fishing in one area, can move to another. Where fishing is not prohibited altogether, a fisher may be able to change to a different fishing method. There would however be costs in needing need to travel further or to fish for longer, or to change methods of fishing.

7.52 In respect of recreational fishing Dr Denne states that the costs for recreational fishers who currently use areas in which restrictions would be established, would not be expected to be significant if there were nearby substitute sites where the same activities can be pursued. However, the substitute sites may provide less value or enjoyment[83].

7.53 In respect of the costs of monitoring and enforcement, Dr Denne considers identifying such costs is not straightforward as it depends on the level of enforcement, levels of community engagement and the expected conservation outcome. Costs will be high when there is continuous patrolling and enforcement but can be low where it depends more on voluntary measures and/or reporting by locals.

7.54 Dr Denne then identifies benefits that include what the proposed provisions set out to achieve, i.e. the restoration of habitats and an increase in biodiversity and abundance and cultural benefits. Other benefits discussed include recreational benefits, existence values and spillover benefits.

7.55 A significant benefit of the proposed provisions is that they would provide effective protection from the adverse effects of fishing in respect of tangata whenua values, biodiversity and natural character. There would be a cost to these values if management provisions were not introduced.

7.56 The analysis of costs and benefits is assisted by the evidence of Jeroen Jongejans, Julia Riddle and Craig Johnston who are dive tourism business owners well familiar with the areas under consideration. These business owners identify the social and economic benefits that would be experienced if the proposed controls are confirmed, on the basis that they will restore the marine environment and provide a wider and more attractive resource for diving and the visitor industry

[81] Dr Denne's EIC, Paragraphs 18 - 21
[82] Ibid, Paragraphs 22 – 27
[83] Ibid, Paragraph 23

associated with that activity. I consider that this evidence is not only relevant to the costs and benefits assessment, but also to the requirement in NZCPS Policy 6.2.b to recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area.

7.57 With regard to effectiveness the evidence shows that there is now knowledge from other locations, such as Leigh and the Poor Knights, that a sufficiently sized no-take area can have significant benefits to the marine environment. That confidence certainly exists for the proposed sub-area A, and the sub-Area A buffer – recognizing that greater benefits would accrue if the buffer was included in sub-Area A.

7.58 In sub-Areas B and C there is confidence that the controls proposed will address further degradation, in particular of the benthic environment. There may be less confidence for those areas that there would be a reverse of the decline these areas have experienced, however monitoring will later show whether or not this is the case.

Alternatives to the Appellants' Version of Rules

7.59 I note rule C1.9.1(a) is almost the same as the corresponding rule in the Te Uri o Hekeheke relief.

7.60 The rules relating to sub-Area A and areas outside sub-Area A are similar to those in the Te Uri o Hekeheke relief, noting that there is no sub-Area A buffer, sub-Area B or sub-Area C distinction and a different approach to avoiding seabird capture in association with longlining. The prohibited activity rules in the sub-Area C area that overlaps with the Te Au o Morunga Protection area are similar, the sub-Area C rules adding drift netting and there being different wording in respect of seabird mitigation devices.

7.61 A difference in the Te Uri o Hekeheke relief is the specific reference to taonga species in the sub-Area A rule. I can understand the reason for wanting that specific reference and note that the appellants' hapū evidence also seeks a similar measure. However, it appears that this proposed rule is superfluous (any extraction of fauna is a prohibited activity regardless), and it may be problematic in referring to particular species.

7.62 Another difference is that the Te Uri o Hekeheke relief appears to provide for activities that are provided for in a management plan. I see an issue here in that no such management plan appears to have been prepared and it is uncertain as to what the proposed rule is intended to achieve.

7.63 Notwithstanding this, and while I support the relief sought by the appellants, I acknowledge that further amendment to the proposed provisions is possible, and even likely. My experience of the *Motiti* case was that some time was spent,

even after the Court hearing, in finalising a form of provisions that the Court was comfortable in confirming.

8 CONCLUSION

8.1 The conclusions I reach are:

1. The evidence shows that there are significant cultural, biodiversity and natural character values in the areas under consideration.

2. The evidence shows that activities involving fishing have and continue to result in significant adverse effects on the marine environment.

3. The existing objectives and policy framework makes it clear that these significant adverse effects are to be avoided where the environmental values discussed are very high and / or the adverse effects are significant. In other cases, adverse effects are to be avoided, remedied or mitigated.

4. The only certain way to achieve this is through a method that will manage extraction of flora and fauna and other effects of fishing on the benthos.

5. There is no current certainty of methods being put in place utilising other legislation.

6. This means that appropriate objectives, policies and rules should be introduced into the pNRP.

Peter Reaburn
Consultant Planner
20 March 2021

APPENDIX A RECOMMENDED PROVISIONS

(March 2021)

F OBJECTIVES

F.1.x Te Hā o Tangaroa Protection Areas

Protect from inappropriate use, disturbance and development the characteristics, qualities and values that make up Te Hā o Tangaroa Protection Areas.

[or]

Protect from inappropriate disturbance, use and development the mauri and taonga species and their habitats, and customary values that make up Te Hā o Tangaroa Protection Areas.

F.1x Investigate Possible Future Te Hā o Tangaroa Protection Areas

Investigate and identify areas that may qualify as further Te Hā o Tangaroa Protection Areas and implement measures for those areas that will protect them from inappropriate use, disturbance and development.

D POLICIES

D.2.x Te Hā o Tangaroa Protection Areas – manage adverse effects

In Te Hā o Tangaroa Protection Areas

(1) Avoid adverse effects of activities on the identified characteristics, qualities and customary values of Te Hā o Tangaroa Protection Areas – Sub Areas A

(2) Avoid, remedy or mitigate adverse effects of activities on the identified characteristics, qualities and customary values of Te Hā o Tangaroa Protection Areas – Sub Areas other than Sub Areas A

D.2.x Possible Future Te Hā o Tangaroa Protection Areas

(1) Consider proposals from tāngata whenua and/or the community to identify, investigate and monitor areas of the coastal marine area that are, or are likely to be, adversely affected by activities (including fishing).

(2) Where Te Hā o Tangaroa Protection Areas have been identified, introduce the further marine spatial planning mechanisms that may be required to protect and restore them.

C RULES

C.1.9 Te Hā o Tangaroa Protection Areas

Note: The rules in this section do not apply to aquaculture activities (refer C.1.3 Aquaculture)

C.1.9.1 Temporary or permanent minor damage or destruction or removal of fish, aquatic life or seaweed in a Te Hā o Tangaroa Protection Area – permitted activities

The following activities in a Te Hā o Tangaroa Protection Area involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed are permitted activities, subject to any other applicable rules:

(a) All Sub-Areas (Sub-Area A, Sub-Area A buffer zone, Sub-Area B and Sub-Area C)

i. Kina/sea urchin harvest;
ii. Resource consent monitoring undertaken in accordance with resource consent conditions;
iii. Marine biosecurity incursion investigation and/or response;
iv. Wildlife rescue;
v. Monitoring and enforcement carried out by a regulatory agency;
vi. Mooring, anchoring and hauling small vessels ashore;
vii. Scientific research, conservation activities and monitoring undertaken by, under the supervision of, or on behalf of, the following entities:

- Crown research Institutes;
- Recognised Māori research entities;
- Tertiary education providers;
- Regional Councils;
- Department of Conservation;
- Ministry for Primary Industries;
- An incorporated society having as one of its objectives the scientific study of marine life or natural history.

(b) In the Sub-Area A buffer zone (in addition to those listed in (a)):

i. hand fishing with one line and one hook per person
ii. hand gathering of aquatic life that does not involve the use of scuba equipment or any implement (such as a knife, hook or spear).

(c) In Sub-Area B (in addition to those listed in (a)):

Any activity involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed that is not a prohibited activity in Section C.1.9 of this Plan.

(d) In Sub-Area C (in addition to those listed in (a)):

Any activity involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed that is not a prohibited activity in Section C.1.9 of this Plan.

C.1.9.2 Temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed in a Te Hā o Tangaroa Protection Area - prohibited activities

The following activities in a Te Hāo Tangaroa Protection Area involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed that is not a permitted activity in Section C.1.9 of this Plan, are prohibited activities:

(a) In Sub Area A:

Any activity involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed that is not a permitted activity in Section C.1.9 of this Plan.

(b) In the Sub-Area A buffer zone:

Any activity involving the temporary or permanent damage or destruction or removal of fish, aquatic life or seaweed that is not a permitted activity in Section C.1.9 of this Plan.

(c) In Sub-Area B:

a. Bottom trawling;
b. Bottom pair trawling;
c. Danish seining;
d. Purse seining,
e. Longlining without approved seabird mitigation devices;
f. Drift netting;
g. Scallop or other dredging.

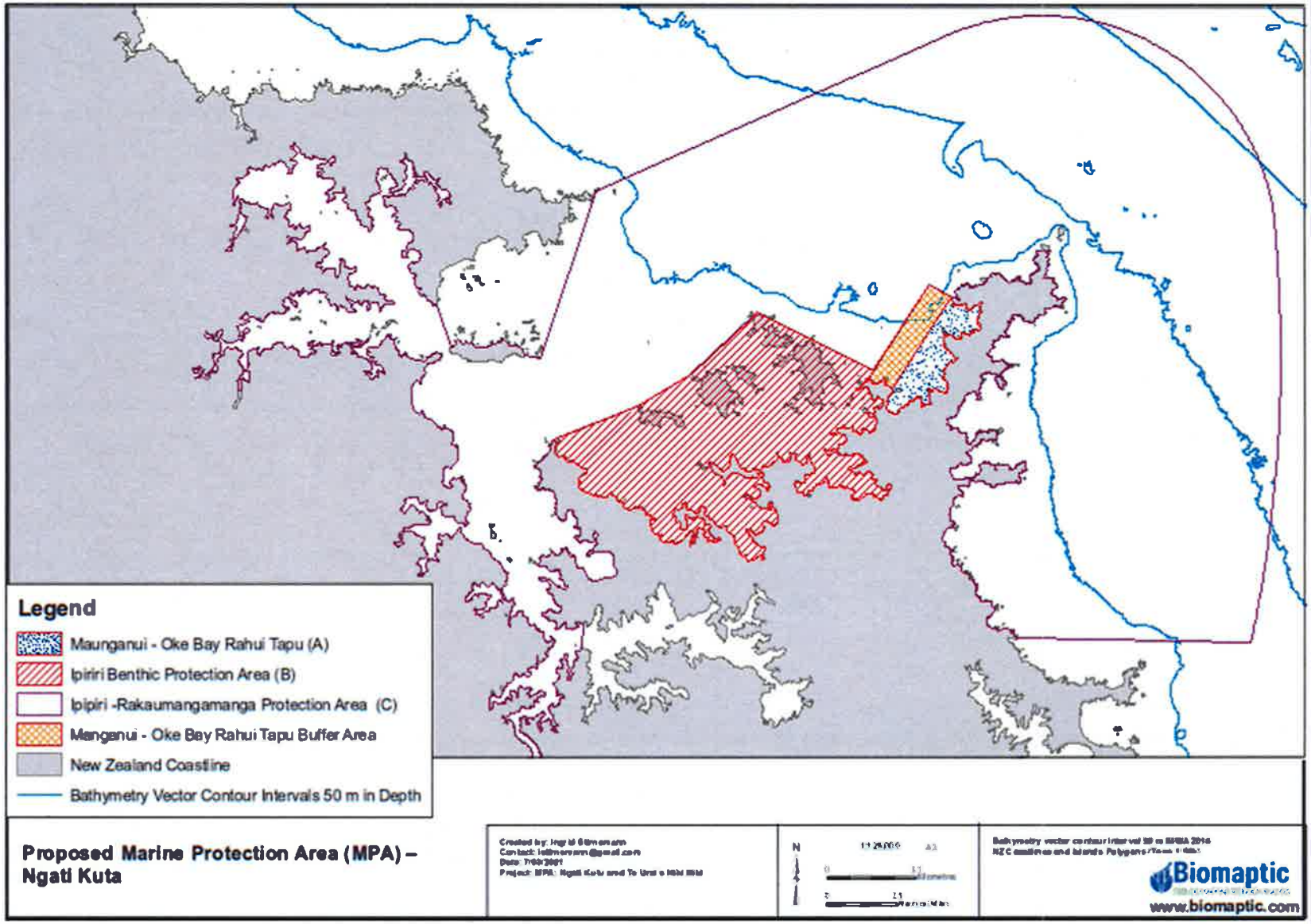
(d) In Sub-Area C:

a. Bottom trawling;
b. Bottom pair trawling;
c. Danish seining;
d. Purse seining,
e. Longlining without approved seabird mitigation devices;
f. Drift netting.

MAPS

Map Layer	Description
Te Hā o Tangaroa Protection Areas	These areas are overlays within identified Significant Ecological Areas, Significant Bird Areas, Significant Marine Mammal and Seabird Areas, Sites and areas of significance to tangata whenua or Outstanding or High Natural Character areas. The areas have been identified as being particularly vulnerable to environmental or cultural degradation such that specific protection is justified, focused on avoiding adverse effects arising from extraction of flora and fauna, and disturbance of the seabed. In some cases, Taiapure and Mataitai areas are excluded. This is because different hapu have determined that further protection through this regional plan is not required. Te Hā o Tangaroa Protection Areas may overlap. This recognises that a major basis for identifying these areas relates to the various Northland hapū rohe moana. In some areas these rohe moana are shared. Te Hā o Tangaroa Protection Areas are broken down into sub-areas which have different combinations of characteristics, qualities and values and appropriate levels of protection from activities that may permanently or temporarily damage these characteristics, qualities and values – (see the Te Hā o Tangaroa Protection Area Schedules).

Mapped Te Hā o Tangaroa Protection Area Rakaumangamanga-Ipipiri


Legend
Maunganui - Oke Bay Rahui Tapu (A)
Ipiriri Benthic Protection Area (B)
Ipipiri -Rakaumangamanga Protection Area (C)
Manganui - Oke Bay Rahui Tapu Buffer Area
New Zealand Coastline
Bathymetry Vector Contour Intervals 50 m in Depth
Proposed Marine Protection Area (MPA) – Ngati Kuta
Biomaptic
www.biomaptic.com

EB.0669

TE HĀ O TANGAROA PROTECTION AREAS SCHEDULE

Rakaumangamanga-Ipipiri draft schedule

Te Hā o Tangaroa Protection Area: Rakaumangamanga -Ipipiri

The proposed Rakaumangamanga –Ipipiri protection area, otherwise referred to as the Bay of Islands marine protection area, extends northwards from the Kawakawa River through the central bay area to encompass the Kerikeri and Te Puna Inlets, and then eastwards out past the enclosed bay encompassing a radius of 6 nautical miles off Cape Brett, and from around Cape Brett extending, also at approximately a 6 nautical mile width, to a line eastwards of Ngaiotonga Bay. The Waikare Inlet (a taiapure area) and an area north of Moturoa Island (a mataitai reserve) are excluded, as they are managed by different hapu.

Ngati Kuta and Patukeha Hapu of Te Rawhiti are the two resident hapu. Their customary area is from Tapeka to Cape Wikiwiki, across to Motukokako (and all the islands in-between) down to Taupirinui and out the 200-mile economic exclusion zone.

The hapu are fisher people by tradition. By tradition all Maori lived inside nature. They saw themselves as another part of nature and studied the natural world to understand its dynamics. They describe the characteristics, values and qualities as follows:

Taonga species are symbols of the sea and their way of life and were not fished by the hapu. Our Taonga – Kaitiaki species are:

- **Papahu / Dolphin:** represents the souls of our people lost at sea. They live in the spirit of the dolphin and are a protector from harm.
- **Ururoa / Hammerhead Shark:** they represent the fighting spirit of Maori to endure.
- **Pakarua / Stingray:** traverse the inner harbours of Bay of Islands and coastal waters to other harbours, thereby connecting our coastal hapu.

"Fishing activities which catch our taonga species (as target or bycatch) or damage their habitat or reduce their food supply, are diminishing our wairua (spiritual world). Culturally it continues to be important not to fish our taonga species. We want them to be protected to restore the mauri of our moana. Therefore, indiscriminate bulk harvesting methods that catch Pakarua / stingrays, papahu / dolphins and uruoa / hammerhead sharks must stop in our rohe moana".

Sub-Area A— Maunganui Bay - Oke Bay	Characteristics, Values and Qualities	Existing or Potential Adverse Effects
	Cultural	
	"In Te Ao Maori everything is interconnected. The hapu have always known the Maunganui Bay- Kohangaatara Point area to be a critical part of the interlinked ecosystems of the Bay of Islands and waters beyond. Maunganui Bay is a focus and symbol of the hapus' heritage and connection to the Bay of Islands. It is seen as symbolising their presence the cultural connection for their people. Above Maunganui Bay is the pinnacle Rakaumungamunga which is a waypoint of the Polynesian triangle which the navigators used to search for as they neared Aotearoa. Mountains are used by Maori to mark and define territory and, here, Rakaumungamunga was a key part of the hapu maps. This was a place where chiefs were baptised, and recited karakia before their forays. From Maunganui Bay they would go out and return through the hole in Motukokako saying their karakia. Voyagers, and later resident Maori utilised Maunganui Bay and Ohututea Bay next to it which has a freshwater spring through a cave". Note: Clarification regarding cultural values may be available in hapu management plans, which should be consulted for further information.	"Overfishing. The traditional fishery was empty and resulted in the mauri of Maunganui Bay becoming so depleted by overfishing that the hapu placed a rahui on it. An example of Maunganui Bay's critical part of an interlinked ecosystem is kingfish, which spawn at Brampton Reef, the juveniles then migrating down through the Veronica Channel to the Waikare inlet. As they grow bigger they migrate back out to Maunganui Bay and Cape Brett, where the currents and upwellings bring nutrients to feed many schooling species in "work ups" that the adult kingfish feed on. So, Maunganui Bay is an important part of the life cycle of the kingfish. But that cycle has been broken as a result of overfishing at certain stages, and their food sources also being overfished, or the habitats they need at various stages being degraded and not supporting them".

	Ecology	
	Maunganui Bay • Habitats include shallow reef, reef edge and soft bottom habitats. The shallow reefs in Karerarera and Whapukapirau Bays contain notable areas of tall coralline turfs which until 2016 contained relatively abundant green-lipped mussels (Kutai). • Maunganui Bay contains rare and unusual species resulting from the Bay's relatively sheltered waters close to Cape Brett which intercepts the East Auckland current (which carries turtles, tropical fish and invertebrates). These include: green turtle, Indo-Pacific sergeant, oblong sunfish, striated frogfish, Spanish lobster, blue knifefish, golden-ribbon grouper, snake eel, banded coral shrimp, striped angler fish, yellow-banded perch (subtidal caves). Other unusual species include: crested weedfish, giant boarfish • High reef fish diversity (off Cape Brett is the second highest in Northland). • Feeding area for bottlenose dolphin and orca • Rich invertebrate cover on the sunken Canterbury frigate including: feather star, variety of bryozoans and sponges • Regenerating populations of reef fish after ten years of a no-take regime including for snapper (which can be either resident or migratory) • Safe place for pelagic fish species including northern kahawai, kingfish, trevally, tunas, koheru	Up until around 2010 green lipped mussels were abundant around Moturahurahu (except on the south side) but only a couple of very small patches of intertidal mussels were present in early 2020. These were in the most exposed locations only.

	• Sufficient current at headlands/islands to maintain a primarily resident population of blue maomao • Contains examples of urchin barrens reverting algal forest cover • Contains a variety of arches and caves. In some of these low light levels enable organisms and communities to survive in shallow water (e.g. variety of bryozoans and other encrusting fauna) **Remainder of Area A outside of Maunganui Bay** • Several special or unusual areas including a deep cave (south of Whakapae Bay), a shallow cave in outer Oke Bay (eastern side), and two small arches in Karewarewa Bay. The deep cave south of Whakapae Bay is up to 8.5m deep and has a break through arch at one end. It includes jewel anemones, encrusting sponges, orange golf ball sponges and white branching bryozoans. Just to the west of Kahangaatara Point there is a high north-west facing arch with water depths of 2-7m. The northern wall cover includes s jewel anemones, long tusk bryozoans, branching white bryozoans, encrusting sponges, orange golf ball sponges and *Ancorina* sponges • The algal communities, which are significantly depleted in the Oke Bay-Moturahurahu area, some areas would be enhanced if the main predators, especially large snapper (Tamure) and rock lobster (Koura), of urchins could recover sufficiently to allow the regrowth of tall algal forests or kelp	

	Note: Refer also to the relevant Regional Plan Assessment Sheets for Significant Ecological Areas, Significant Bird Areas and Significant Marine Mammal Area	
	Natural Character	
	• Maunganui Bay is part of a unit of ONC extending to and around Cape Brett. The remainder of the area in the proposed Maunganui Bay to Oke Bay Rahui Tapu and Buffer Zone has been mapped as being of HNC • Ecological communities are more natural than those immediately outside of this area. • Larger snapper and rock lobster than exist outside the bay • Fish populations (e.g. snapper) have a more natural age structure and population density than exist outside the bay • Areas of rocky urchin barrens reverting to the more natural state of a tall brown algal forest. • high water quality and clarity • natural hydrology and geomorphology • catchment of primarily regenerating and mature indigenous forest • Absence of structures except for the sunken frigate (from which all pests were removed before sinking) and several buoys to prevent anchoring damage to the fragile benthic communities now covering the surface of the sunken frigate	For Maunganui Bay, where fishing is prohibited except for kina harvesting,) there is a risk that the current temporary restrictions under S186A of the Fisheries Act will not be renewed. If this happens the gains over the last ten years of no fishing may be quickly lost: This would lead to: • a decrease in snapper and rock lobster abundance and size • ecological communities becoming less natural • increase in the extent of urchin barrens

Sub Area B – Ipiripiri	**Characteristics, Values and Qualities**	**Existing or Potential Adverse Effects**
	Cultural	
	"In Te Ao Maori everything is interconnected. Ipipiri is a shallow water ecosystem that feeds the whole Bay of Islands by providing habitat to multiple species in the seagrass beds. Each ecosystem connects with the other ecosystems, and the seagrass beds of Ipipiri underpin them all. Piper schools, crabs, octopus, scallops and juvenile fish of several species including tamure/snapper and kanae/mullet, and the juvenile of the hapus' taonga pakarua/stingrays, are all part of that whole ecosystem. Piper is particularly important because it feeds a lot of other species of the ecosystem". Note: Clarification regarding cultural values may be available in hapu management plans, which should be consulted for further information.	
	Ecology	
	• Generally healthy subtidal sea grass meadows are unusually widespread in the south-west facing bays on the islands • Generally healthy intertidal seagrass beds are unusually common in the Rawhiti (mainland) bays	• beds of scallops largely removed by excess harvesting including dredging • beds of horse mussels largely destroyed by scallop dredging • intertidal and subtidal reef green-lipped mussels now all but gone, primarily due to excess harvesting • subtidal sea grass beds are at risk from dredging and anchoring

	• Rhodolith beds are unusually widespread in some of the channels between the islands and between some islands and the mainland • Previously contained widespread beds of scallops and horse mussels, now largely gone • Previously relatively widespread intertidal and subtidal reef green-lipped mussels, now largely gone • Feeding and nursery area for bottlenose dolphins Note: Refer also to the relevant Regional Plan Assessment Sheets for Significant Ecological Areas, Significant Bird Areas and Significant Marine Mammal Area	
	Natural Character	
	• Most of the area is ranked as being of high natural character – the areas excluded are: ○ an area to the east of Tapeka Point that is not identified as highly natural because of the deposition of large amounts of suspended sediment in the deeper "Rawhiti Basin" (sheltered area deeper than 10 metres, preventing resuspension of sediment, not at Rawhiti settlement itself) ○ oyster farm in Paroa Bay ○ moorings areas in Jacks Bay, Waipiro Bay and Te Uenga Bays	• deposition of large amounts of suspended sediment from the inner Bay of Islands catchments (such as the Kawakawa) in the deeper "Rawhiti Basin" • a reduction in water clarity closer to Tapeka Point as much of the water from the Kawakawa catchment - including 339,000 tonnes per year of suspended sediment - flows east at Tapeka Point with sediment being deposited in the "Rawhiti Basin" (that area to the east of Tapeka excluded from the high natural character ranking) • There can be a large number of boats anchored (so not permanent structures) at times in different bays depending on the time of year and weather (especially wind speed and direction) • While there is a relatively high level of restriction on the types of fishing activity (particularly for bulk harvesting methods) this is offset in part by the relatively high level of non-commercial

	• Relatively clear water between the islands • In the area ranked as being of high natural character there are few permanent marine structures apart from the occasional jetty or small wharf (Motuarohia, Motukiekie, Otehei Bay on Urupukapuka (which is now a larger wharf) • Largely natural hydrology and geomorphology • Mostly natural seafloor, albeit modified by past dredging (primarily for scallops) in some places • Very few introduced species apart from Pacific oyster (primarily in Paroa Bay in which the oyster farm is excluded from the area of high natural character, but also some other mainland bays) • Generally healthy natural intertidal and subtidal sea grass and rhodolith beds • Other ecological communities are composed of native species	fishing effort, facilitated by the accessibility and shelter in a range of weather conditions
Sub-Area C – Ipipiri-Rakaumangamanga	**Characteristics, Values and Qualities**	**Existing or Potential Adverse Effects**
	Cultural	
	"The whole marine environment has always been part of the Maori way of life. It was a food cupboard for all Maori, and they would manage it and control it and look after it according to the seasons. There were many species which were important as food, and also as	• "The cycle of the pelagic species has been broken".

	taonga, that had complex interactions and were managed holistically. In Te Ao Maori everything is interconnected. Pelagic ecosystems are a significant part of the marine environment for the hapu. The pelagic "work-ups" exemplify Te Ao Maori and are essential to support healthy mauri and wairua in the hapus' moana. When the fish are schooling, the birds are flocking as well. Bird colonies need the "work-ups" created by the large pelagic fish, as they bring the small fish species, krill and other invertebrates to the surface for the birds to feed on. The currents and upwellings bring the nutrients and plankton, and then within the work-up everything is feeding on everything else. The tourist economy in the Bay of Islands is built on its natural character. While part of the tourism and lifestyle is recreational fishing, most people go out there to look feel and touch rather fish. People expect to see the natural character in all its glory, including a living sea. Hapu strongly believe that biodiversity needs to be maintained at a level that it can sustain that sort of interaction with the public. The marine ecosystems are a very important part of what people come to see and enjoy." Note: Clarification regarding cultural values may be available in hapu management plans, which should be consulted for further information.	
	Ecology	
	• This area covers a diversity of habitats, ecological communities and ecological values	Risks include: • excessive harvesting of fish, changing fish population abundance and sizes

	• The area of highest biodiversity value is the area around Cape Brett- Motukokako. Cape Brett intercepts the East Auckland current (which carries turtles, tropical fish and invertebrates from warmer waters). • There are a number of rare and unusual species including: green turtle, mado, Spanish lobster, blue knifefish, golden-ribbon grouper, snake eel, banded coral shrimp, yellow-banded perch (subtidal caves) • One or more seals are usually present • There are a range of unusual habitats including a large deep cave, and a large arch which commercial powered catamarans regularly travel through ("the widely advertised trip to the "Hole in the Rock"). The arch and cave (in Motukokako) both have diverse and beautiful encrusting flora and fauna including diverse bryozoans, sponges, and anemones. The fish species in the cave include pink maomao, golden snapper and mado and yellow-banded perch. These species are not commonly seen elsewhere on the mainland. • There can be extensive schools of pelagic and demersal fish including combinations of blue maomao, pink maomao, sweep, blue mackerel, trevally, kahawai, kingfish, blue knifefish, parore, koheru. Such schools are unmatched anywhere between Cape Wiwiki and Taupirinui and beyond	• changing pelagic and demersal fish behaviour by intensive fishing activity • damaging harvesting methods for soft bottom ecosystems • change in shallow rocky reefs (urchin barren increase) resulting from urchin increases as they respond to reductions in their predators

	• High reef fish diversity (off Cape Brett is the second highest in Northland) • Cape Wiwiki has a number of smaller caves (compared to Cape Brett), some of which have interesting encrusting fauna • The Ninepin is important roost for gannets and other seabirds • The entire area is an important feeding area for bottlenose dolphin Note: Refer also to the relevant Regional Plan Assessment Sheets for Significant Ecological Areas, Significant Bird Areas and Significant Marine Mammal Area	
	Natural Character	
	• There is an area of mapped ONC that extends from Maunganui Bay to an area immediately around Cape Brett. Adjoining this to the west is a larger area of HNC extending to Cape Wiwiki and south to an area north of Tapeka Point. The marine environment north of this HNC and ONC mapping has not been assessed and mapped for natural character. Most of the major Bay of Islands inner inlets (including Kerikeri, Te Puna, Veronica Channel-Kawakawa have been assessed for natural character and in 2012 did not meet the criteria for HNC. The Waikare Inlet met the criteria for HNC with smaller upper estuaries of ONC. As this area is within a taiapure managed by another hapu it is not included in Area C. Several smaller estuaries (Te	• There are few controls on bulk fishing methods. • Some sediment from the inner Bay of Islands travels around Cape Brett to at least Whangamumu Bay

	Haumi, Whangae and Karetu) have been assessed as being of ONC.	
Te Hā o Tangaroa Protection Area: Te Au o Morunga		
	Characteristics, Values and Qualities	**Existing or Potential Adverse Effects**
	[To be addressed by Te Uri o Hikihiki]	

APPENDIX B RELEVANT PROVISIONS

(Note: provisions that are considered to have particular significance are underlined)

Resource Management Act 1991

Part 2 Purpose and principles

Section 6 Matters of national importance

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

(a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:

(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:

(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:

Section 7 Other Matters

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to-

(a) kaitiakitanga:

(aa) the ethic of stewardship:

(d) intrinsic values of ecosystems:

Section 30 Functions of regional councils under this Act

(1) Every regional council shall have the following functions for the purpose of giving effect to this Act in its region:

(d) in respect of any coastal marine area in the region, the control (in conjunction with the Minister of Conservation) of-

(i) land and associated natural and physical resources:

(ii) the occupation of space in, and the extraction of sand, shingle, shell, or other natural material from, the coastal marine area, to the extent that it is within the common marine and coastal area:

(ga) the establishment, implementation, and review of objectives, policies, and methods for maintaining indigenous biological diversity:

(2) A regional council and the Minister of Conservation must not perform the functions specified in subsection (1)(d)(i), (ii), and (vii) to control the taking, allocation or enhancement of fisheries resources for the purpose of managing fishing or fisheries resources controlled under the Fisheries Act 1996.

Fisheries Act 1996

Section 6 Application of Resource Management Act 1991

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

(a) the allocation to 1 or more fishing sectors in preference to any othernfishing 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) does not-

(a) prevent a regional council from taking into account the effects of aquaculture activities on fishing or fisheries resources when carrying out its functions under section 30(1)(d) of the Resource Management Act 1991;

New Zealand Coastal Policy Statement 2010

Policy 2 The Treaty of Waitangi, tangata whenua and Māori heritage

In taking account of the principles of the Treaty of Waitangi (Te Tiriti o Waitangi), and kaitiakitanga, in relation to the coastal environment:

(a) recognise that tangata whenua have traditional and continuing cultural relationships with areas of the coastal environment, including places where they have lived and fished for generations;

(b) involve iwi authorities or hapū on behalf of tangata whenua in the preparation of regional policy statements, and plans, by undertaking effective consultation with tangata whenua; with such consultation to be early, meaningful, and as far as practicable in accordance with tikanga Māori;

(c) with the consent of tangata whenua and as far as practicable in accordance with tikanga Māori, incorporate mātauranga Māori in regional policy statements, in plans, and in the consideration of applications for resource consents, notices of requirement for designation and private plan changes;

(d) provide opportunities in appropriate circumstances for Māori involvement in decision making, for example when a consent application or notice of requirement is dealing with cultural localities or issues of cultural significance, and Māori experts, including pūkenga, may have knowledge not otherwise available;

(e) take into account any relevant iwi resource management plan and any other relevant planning document recognised by the appropriate iwi authority or hapū and lodged with the council, to the extent that its content has a bearing on resource management issues in the region or district; and

  (i) where appropriate incorporate references to, or material from, iwi resource management plans in regional policy statements and in plans; and

  (ii) consider providing practical assistance to iwi or hapū who have indicated a wish to develop iwi resource management plans;

(f) provide for opportunities for tangata whenua to exercise kaitiakitanga over waters, forests, lands, and fisheries in the coastal environment through such measures as:

  (i) bringing cultural understanding to monitoring of natural resources;

  (ii) providing appropriate methods for the management, maintenance and protection of the taonga of tangata whenua;

  (iii) having regard to regulations, rules or bylaws relating to ensuring sustainability of fisheries resources such as taiāpure, mahinga mātaitai or other non commercial Māori customary fishing; and

(g) in consultation and collaboration with tangata whenua, working as far as practicable in accordance with tikanga Māori, and recognising that tangata whenua have the right to choose not to identify places or values of historic, cultural or spiritual significance or special value:

  (i) recognise the importance of Māori cultural and heritage values through such methods as historic heritage, landscape and cultural impact assessments; and

  (ii) provide for the identification, assessment, protection and management of areas or sites of significance or special value to Māori, including by historic analysis and archaeological survey and the development of methods such as alert layers and predictive methodologies for identifying areas of high potential for undiscovered Māori heritage, for example coastal pā or fishing villages.

Policy 3 Precautionary approach

(1) Adopt a precautionary approach towards proposed activities whose effects on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse.

(2) In particular, adopt a precautionary approach to use and management of coastal resources potentially vulnerable to effects from climate change, so that:

(a) avoidable social and economic loss and harm to communities does not occur;
(b) natural adjustments for coastal processes, natural defences, ecosystems, habitat and species are allowed to occur; and
(c) the natural character, public access, amenity and other values of the coastal environment meet the needs of future generations.

Policy 5 Land or waters managed or held under other Acts

(1) Consider effects on land or waters in the coastal environment held or managed under:

(a) the Conservation Act 1987 and any Act listed in the 1st Schedule to that Act; or
(b) other Acts for conservation or protection purposes; and, having regard to the purposes for which the land or waters are held or managed:
(c) avoid adverse effects of activities that are significant in relation to those purposes; and
(d) otherwise avoid, remedy or mitigate adverse effects of activities in relation to those purposes.

(2) Have regard to publicly notified proposals for statutory protection of land or waters in the coastal environment and the adverse effects of activities on the purposes of that proposed statutory protection.

Policy 6 Activities in the coastal environment

(1) In relation to the coastal environment:

....

(j) where appropriate, buffer areas and sites of significant indigenous biological diversity, or historic heritage value.

Policy 7 Strategic planning

(1) In preparing regional policy statements, and plans:

(a) consider where, how and when to provide for future residential, rural residential, settlement, urban development and other activities in the coastal environment at a regional and district level, and:

(b) identify areas of the coastal environment where particular activities and forms of subdivision, use and development:
  (i) are inappropriate; and
  (ii) may be inappropriate without the consideration of effects through a resource consent application, notice of requirement for designation or Schedule 1 of the Act process;
and provide protection from inappropriate subdivision, use, and development in these areas through objectives, policies and rules.

(2) Identify in regional policy statements, and plans, coastal processes, resources or values that are under threat or at significant risk from adverse cumulative effects. Include provisions in plans to manage these effects. Where practicable, in plans, set thresholds (including zones, standards or targets), or specify acceptable limits to change, to assist in determining when activities causing adverse cumulative effects are to be avoided.

Policy 6 Activities in the coastal environment
(1) In relation to the coastal environment:
.....
(2) Additionally, in relation to the coastal marine area:
(a) .....
(b) recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area;

Policy 11- Indigenous Biological Diversity (biodiversity)

To protect indigenous biological diversity in the coastal environment:

(a) avoid adverse effects of activities on:

  (i) indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists;
  (ii) taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;
  (iii) indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare;
  (iv) habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;
  (v) areas containing nationally significant examples of indigenous community types; and
  (vi) areas set aside for full or partial protection of indigenous biological diversity under other legislation; and

(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on:

(i) areas of predominantly indigenous vegetation in the coastal environment;
(ii) habitats in the coastal environment that are important during the vulnerable life stages of indigenous species;
(iii) indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dune/ands, intertidal zones, rocky reef systems, eelgrass and saltmarsh;
(iv) habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes;
(v) habitats, including areas and routes, important to migratory species; and
(vi) ecological corridors, and areas important for linking or maintaining biological values identified under this policy.

Policy 13-Preservation of Natural Character

1. To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:

   (a) avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and
   (b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment; including by:
   (c) assessing the natural character of the coastal environment of the region or district, by mapping or otherwise identifying at least areas of high natural character; and
   (d) ensuring that regional policy statements, and plans, identify areas where preserving natural character requires objectives, policies and rules, and include those provisions.

2. Recognise that natural character is not the same as natural features and landscapes or amenity values and may include matters such as:

   (a) natural elements, processes and patterns;
   (b) biophysical, ecological, geological and geomorphological aspects;
   (c) natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;
   (d) the natural movement of water and sediment;
   (e) the natural darkness of the night sky;
   (f) places or areas that are wild or scenic;
   (g) a range of natural character from pristine to modified; and
   (h) experiential attributes, including the sounds and smell of the sea; and their context or setting.

Policy 14-Restoration of natural character

Promote restoration or rehabilitation of the natural character of the coastal environment, including by:

(a) identifying areas and opportunities for restoration or rehabilitation;
(b) providing policies, rules and other methods directed at restoration or rehabilitation in regional policy statements, and plans;
(c) where practicable, imposing or reviewing restoration or rehabilitation conditions on resource consents and designations, including for the continuation of activities; and recognising that where degraded areas of the coastal environment require restoration or rehabilitation, possible approaches include:

(i) restoring indigenous habitats and ecosystems, using local genetic stock where practicable; or
(ii) encouraging natural regeneration of indigenous species, recognising the need for effective weed and animal pest management; or
(iii) creating or enhancing habitat for indigenous species; or
(iv) rehabilitating dunes and other natural coastal features or processes, including saline wetlands and intertidal saltmarsh; or
(v) restoring and protecting riparian and intertidal margins; or
(vi) reducing or eliminating discharges of contaminants; or
(vii) removing redundant structures and materials that have been assessed to have minimal heritage or amenity values and when the removal is authorised by required permits, including an archaeological authority under the Historic Places Act 1993; or
(viii) restoring cultural landscape features; or
(ix) redesign of structures that interfere with ecosystem processes; or
(x) decommissioning or restoring historic landfill and other contaminated sites which are, or have the potential to, leach material into the coastal marine area.

Regional Policy Statement for Northland (RPS)

Objective 3.4 Indigenous ecosystems and biodiversity

Safeguard Northland's ecological integrity by:

a) Protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna;
b) Maintaining the extent and diversity of indigenous ecosystems and habitats in the region; and
c) Where practicable, enhancing indigenous ecosystems and habitats, particularly where this contributes to the reduction in the overall threat status of regionally and nationally threatened species:

Explanation:
Safeguarding and enhancing the ecological integrity of indigenous ecosystems is vital for the diversity and abundance of indigenous species. It is also important if the services that indigenous ecosystems provide, such as the water purification function of wetlands, are to be maintained. This objective seeks to at least maintain the extent and diversity of indigenous ecosystems and habitats in the region. This is to be achieved through a combination of protection and enhancement activities and processes. Part (c) of the objective seeks an overall reduction in the threat status of threatened and at risk species. This applies to the management of activities that affect indigenous ecosystems and activities that impact on indigenous species living outside them. In Northland, reduced indigenous biodiversity is due to both a loss of area and a loss of ecological condition. Currently the threats resulting from pest species and reduced connectivity are considered greater than loss in overall area, although the latter is still important (for example with wetlands, very low fertility heathlands including gumlands, old growth forests, broadleaf forest, sand dunes and shrublands). To date, voluntary efforts have been central to slowing down the decline in condition and area. Landowner and community stewardship takes many forms including the active management of pests, covenanting of significant natural areas, indigenous revegetation, habitat creation and good management practices in production environments. However, regulation, including the use of permitted activity rules is necessary, as a backstop. Key regulatory methods to achieve the objective include the protection of significant natural areas, and controls on subdivision, use and development including discharges to water, water takes, and vegetation clearance. Regulation should include incentives to encourage subdivision, use and development involving restoration and protection of ecosystems and indigenous biodiversity. For safeguarding water and its ecosystems, the level of protection will be determined on a catchment-by-catchment basis, by establishing freshwater objectives and coastal water quality classifications.

Policy 4.4.1 Maintaining and protecting significant ecological areas and habitats

(1) In the coastal environment, avoid adverse effects, and outside the coastal environment avoid, remedy or mitigate adverse effects of subdivision, use and development so they are no more than minor on:

(a) Indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists;
(b) Areas of indigenous vegetation and habitats of indigenous fauna, that are significant using the assessment criteria in Appendix 5;
(c) Areas set aside for full or partial protection of indigenous biodiversity under other legislation.

(2) In the coastal environment, avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of subdivision, use and development on:

(a) Areas of predominantly indigenous vegetation;
(b) Habitats of indigenous species that are important for recreational, commercial, traditional or cultural purposes;
(c) Indigenous ecosystems and habitats that are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass, northern wet heathlands, coastal and headwater streams, floodplains, margins of the coastal marine area and freshwater bodies, spawning and nursery areas and saltmarsh.

(3) Outside the coastal environment and where clause (1) does not apply, avoid, remedy or mitigate adverse effects of subdivision, use and development so they are not significant on any of the following:

(a) Areas of predominantly indigenous vegetation;
(b) Habitats of indigenous species that are important for recreational, commercial, traditional or cultural purposes;
(c) Indigenous ecosystems and habitats that are particularly vulnerable to modification, including wetlands, dunelands, northern wet heathlands, headwater streams, floodplains and margins of freshwater bodies, spawning and nursery areas.

(4) For the purposes of clause (1), (2) and (3), when considering whether there are any adverse effects and/or any significant adverse effects:

Recognise that a minor or transitory effect may not be an adverse effect;
Recognise that where the effects are or maybe irreversible, then they are likely to be more than minor;
Recognise that there may be more than minor cumulative effects from minor or transitory effects.

(5) For the purpose of clause (3) if adverse effects cannot be reasonably avoided, remedied or mitigated then it may be appropriate to consider the next steps in the mitigation hierarchy i.e. biodiversity offsetting followed by environmental biodiversity compensation, as methods to achieve Objective 3.4.

Explanation:

Policy 4.1 seeks to protect important indigenous ecosystems and habitats and maintain the diversity of indigenous species. The policy reflects Policy 11 of the New Zealand Coastal Policy Statement 2011, which applies in the coastal environment, and takes into account the decision of the Supreme Court in King Salmon (Environmental Defence Society Inc v The New Zealand King Salmon Co Ltd [2014] NZSC 38). The management approach has a tiered protection structure. Policy 4.4.1(1) provides the highest level of protection to ecosystems, habitats, and species (biological values) most at risk of irreversible loss, with the appropriate management response being to avoid adverse effects in the coastal environment and to ensure there are no more than minor effects elsewhere. Areas of significant indigenous vegetation and significant habitats fall within this first tier and the criteria to identify these areas are provided in Appendix 5. Policy 4.1 (2) and (3) provides a lower level of protection for ecosystems, habitats, and species at a lesser risk of loss. It covers the coastal environment and elsewhere. It should be noted that Policy 4.1 (2) and (3) are broader in scope than section 6(c) of the Resource Management Act, which requires the protection of areas of significant indigenous vegetation and significant habitats of indigenous species as a matter of national importance. This is because in Northland many such habitats have been degraded, so there is a greater need to give some protection to the valued habitats that remain extant.

Method 4.4.3 Statutory plans and strategies

(1) Subject to Method 4.4.3(3), within two years after the Regional Policy Statement becomes operative the regional council will amend regional plans to the extent needed to ensure the plans implement Policy 4.4.1 for water bodies (including wetlands), in, on, or under the beds of rivers and lakes, and in the coastal marine area. Principal methods include:

(d) Controls on use and development of the coastal marine area

Objective 3.14 Natural character, outstanding natural features, outstanding natural landscapes and historic heritage

Identify and protect from inappropriate subdivision, use and development;

(a) The qualities and characteristics that make up the natural character of the coastal environment, and the natural character of freshwater bodies and their margins;
(b) The qualities and characteristics that make up outstanding natural features and outstanding natural landscapes;
(c) The integrity of historic heritage.

Policy 4.5.2

The Regional Policy Statement Maps of high and outstanding natural character and outstanding natural features and outstanding natural landscapes identify areas that are sensitive to subdivision, use and development. The maps of these areas identify where caution is required to ensure activities are appropriate. However, suitably qualified assessment at a site or property-specific level can be used to demonstrate lesser (or greater) sensitivity to particular subdivision, use and development proposals given the greater resolution provided.

Policy 4.6.1 management

(1) In the coastal environment:

a) Avoid adverse effects of subdivision use, and development on the characteristics and qualities which make up the outstanding values of areas of outstanding natural character, outstanding natural features and outstanding natural landscapes.
b) Where (a) does not apply, avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of subdivision, use and development on natural character, natural features and natural landscapes. Methods which may achieve this include:
   (i) Ensuring the location, intensity, scale and form of subdivision and built development is appropriate having regard to natural elements, landforms and processes, including vegetation patterns, ridgelines, headlands, peninsulas, dune systems, reefs and freshwater bodies and their margins; and
   (ii) In areas of high natural character, minimising to the extent practicable indigenous vegetation clearance and modification (including earthworks / disturbance, structures, discharges and extraction of water) to natural wetlands, the beds of lakes, rivers and the coastal marine area and their margins; and
   (iii) Encouraging any new subdivision and built development to consolidate within and around existing settlements or where natural character and landscape has already been compromised.

(2)…

(3) When considering whether there are any adverse effects on the characteristics and qualities of the natural character, natural features and landscape values in terms of (1)(a), whether there are any significant adverse effects and the scale of any adverse effects in terms of (1)(b) and (2), and in determining the character, intensity and scale of the adverse effects:

a) Recognise that a minor or transitory effect may not be an adverse effect;
b) Recognise that many areas contain ongoing use and development that:
   (i) Were present when the area was identified as high or outstanding or have subsequently been lawfully established
   (ii) May be dynamic, diverse or seasonal;
c) Recognise that there may be more than minor cumulative adverse effects from minor or transitory adverse effects; and
d) Have regard to any restoration and enhancement on the characteristics and qualities of that area of natural character, natural features and/or natural landscape.

Objective 3.12 Tangata whenua role in decision-making

Tangata whenua kaitiaki role is recognised and provided for in decision-making over natural and physical resources.

Explanation:
Tangata whenua are the kaitiaki of their traditional taonga, while the regional and district councils have delegated authority from the Crown to manage Northland's natural and physical resources. In keeping with the partnership principles of the Treaty of Waitangi and the Resource Management Act 1991 (sections 6(e), 7(a) and 8), the regional and district councils must provide for tangata whenua involvement in resource management, particularly where it affects their taonga. Tangata whenua involvement in resource management can also add value to resource management. For example, it can help to build relationships, provide different sources of information and knowledge, and provide a longer term perspective of resource management.

Policy 8.1.2

The regional and district councils shall when developing plans and processing resource consents under the Resource Management Act 1991 (RMA):

(a) Recognise and provide for the relationship of tangata whenua and their culture and traditions with their ancestral land, water, sites wāhi tapu, and other taonga;
(b) Have particular regard to kaitiakitanga; and
(c) Take into account the principles of the Treaty of Waitangi including partnership.

Policy 8.2.1

The regional council will recognise the value of iwi and hapū management plans in decision-making under the Resource Management Act 1991 and the need to support tangata whenua in the development and implementation of these plans.

Objective 3.15 Active Management

Maintain and / or improve;

(a) The natural character of the coastal environment and fresh water bodies and their margins;
(b) Outstanding natural features and outstanding natural landscapes;
(c) Historic heritage;
(d) Areas of significant indigenous vegetation and significant habitats of indigenous fauna (including those within estuaries and harbours);
(e) Public access to the coast; and
(f) Fresh and coastal water quality by supporting, enabling and positively recognising active management arising from the efforts of landowners, individuals, iwi, hapū and community groups.

Policy 4.7.3 Improving natural character

Except where in conflict with established uses promote rehabilitation and restoration of natural character in the manner described in Policy 4.7.1 in the following areas:

(a) Wetlands, rivers, lakes, estuaries, and their margins;
(b) Undeveloped or largely undeveloped natural landforms between settlements, such as coastal headlands, peninsulas, ridgelines, dune systems;
(c) Areas of high natural character;
(d) Land adjacent to outstanding natural character areas, outstanding natural features, and outstanding natural landscapes;
(e) Remnants of indigenous coastal vegetation particularly where these are adjacent to water or can be linked to establish or enhance ecological corridors; and
(f) The areas or values identified in Policy 4.4.1 (protecting significant areas and species).

Proposed Northland Regional Plan (Appeals Version)

Objective F.1.3 Indigenous ecosystems and biodiversity (subject to appeal)

In the coastal marine area and in fresh waterbodies, safeguard ecological integrity by:

1) protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna, and

2) maintaining regional indigenous biodiversity, and

3) where practicable, enhancing and restoring indigenous ecosystems and habitats to a healthy functioning state, and reducing the overall threat status of regionally and nationally Threatened or At Risk species, and

4) preventing the introduction of new marine or freshwater pests into Northland and slowing the spread of established marine or freshwater pests within the region.

Objective F.1.4 Enabling economic well-being (subject to appeal)

Northland's natural and physical resources are managed in a way that is attractive for business and investment that will improve the economic well-being of Northland and its communities.

Policy D.2.2 Social, cultural and economic benefits of activities

Regard must be had to the social, cultural and economic benefits of a proposed activity, recognising significant benefits to local communities, Māori and the region including local employment and enhancing Māori development, particularly in areas of Northland where alternative opportunities are limited.

Objective F.1.7 Use and development in the coastal marine area (subject to appeal)

Use and development in the coastal marine area:

1) makes efficient use of space occupied in the common marine and coastal area, and

2) is of a scale, density and design compatible with its location, and

3) recognises the need to maintain and enhance public open space and recreational opportunities, and

4) is provided for in appropriate places and forms, and within appropriate limits.

Policy D.2.1 Rules for managing natural and physical resources (subject to appeal)

Include rules to manage the use, development and protection of natural and physical resources that:

1) are the most efficient and effective way of achieving national and regional resource management objectives, and

2) are as internally consistent as possible, and

3) use or support good management practices, and

4) minimise compliance costs, and

5) enable use and development that complies with the Regional Policy Statement for Northland and the objectives of this Plan, and

6) focus on effects and, where suitable, use performance standards.

Policy D.2.15 Managing adverse effects on natural character, outstanding natural landscapes and outstanding natural features (subject to appeal)

Manage the adverse effects of activities on natural character, outstanding natural landscapes and outstanding natural features by:

1) avoiding adverse effects of activities as follows:

Place / value	Location of the place	Effects to be avoided
Areas of outstanding natural character Outstanding natural features	Coastal marine area and fresh waterbodies in the coastal environment.	Adverse effects on the characteristics, qualities and values that contribute to make the place outstanding.
Outstanding natural seascapes	Coastal marine area.	
Natural character	The coastal marine area and freshwater bodies.	Significant adverse effects on the characteristics, qualities and values that contribute to natural character.
Outstanding natural features	Fresh waterbodies outside the coastal environment.	Significant adverse effects on the characteristics, qualities and values that contribute to make the natural feature outstanding.

2) recognising that in relation to natural character in waterbodies (where not identified as outstanding natural character), appropriate methods of avoiding, remedying or mitigating adverse effects may include:

a) ensuring the location, intensity, scale and form of activities is appropriate having regard to natural elements and processes, and

b) in areas of high natural character in the coastal marine area, minimising to the extent practicable indigenous vegetation clearance and modification (seabed and foreshore disturbance, structures, discharges of contaminants), and

c) in freshwater, minimising to the extent practicable modification (disturbance, structures, extraction of water and discharge of contaminants), and

3) ...

4) recognising that uses and development form part of existing landscapes, features and waterbodies and have existing effects.

Policy D.2.16 Managing adverse effects on indigenous biodiversity (subject to appeal)

Manage the adverse effects of activities on indigenous biodiversity by:

1) in the coastal environment:

a) avoiding adverse effects on:

i. indigenous taxa that are listed as Threatened or At Risk in the New Zealand Threat Classification System lists, and

ii. areas of indigenous vegetation and habitats of indigenous fauna that are assessed as significant using the assessment criteria in Appendix 5 of the Regional Policy Statement, and

iii. areas set aside for full or partial protection of indigenous biodiversity under other legislation, and

b) avoiding significant adverse effects and avoiding, remedying or mitigating other adverse effects on:

i. areas of predominantly indigenous vegetation, other than areas of mangroves to be pruned or removed for one of the purposes listed in D.5.26, and

ii. habitats of indigenous species that are important for recreational, commercial, traditional or cultural purposes, and

iii. Indigenous ecosystems and habitats that are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, intertidal zones, rocky reef systems, eelgrass, northern wet heathlands, coastal and headwater streams, spawning and nursery areas and saltmarsh, and

2) outside the coastal environment:

....

3) recognising areas of significant indigenous vegetation and significant habitats of indigenous fauna include:

a) Significant Ecological Areas, and
b) Significant Bird Areas, and

c) Significant Marine Mammal and Seabird Areas, and

4) recognising damage, disturbance or loss to the following as being potential adverse effects:

a) connections between areas of indigenous biodiversity, and
b) the life-supporting capacity of the area of indigenous biodiversity, and
c) flora and fauna that are supported by the area of indigenous biodiversity, and
d) natural processes or systems that contribute to the area of indigenous biodiversity, and

5) assessing the potential adverse effects of the activity on identified values of indigenous biodiversity, including by:

a) taking a system-wide approach to large areas of indigenous biodiversity such as whole estuaries or widespread bird and marine mammal habitats, recognising that the scale of the effect of an activity is proportional to the size and sensitivity of the area of indigenous biodiversity, and
b) recognising that existing activities may be having existing acceptable effects, and
c) recognising that discrete, localised or otherwise minor effects impacting on the indigenous biodiversity may be acceptable, and
d) recognising that activities with transitory effects may be acceptable, and

6) recognising that appropriate methods of avoiding, remedying or mitigating adverse effects may include:

a) careful design, scale and location proposed in relation to areas of indigenous biodiversity, and
b) maintaining and enhancing connections within and between areas of indigenous biodiversity, and
c) considering the minimisation of effects during sensitive times such as indigenous freshwater fish spawning and migration periods, and
d) providing adequate setbacks, screening or buffers where there is the likelihood of damage and disturbance to areas of indigenous biodiversity from adjacent use and development, and
e) maintaining the continuity of natural processes and systems contributing to the integrity of ecological areas, and
f) the development of ecological management and restoration plans, and

7) recognising that significant residual adverse effects on biodiversity values can be offset or compensated:

a) in accordance with the Regional Policy Statement for Northland Policy 4.4.1, and
b) after consideration of the methods in (6) above, and

8) recognising the benefits of activities that:

a) include the restoration and enhancement of ecosystems, habitats and indigenous biodiversity, and

b) improve the public use, value or understanding of ecosystems, habitats and indigenous biodiversity.

Policy D.2.18 Precautionary approach to managing effects on significant indigenous biodiversity (subject to appeal)

Where there is scientific uncertainty about the adverse effects of activities on:

1) species listed as Threatened or At Risk in the New Zealand Threat Classification System including those identified by reference to the Significant Bird Area and Significant Marine Mammal and Seabird Area maps (refer Maps), or

2) any values ranked high by the Significant Ecological Areas maps (Refer Maps), then the greatest extent of adverse effects reasonably predicted by science, must be given the most weight.

Objective F.1.8 Tangata whenua role in decision-making

Tangata whenua's kaitiaki role is recognised and provided for in decision-making over natural and physical resources.

Objective F.1.10 Improving Northland's natural and physical resources (subject to appeal)

Enable and positively recognise activities that contribute to improving Northland's natural and physical resources.

Objective F.1.11 Natural character, outstanding natural features, historic heritage and places of significance to tangata whenua (subject to appeal)

Protect from inappropriate use and development:

1) the characteristics, qualities and values that make up:

   a) outstanding natural features in the coastal marine area and in fresh waterbodies, and

   b) areas of outstanding and high natural character in the coastal marine area and in fresh waterbodies within the coastal environment, and

   c) natural character in fresh waterbodies outside the coastal environment, and

   d) outstanding natural seascapes in the coastal marine area, and

2) the integrity of historic heritage in the coastal marine area, and

3) the values of places of significance to tangata whenua in the coastal marine area and freshwater bodies

Policy D.1.1 When an analysis of effects on tangata whenua and their taonga is required

A resource consent application must include in its assessment of environmental effects an analysis of the effects of an activity on tangata whenua and their taonga if one or more of the following is likely:

1) adverse effects on mahinga kai or access to mahinga kai, or

2) any damage, destruction or loss of access to wāhi tapu, sites of customary value and other ancestral sites and taonga with which Māori have a special relationship, or

3) adverse effects on indigenous biodiversity in the beds of waterbodies or the coastal marine area where it impacts on the ability of tangata whenua to carry out cultural and traditional activities, or

4) the use of genetic engineering and the release of genetically modified organisms to the environment, or

5) adverse effects on tāiapure, mataitai or Māori non-commercial fisheries, or

6) adverse effects on protected customary rights, or

7) adverse effects on sites and areas of significance to tangata whenua mapped in the Regional Plan (refer I Maps | Ngā mahere matawhenua).

Policy D.1.2 Requirements of an analysis of effects on tangata whenua and their taonga
If an analysis of the effects of an activity on tangata whenua and their taonga is required in a resource consent application, the analysis must:

1) include such detail as corresponds with the scale and significance of the effects that the activity may have on tangata whenua and their taonga, and

2) have regard to (but not be limited to):

   a) any relevant planning document recognised by an iwi authority (lodged with the Council) to the extent that its content has a bearing on the resource management issues of the region, and

   b) the outcomes of any consultation with tangata whenua with respect to the consent application, and

   c) statutory acknowledgements in Treaty Settlement legislation, and

3) follow best practice, including requesting, in the first instance, that the relevant tangata whenua undertake the assessment, and

4) specify the tangata whenua that the assessment relates to, and

5) be evidence-based, and

6) incorporate, where appropriate, mātauranga Māori, and

7) identify and describe all the cultural resources and activities that may be affected by the activity, and

8) identify and describe the adverse effects of the activity on the cultural resources and cultural practices (including the effects on the mauri of the cultural resources, the cultural practices affected, how they are affected, and the extent of the effects), and

9) identify, where possible, how to avoid, remedy or mitigate the adverse effects on cultural values of the activity that are more than minor, and

10) include any other relevant information.

Policy D.1.4 Managing effects on places of significance to tangata whenua

Resource consent for an activity may generally only be granted if the adverse effects from the activity on the values of Places of Significance to tangata whenua in the coastal marine area and water bodies are avoided, remedied or mitigated so they are no more than minor.

Policy D.1.5 Places of significance to tangata whenua (subject to appeal)

For the purposes of this Plan, a place of significance to tangata whenua:

1) is in the coastal marine area, or in a water body, where the values which may be impacted are related to any of the following:

   a) soil conservation, or

   b) quality and quantity of water, or

   c) aquatic ecosystems and indigenous biodiversity, and

2) is:

   a) a historic heritage resource, or

   b) ancestral land, water, site, wāhi tapu, or other taonga, and

3) is either:

a) a Site or Area of Significance to tangata whenua, which is a single resource or set of resources identified, described and contained in a mapped location, or

b) a Landscape of Significance to tangata whenua, which is a collection of related resources identified and described within a mapped area, with the relationship between those component resources identified, and

4) has one or more of the following attributes:

a) historic associations, which include but are not limited to:

i. stories of initial migration, arrival and settlement, or

ii. patterns of occupation, including permanent, temporary or seasonal occupation, or

iii. the sites of conflicts and the subsequent peace-making and rebuilding of iwi or hapū, or

iv. kinship and alliances built between areas and iwi or hapū, often in terms of significant events, or

v. alliances to defend against external threats, or

vi. recognition of notable tupuna, and sites associated with them, or

b) traditional associations, which include but are not limited to:

i. resource use, including trading and trading routes between groups (for instance – with minerals such asmatā/obsidian), or

ii. traditional travel and communication linkages, both on land and sea, or

iii. areas of mana moana for fisheries and other rights, or

iv. use of landmarks for navigation and location of fisheries grounds, or

v. implementation of traditional management measures, such as rāhui or tohatoha (distribution), or

c) cultural associations, which include but are not limited to:

i. the web of whanaungatanga connecting across locations and generations, or

ii. the implementation of concepts such as kaitiakitanga and manākitanga, with specific details for each whanau, hapū and iwi, or

d) spiritual associations which pervade all environmental and social realities, and include but are not limited to:

i. the role of the atua Ranginui and Papatūānuku, and their offspring such as Tangaroa and Tāne, or

ii. the recognition of places with connection to the wairua of those with us and those who have passed away, or

iii. the need to maintain the mauri of all living things and their environment, and

5) must:

a) be based on traditions and tikanga, and

b) be endorsed for evidential purposes by the relevant tangata whenua community, and

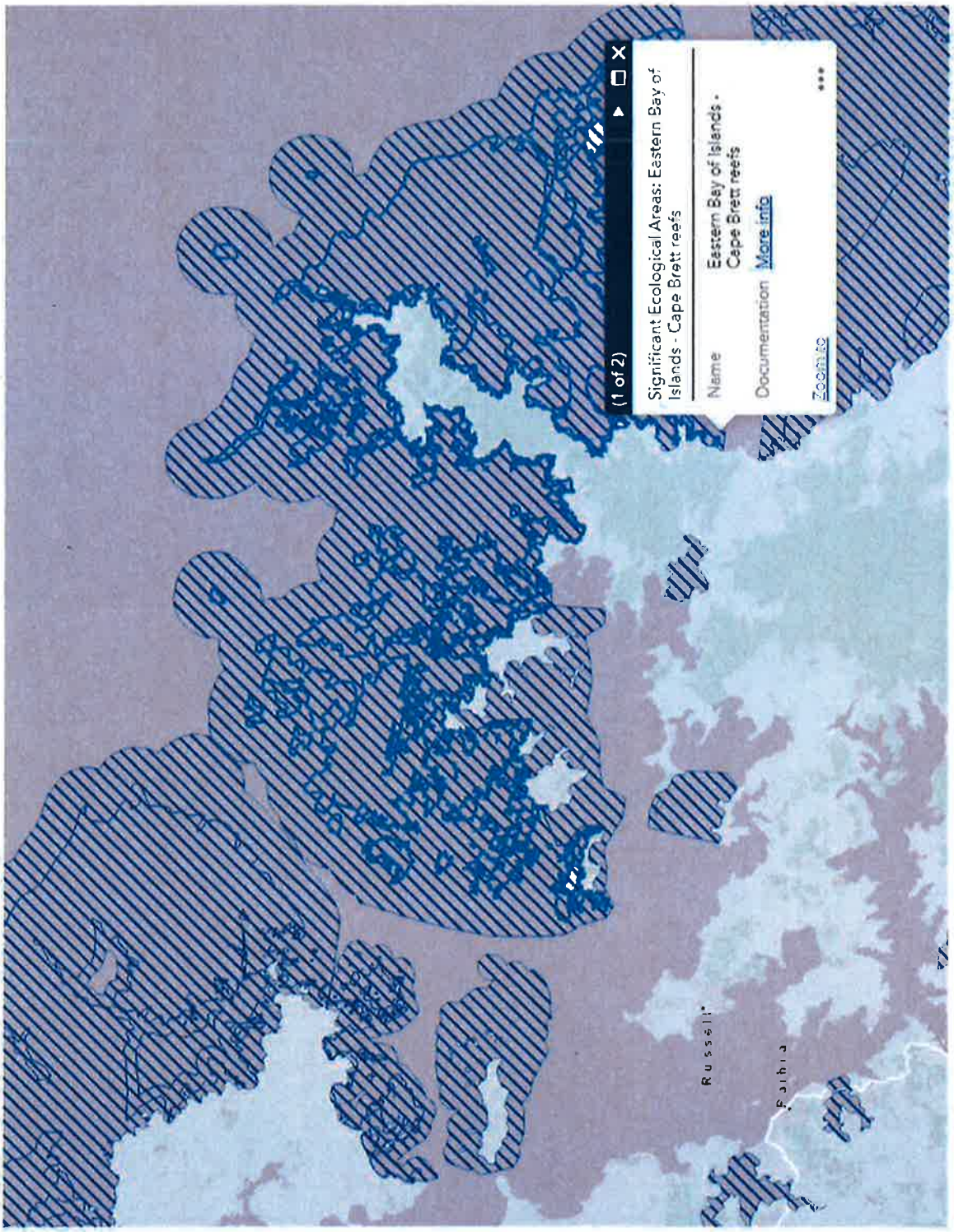
c) record the values of the place for which protection is required, and

d) record the relationship between the individual sites or resources (landscapes only), and

e) record the tangata whenua groups determining and endorsing the assessment, and

f) geographically define the areas where values can be adversely affected.

APPENDIX B (PART 2) – PNRP MAPS AND ASSESSMENT SHEETS


(1 of 2)
Significant Ecological Areas: Eastern Bay of Islands - Cape Brett reefs
Name
Eastern Bay of Islands - Cape Brett reefs
Documentation
More info
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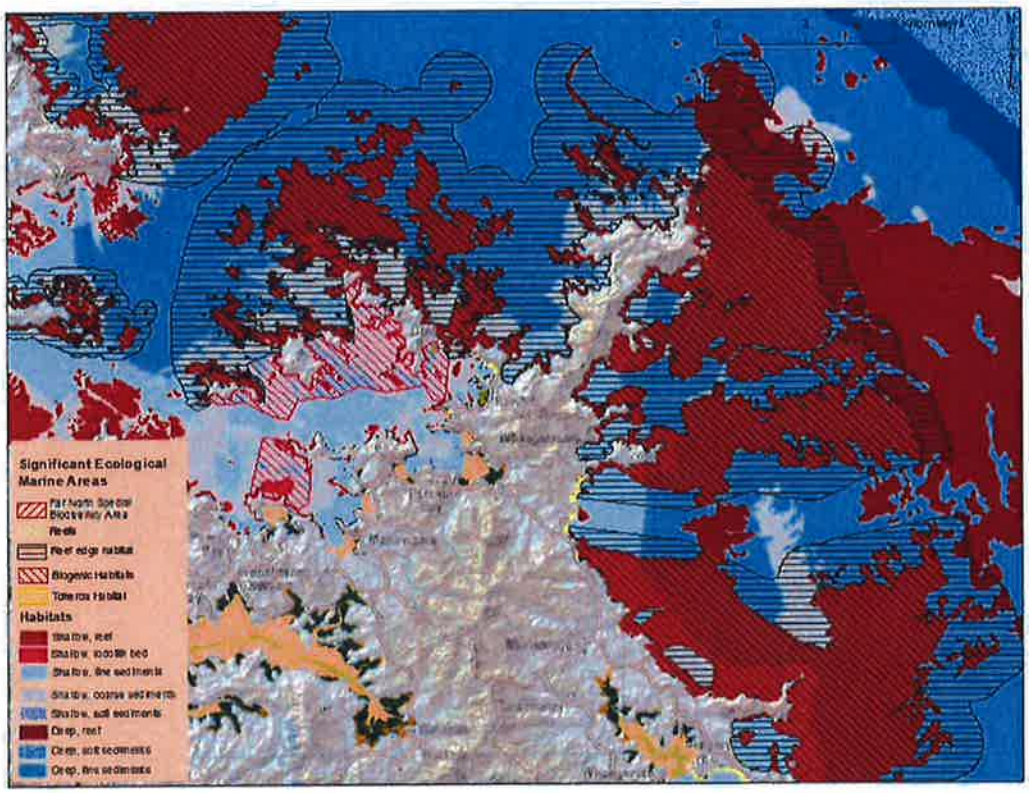
Significant Ecological Marine Area Assessment Sheet

Name: Eastern Bay of Islands and Cape Brett Coast

Summary:

The reef systems of Eastern Bay of Islands and Cape Brett and adjoining reef edges of soft-bottom habitat score as a high ranking ecological area. This reef system is extensive and with large areas of shallow reefs connected to a large and complex deep reef system extending offshore up to more than 13 kms. These complex reefs, coastline and small islands create a significant sequence of high quality marine habitats. In addition the Eastern Bay of Islands and Cape Brett creates an ecological sequence and connectivity with important conservation areas in this group of islands and the Cape Brett peninsula. There is a *rahui* (fisheries closure) supported by a Fisheries Act regulation at Maunganui Bay (Deep Water Cove) and a proposal for two marine reserves around the waters of Waewaetorea Island and out on Cape Brett Peninsula past Maunganui Bay [1]

Habitat maps and mapped significant ecological area of Eastern Bay of Islands



[1] Kerr, V.C., Langford, C., Wright, D., 2014. Proposal for two marine reserves and a scientific reserve in the Bay of Islands: results of community consultation. Prepared for and published by Fish Forever, Bay of Islands Maritime Park Inc.

A view of Cape Brett from the west showing the steep rocky shoreline. Photo credit: Chris Richmond

A stingray sits amongst a healthy Ecklonia radiata kelp forest. Note the stony gravelly substrate which is common near shore on the Cape Brett Peninsula. Photo credit: Northland Dive.

A deep reef scene typical of deeper areas greater than 30m depth out at Cape Brett. Pink Gorgonian fans are an indicator of a healthy and productive encrusting invertebrate community. Photo credit: Northland Dive.

Description:

Eastern Bay of Islands and the Cape Brett peninsula, at the eastern entrance of the Bay of Islands, is an area of exposed coastline on Northland's northeast coast. The east coast of Northland is part of the North-eastern Biogeographic Region [2] and is generally characterised by a series of rocky headlands and steep and ragged shorelines, and a number numerous islands and pinnacles. Eastern Bay of Islands and Cape Brett is exceptionally diverse and has some of the best examples of coastal rocky reef communities in Northland. The mapped ecological area encompasses the exposed rocky shores and offshore reef areas from Motuarohia in the west to Cape Brett in the east, then south down the Cape Brett coast to Elliot Beach including soft-bottom habitats making up the reef edge habitats of this area.

Eastern Bay of Islands and Cape Brett area has attracted considerable scientific investigation. NIWA as part of an Ocean 20/20 project carried out extensive sonar survey, sediment and biodiversity sampling in 2008-9. [3] This survey was followed by a regional scale marine habitat mapping project in 2010. [4]. A recent publication shows fine scale habitat mapping and habitat and biological community descriptions for the marine areas

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[2] Department of Conservation & Ministry of Fisheries, 2008. Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines.
[3] Mitchell, J. et al., 2010. Bay of Islands OS20/20 survey report. Chapter 2: Seafloor Mapping. http://www.os2020.org.nz/bay-of-islands-coastal-survey-project/
[4] Kerr, V. 2009: Marine habitat map of Northland: Mangawhai to Ahipara vers. 1. Northland Conservancy, Department of Conservation, Whangarei. 33 p.

around Waeweatorea, Okahu and Urupukapuka islands. [5]

Oceanography

The Eastern Bay of Islands area has a variety of exposures to the oceanic influences of the offshore area. The chain of islands on the outside of the Rawhiti Channel are less exposed than the shoreline out at Cape Brett but are still subject to considerable wave energy during easterly gales. Cape Brett Peninsula itself extends a great distance outwards into the offshore area and deeper areas and is battered at times from easterly storms. The whole area is strongly influenced by the warm subtropical East Auckland Current, derived from the north-western Tasman Sea flowing south-eastwards adjacent to the coast. This current brings with it a variety of Indo-Pacific larvae. The mix of these surviving subtropical species with the many endemic species, make these areas ecologically unique.

Ecological Values

The main reef habitats at Eastern Bay of Islands and Cape Brett are described in the 2015 habitat report. [6] There is great diversity in the algal communities that dominate the shallow reef areas., This ranges from semi sheltered shores with mixed red algal and *Carpophyllum sp.* shallow mixed weed zones giving way to the dominant *Ecklonia radiata* forests, to the exposed shores where wave energy is high and the more exposed algal communities, represented by *Carpophyllum maschalocarpum* and *Lessonia variegata* ,make up the shallow mixed weed zone with *Ecklonia radiata* forest below and extending down to 30m.

At between 100 to 500m off shore the reefs drop to depths beyond 30 m. At these depths and beyond the light is insufficient to support the algal forests so the reef communities become dominated by a diverse filter-feeding encrusting invertebrate community. Sponges play a key role in these communities. This invertebrate community provides protection and food sources for a complex community of marine species and trophic food webs culminating in the top order predators who frequent these biodiversity hotspots and at times become residential. [1]

A special aspect of the Eastern Bay of Islands and Cape Brett reef systems is that they have extensive areas of soft bottom habitats surrounding them to the north and south. Recent ecological studies of rock lobster *Jasus edwardsii* [6] demonstrate that important ecological connections exist between deep reef habitats, patch reefs, shallow reefs and surrounding soft sediment areas. In these studies, crayfish were found to regularly migrate up to several kilometres out onto sand and gravel areas from their reef habitats to feed on bivalves and other benthic organisms.

A study of Northeast New Zealand reef fish biogeography by Brook[7] presents the results of a comprehensive survey effort and review of past survey efforts. The reef fish diversity of Cape Brett tops the list of Northland coastal sites, with 93 species recorded. The area around Urupukapuka had 63 species; still a very diverse community. Both areas showed high numbers of subtropical species and are very diverse compared to other regions of New Zealand.

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[5] Kerr, V.C., Grace, R. V., 2015. Marine habitats of the proposed Waewaetorea Marine Reserve. A Report prepared for Fish Forever, Bay of Islands Maritime Park Inc.

[6] Kelly, S. 2001: Temporal variation in the movement of the spiny lobster *Jasus edwardsii*. New Zealand Journal of Marine and Freshwater Research 52: 323.331.

[7] Brook, F.J. (2002). Biogeography of near-shore reef fishes in northern New Zealand. Journal of the Royal Society of New Zealand 32: 243-274

The marine ecology values of the Eastern Bay of Islands and Cape Brett area and Northland's east coast are summarised in the Nearshore Classification produced by the Department of Conservation[8]. A further and more detailed review of natural features and ecology was completed by NIWA in 2005.[9] Both publications have comprehensive references covering previous descriptive work done in Northland. The later report summarises some of the local scale habitat mapping work done in the region.

Northland Marine Mammals

Information on the presence and conservation status of marine mammals in relation to Northland's coasts and estuaries has been reviewed by Baker. [10] [11] Thirty-five species of marine mammals are known from Northland waters (within the 12 n ml limit). Some marine mammal species are resident or semi-resident and breed along the Northland coast, and others are transients. Three threatened species are amongst the species most often encountered in inshore waters: Bryde's whales *Balaenoptera edni*, bottlenose dolphins *Tursiops truncates*, and Orca *Orcinus orca*. The common dolphin *Delphinus delphis,* which is not threatened, is also commonly seen in the Eastern Bay of Islands with the dolphins having resident population. The two dolphin species have been studied over the last ten years in relation to concerns over the impacts on them of the eco-tourism boats that operate there. [12] Less common, but occasionally encountered in the Eastern Bay of Islands are pilot whales *Globicephala spp.*, false killer whales *Pseudorca crassidens*, and some of the large baleen whales. New Zealand fur seals are present in small numbers in the Eastern Bay of Islands and Cape Brett area as transient visitors.

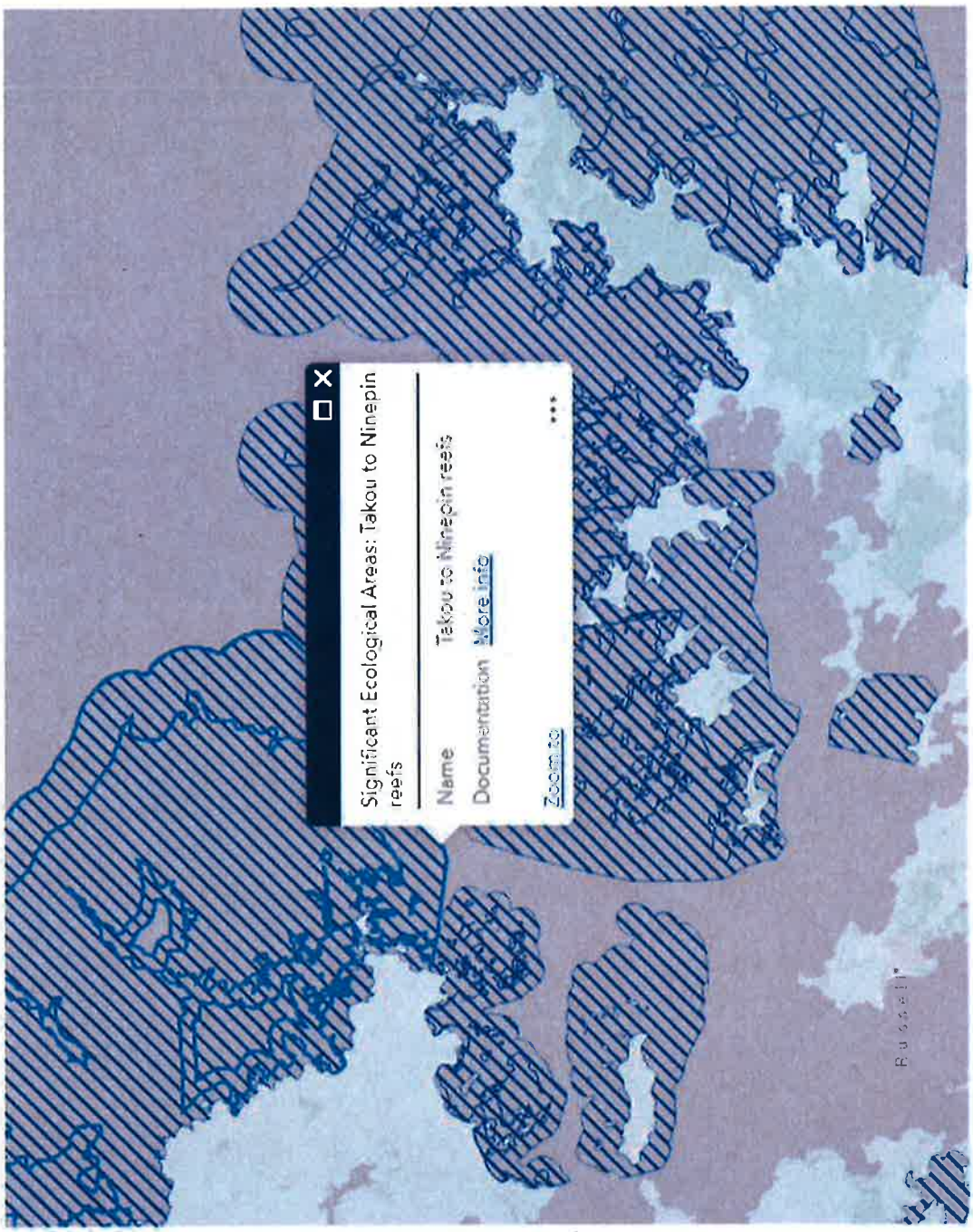
[8] Department of Conservation, 2005. Near Shore Marine Classification System. Compiled by Vince Kerr for Northland Conservancy, Department of Conservation. Revised September 6, 2005. http://www.marinenz.org.nz/nml/files/documents/3_northland-mpa.html

[9] Morrison, M., 2005. An Information Review of the Natural Marine Features and Ecology of Northland. Prepared for the Department of Conservation. NIWA Client Report: AKL 2005-50.

[10] Baker, A. N., 2005. Sensitivity of marine mammals found in northland waters to aquaculture activities. Report to the Department of Conservation, Northland Conservancy. A. N. Baker Cetacean Biology Consultant, Kerikeri.

[11] Baker, C.S, Chilvers, B.L., Constantine, R., DuFresne, S., Mattlin, R.H., van Helden, A. & Hitchmough, R., 2010. Conservation status of New Zealand marine mammals. New Zealand Journal of Marine and Freshwater Research, 44:2, 101-115.

[12] Constantine, R., Brunton, D.H., & Dennis, T., 2004. Dolphin-watching tour boats change bottlenose dolphin (Tursiops truncatus) behaviour. Biol. Conserv.117: 299–307.


Significant Ecological Areas: Takou to Ninepin reefs
Name Takou to Ninepin reefs
Documentation More info
Zoom to
Russell

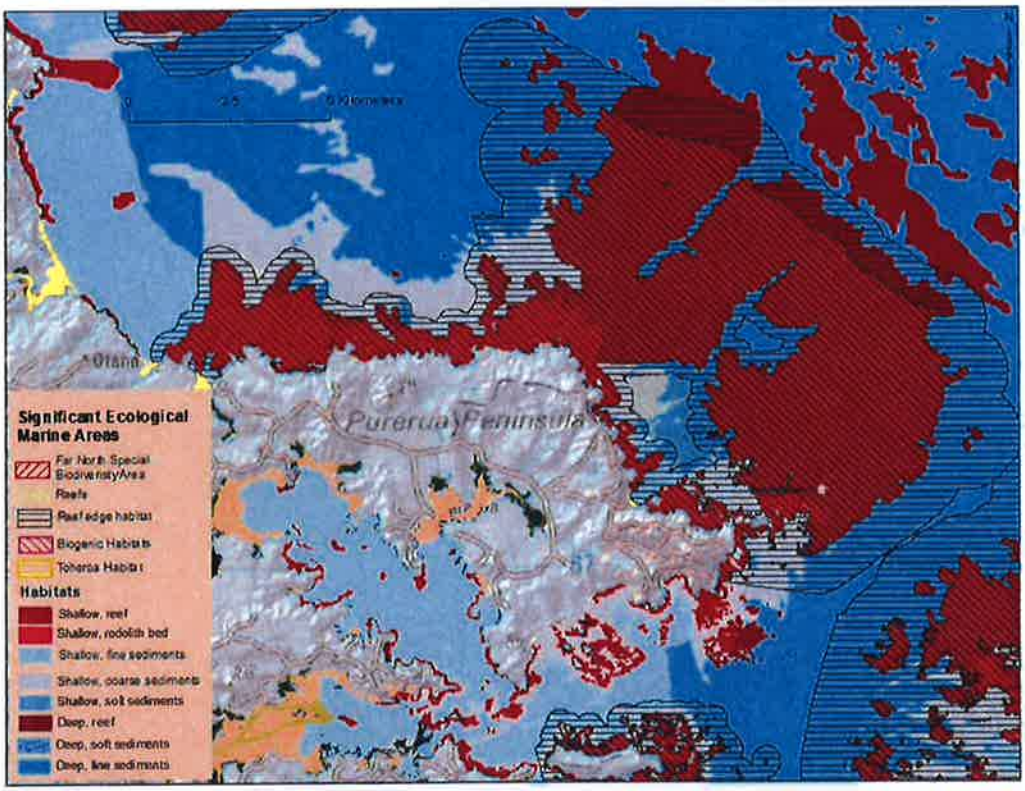
Significant Ecological Marine Area Assessment Sheet

Name: Takou Beach to Ninepin Coast

Summary:

The reef systems of the Takou Beach to Ninepin coast and adjoining reef edges of soft bottom habitat and deep reefs (depths greater than 30m) score as a high ranking ecological area. This exposed coast is generally rugged with complex topology resulting from erosion and geological origins. The reefs are biodiversity hotspots, with high productivity of fish species at various life stages, and algal communities based on macro algae in association with encrusting algal and invertebrate species. The little bays and small lengths of clean sandy beaches add considerable value to the marine ecological values of this stretch of coast. The Takou Beach to Ninepin Coast is influenced by the East Auckland Current, which brings warm water masses and subtropical larval species to this coast and adds to the diversity of these reefs.

Habitat map and mapped significant ecological area of the Takou to Ninepin coast.



Description:

The Takou Beach to Ninepin area is located on Northland's northeast coast at the northwest entrance to the Bay of Islands. The mapped ecological area presented here encompasses the coastline offshore from just north of Whale Bay on the Purerua Penninsula around the Ninepin and then westwards along the coast to Takou Beach. The area extends out to sea including the shallow reefs, small areas of deep reefs and the soft-bottom habitats that make up the reef edge habitats of this area. The fringing reef is typically gradually sloping and quite irregular being of broken and eroded rock in

nature. The reefs either side of the Ninepin have steep slopes and, generally, are more rugged in topography. As you go further offshore from the Takou Beach to Ninepin coast the reefs become increasingly flat. The reefs of this coast are interspersed with small embayments and clean sandy beach habitats. Most of the coastal reef system also has continuous deep reefs that run further out to sea, as far as 10 km offshore. The 100m depth contour is at about 6.7 km offshore. [1]

An aerial view of the Ninepin as seen from the sea looking up the coast towards Tapuaetahi which is out of view to the right of the image. The shallow fringing reefs are significant on this shore and connect with a large area of deep reef habitats offshore at depths greater than 30 m.

[1] Kerr, V. 2009: Marine habitat map of Northland: Mangawhai to Ahipara vers. 1. Northland Conservancy, Department of Conservation, Whangarei. 33 p.

An aerial view looking from the sea of the complex array of habitats surrounding Tapuaetahi. There are extensive and complex areas of shallow reefs interspersed with sandy beaches. Not seen is the connection offshore to extensive deep reef habitats at depths greater than 30m.

Oceanography

The Takou Beach to Ninepin coast area has strong oceanic influences. Its outer exposed shores are subject to gales that bring high wave energy from easterly storms and ocean swells. The area is regularly influenced by the East Auckland current that eddies into the coast, bringing warm water from the north and larvae of subtropical species.

Ecological Values

The Takou Beach to Ninepin coast's shallow fringing reefs are very good examples of their type and generally in good health. In the upper exposed zone the shallow mixed weed algal communities are characterised by several Carpophyllum species. At the most exposed headlands these communities change to algal communities represented by *Carpophyllum maschalocarpum* and *Lessonia variegata*. Below the shallow mixed weed zone at 3-7m depth the large brown kelp, *Ecklonia radiata* forest takes over. The shallow reef algal forests are very productive and home to a large, diverse reef community. Along this coast there are breaks in the reef with sand and sand gravel gutters as well as soft bottom areas offshore of the beaches. These reef-edge soft bottom habitats are high quality, generally quite low in sedimentation impacts and rich in invertebrate and shellfish communities; they play a key role in supporting the high diversity of the reef systems.

At approximately 1.5 km offshore the reefs drop to depths beyond 30 m. At these depths and beyond the light is insufficient to support the algal forests, so the reef communities become dominated by a diverse filter-feeding encrusting invertebrate community. Sponges play a key role in these communities. This invertebrate community provides protection and food sources for a complex range of marine species and trophic food webs, culminating in the top order predators who frequent these biodiversity hotspots and, at times, become residential.

The Takou Beach to Ninepin coast has traditionally been known as a very productive habitat for rock lobster *Jasus edwardsii*.

The marine ecology values of the Takou Beach to Ninepin Coast and Northland's East Coast are summarised in the Nearshore Classification produced by the Department of Conservation[2]. A further and more detailed review of natural features and ecology was completed by NIWA in 2005.[3] Both publications have comprehensive references compiled covering previous descriptive work done in Northland. The later report summarises some of the local scale habitat mapping work done in the region.

Northland Marine Mammals

Information on the presence and conservation status of marine mammals in relation to Northland's coasts and estuaries has been reviewed by Baker. [4] [5] Thirty-five species of marine mammals are known from Northland waters (within the 12 n ml limit). Some marine mammal species are resident or semi-resident and breed along the Northland coast, and others are transients. Three threatened species are amongst the species most often encountered in inshore waters: Bryde's whales *Balaenoptera edni*, bottlenose dolphins *Tursiops truncates*, and Orca *Orcinus orca*. The common dolphin *Delphinus delphis,* which is not threatened, is also commonly seen in estuaries and along the coast. All of these species have been often reported on the Takou Beach to Ninepin coast. Less common, but occasionally encountered on Northland's east coast, are pilot whales *Globicephala spp.*, false killer whales *Pseudorca crassidens*, and some of the large baleen whales. New Zealand fur seals are present in small numbers at Takou Beach to Ninepin coast coast area as transient visitors.

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Takou Beach to Ninepin Coast[6]

Takou Beach to Ninepin Coast: Assessment of Ecological Significance			Rank
Overall Ranking		Notes	High
Representation	supports most taxa expected for habitat type	High diversity of reef species	H
	large example of its type	Good size example of rocky coast habitat sequences.	M

[2] Department of Conservation, 2005. Near Shore Marine Classification System. Compiled by Vince Kerr for Northland Conservancy, Department of Conservation. Revised September 6, 2005. http://www.marinenz.org.nz/nml/files/documents/3_northland-mpa.html

[3] Morrison, M., 2005. An Information Review of the Natural Marine Features and Ecology of Northland. Prepared for the Department of Conservation. NIWA Client Report: AKL 2005-50.

[4] Baker, A. N., 2005. Sensitivity of marine mammals found in northland waters to aquaculture activities. Report to the Department of Conservation, Northland Conservancy. A. N. Baker Cetacean Biology Consultant, Kerikeri.

[5] Baker, C.S, Chilvers, B.L., Constantine, R., DuFresne, S., Mattlin, R.H., van Helden, A. & Hitchmough, R., 2010. Conservation status of New Zealand marine mammals. New Zealand Journal of Marine and Freshwater Research, 44:2, 101-115.

[6] Table 1 details the ranking criteria and scoring that was used to determine the overall high ranking given to the ecological significance of this area. The criteria used have been adopted from Appendix 5 of the Northland Regional Council Proposed Policy Statement. See reference to Methodology report or other council documents to call up

Rarity and Distinctiveness	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale	Has significant number subtropical fish species	M
	supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region	Has significant number subtropical fish species	M
	distinctive of a naturally restricted occurrence	Diversity of habitats is good	M
	developed as a result of unusual environmental factor(s) or is part of an ecological unit that occurs within an originally rare ecosystem	Typical of Northland east coast rocky shores with small bays and estuaries	M
	identified as nationally or regionally rare habitat(s) in MPA Plan	Not evaluated yet	R
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types	Diversity of habitats is good	M
	high diversity of indigenous taxa	generally high diversity of fish species	H
	its composition reflects the existence of diverse natural features or ecological gradients	Good complex ecological gradients	M
	contains intact ecological sequences	good examples	M
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	Shallow reef sequences connects to small estuaries and their catchments	M
	supports the natural functioning of freshwater or coastal ecosystems	Important ecological connection with small estuaries and streams of this coast	M
	supports life stages of indigenous fauna	High diversity reef species	H

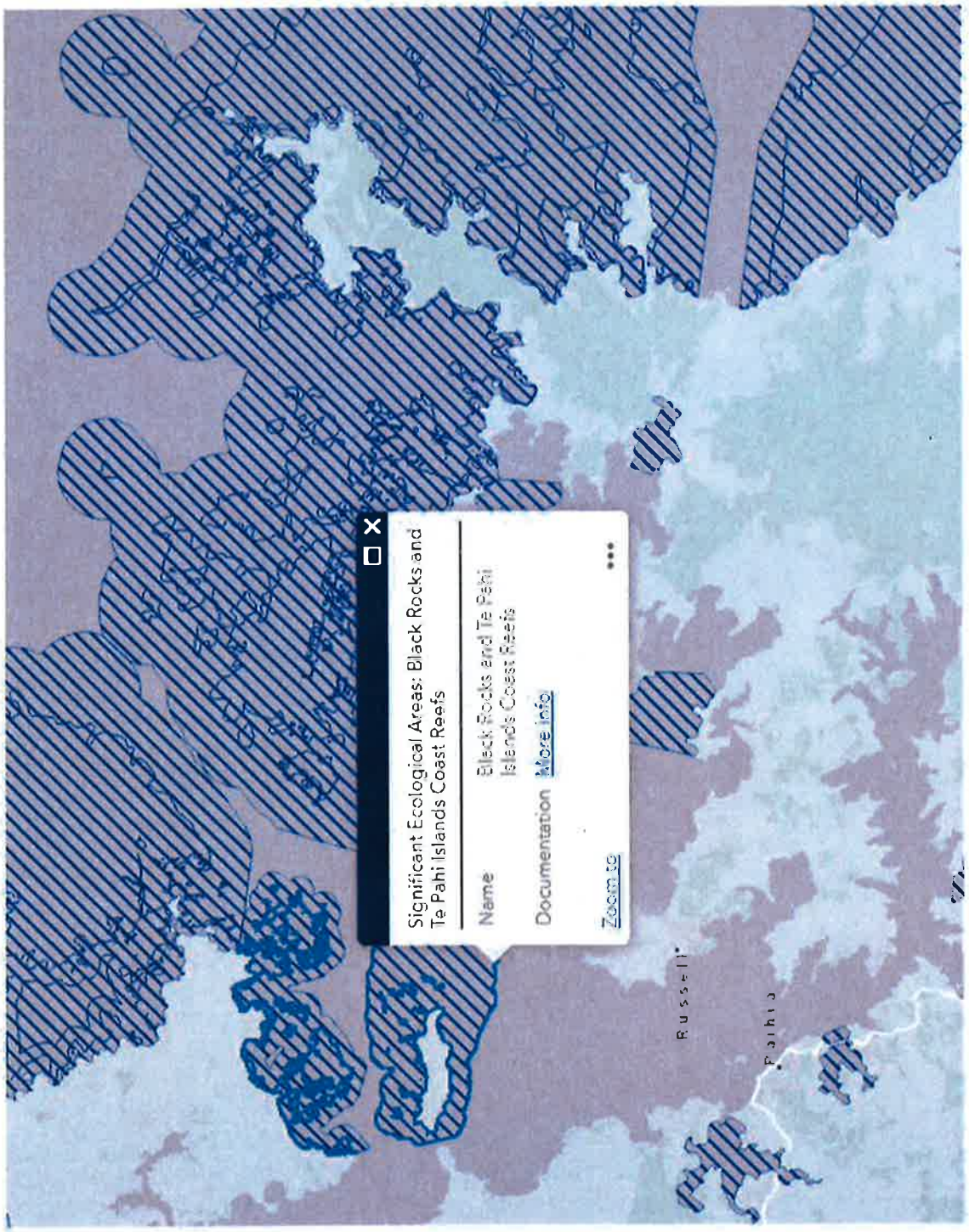
Assessed by: Vince Kerr	Date: September 2015
Information Source(s) *see below*	**2-7**
Reliability of Information *see below*	**++**

Rank (overall score) H = high, M = moderate, L =low, DD = data deficient, R = recommended for further investigation

Information Source(s) 1 = quantitative report, 2 = qualitative report, 3 = habitat map or classification, 4 = expert opinion, 5 = personal communication, 6 = anecdotal information, 7 = visit and observation

Reliability of Information expressed as a scale of confidence ranging from high (+++) to low confidence (---)

Criteria Rank - score for each individual criteria) H = high ranking, M = moderate ranking, L = low ranking, DD = data deficient, R = recommended for further investigation, NA = not assessed for this criteria


Significant Ecological Areas: Black Rocks and Te Pahi Islands Coast Reefs
Name
Black Rocks and Te Pahi Islands Coast Reefs
Documentation
More info
Zoom to
Russell
Paihia

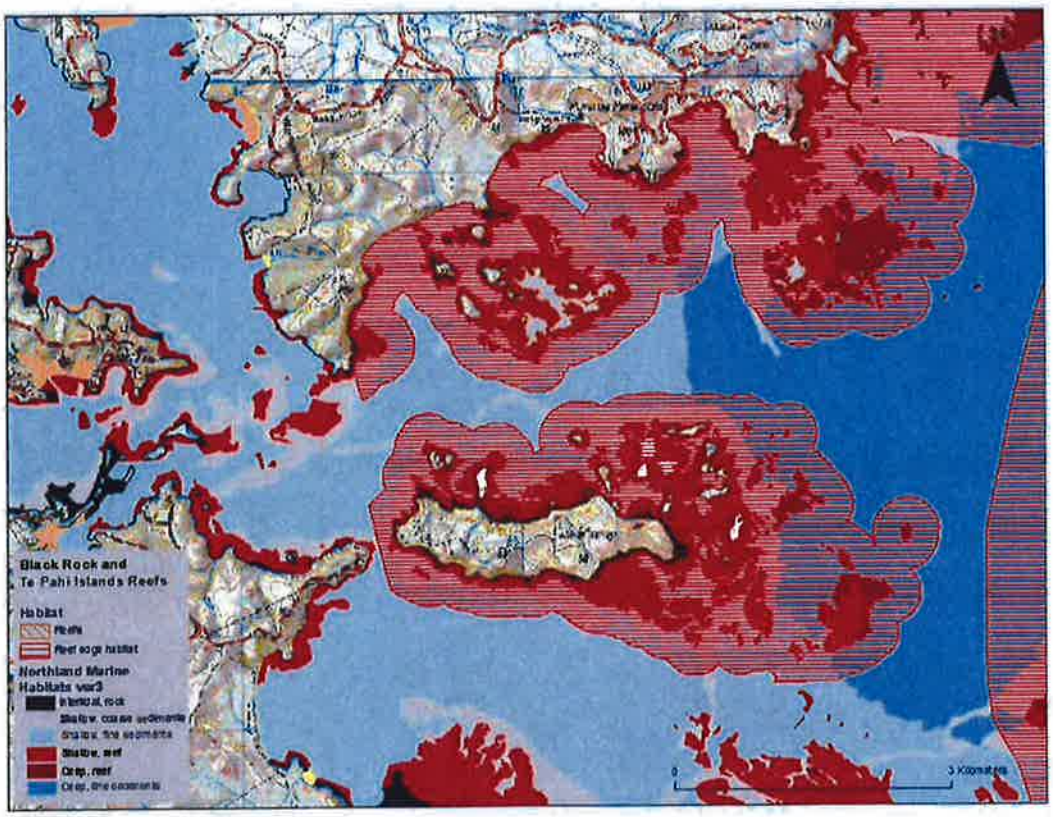
Significant Ecological Marine Area Assessment Sheet

Name: Black Rocks and the Te Pahi Islands coast reefs, Bay of Islands

Summary:

The reef systems of Black Rocks, Te Pahi Islands coast and adjoining reef edges of soft-bottom habitat score as a high ranking ecological area. This reef system is predominantly a fringing shallow reef with small areas of deep reef extending to beyond 30m depths. The Black Rocks reefs are distinctive because of the unique and complex volcanic rock formations resulting in a shallow reef with vertical faces, many cracks, overhangs and complex indentations in the shoreline. Black Rocks shallow reefs have quite high fish diversity equivalent to some of the better east coast sites. [1] The area is also known as excellent habitat for rock lobster *Jasus edwardsii*.

Habitat map of the Black Rocks and the coastal reefs of the Te Pahi Islands area, showing significant ecological areas.



[1] Brook, F.J. (2002). Biogeography of near-shore reef fishes in northern New Zealand. Journal of the Royal Society of New Zealand 32: 243-274

Description

The Black Rocks area is located at the eastern end of Moturoa island near the entrance to Kerikeri Inlet in the Bay of Islands. The mapped ecological area encompasses the northern coastline of Moturoa and the reefs of Black Rocks. The area extends out to sea including the shallow reefs, small areas of deep reefs and the soft-bottom habitats that make up the reef edge habitats of this area. [2]

The Te Pahi coast reefs SEA runs from the mouth of the Te Puna east to Tikitiki near North western extent of the Bay of Islands or tip of the Purerua Peninsula. The shoreline is predominantly rocky with stony sand beaches and gentle sloping shore with shallow fringing rocky reefs. The reefs surrounding the Te Pahi Islands are extensive with some extending outwards to depths exceeding 30 m and supporting deep reef habitats. These shallow reefs enjoy consider oceanic influence from currents entering the Bay of Islands but are also enriched by and affected by the sedimentation and nutrients circulating out from the inner Bay habitats.

A 3D aerial view of the Black Rocks Islands, showing the complex array of islands and fringing shallow rocky reefs.

[2] Kerr, V., 2015. Marine habitat map of Northland's west coast, (draft). Unpublished GIS project in progress. Kerr & Associates, Whangarei, Northland. Email: vince@kerrandassociates.co.nz.

An aerial view of the Te Pahi Islands and coast.

Oceanography

The Black Rocks area has a mixture of oceanographic and estuarine influences. It could be described as semi-sheltered shore that, at times, is exposed to relatively high wave energy from easterly storms and ocean swells making their way into this part of the Bay of Islands. The area is occasionally influenced by the East Auckland current, which eddies into the coast bringing warm water from the north and, with it, larvae of subtropical species.

Ecological Values

The shallow fringing reefs are good examples of their type and generally in good health. In the upper exposed zone the shallow mixed weed algal communities are characterised by several Carpophyllum species. Below the shallow mixed weed zone at 2-5m depth the large brown kelp, *Ecklonia radiata* forest takes over, which at Black Rocks is very productive and home to a great deal of diversity. The kelp forest and fringing reefs run out to a sand or sandy gravel bottom at 15-30m. These reef edge soft bottom habitats are rich in invertebrate and shellfish communities and thus play a key role in supporting the high diversity of the reef systems.

The reefs of Black Rocks and Te Pahi Islands have traditionally has been known as very productive habitat for rock lobster *Jasus edwardsii*. Large packhorse crayfish *Sagmariasus verreauxi* used to be commonly seen on this coast but unfortunately are rare today.

A study of Northeast New Zealand reef fish biogeography by Brook[3] presents the results of a comprehensive survey effort and review of past survey efforts. A list of common algal species is also reported in this study. The reef fish diversity recorded at Black

[3] Brook, F.J. (2002). Biogeography of near-shore reef fishes in northern New Zealand. Journal of the Royal Society of New Zealand 32: 243-274

Rocks site compare with the better east coast sites in Northland and could be described as high compared to other regions of New Zealand.

The marine ecology values of Black Rocks, Te Pahi Islands and Northland's east coast more generally are summarised in the Nearshore Classification produced by the Department of Conservation[4]. A further and more detailed review of natural features and ecology was completed by NIWA in 2005.[5] Both publications have comprehensive references covering previous descriptive work done in Northland. The later report summarises some of the local scale habitat mapping work done in the region.

Northland Marine Mammals.

Information on the presence and conservation status of marine mammals in relation to Northland's coasts and estuaries has been reviewed by Baker. [6] [7] Thirty-five species of marine mammals are known from Northland waters (within the 12 n ml limit). Some marine mammal species are resident or semi-resident and breed along the Northland coast, and others are transients. Three threatened species are amongst the species most often encountered in inshore waters: Bryde's whales *Balaenoptera edni*, bottlenose dolphins *Tursiops truncates* , and Orca *Orcinus orca*. The common dolphin *Delphinus delphis*, which is not threatened, is also commonly seen in the Black Rocks coastal area with the dolphins having resident population. The two dolphin species have been studied over the last ten years in relation to concerns over the impacts on them of the eco-tourism boats that operate here. [8] Less common, but occasionally encountered in the Black Rocks area of the Bay of Islands are pilot whales *Globicephala spp.*, false killer whales *Pseudorca crassidens*, and some of the large baleen whales. New Zealand fur seals are present in small numbers here.

[4] Department of Conservation, 2005. Near Shore Marine Classification System. Compiled by Vince Kerr for Northland Conservancy, Department of Conservation. Revised September 6, 2005. http://www.marinenz.org.nz/nml/files/documents/3_northland-mpa.html

[5] Morrison, M., 2005. An Information Review of the Natural Marine Features and Ecology of Northland. Prepared for the Department of Conservation. NIWA Client Report: AKL 2005-50.

[6] Baker, A. N., 2005. Sensitivity of marine mammals found in northland waters to aquaculture activities. Report to the Department of Conservation, Northland Conservancy. A. N. Baker Cetacean Biology Consultant, Kerikeri.

[7] Baker, C.S, Chilvers, B.L., Constantine, R., DuFresne, S., Mattlin, R.H., van Helden, A. & Hitchmough, R., 2010. Conservation status of New Zealand marine mammals. New Zealand Journal of Marine and Freshwater Research, 44:2, 101-115.

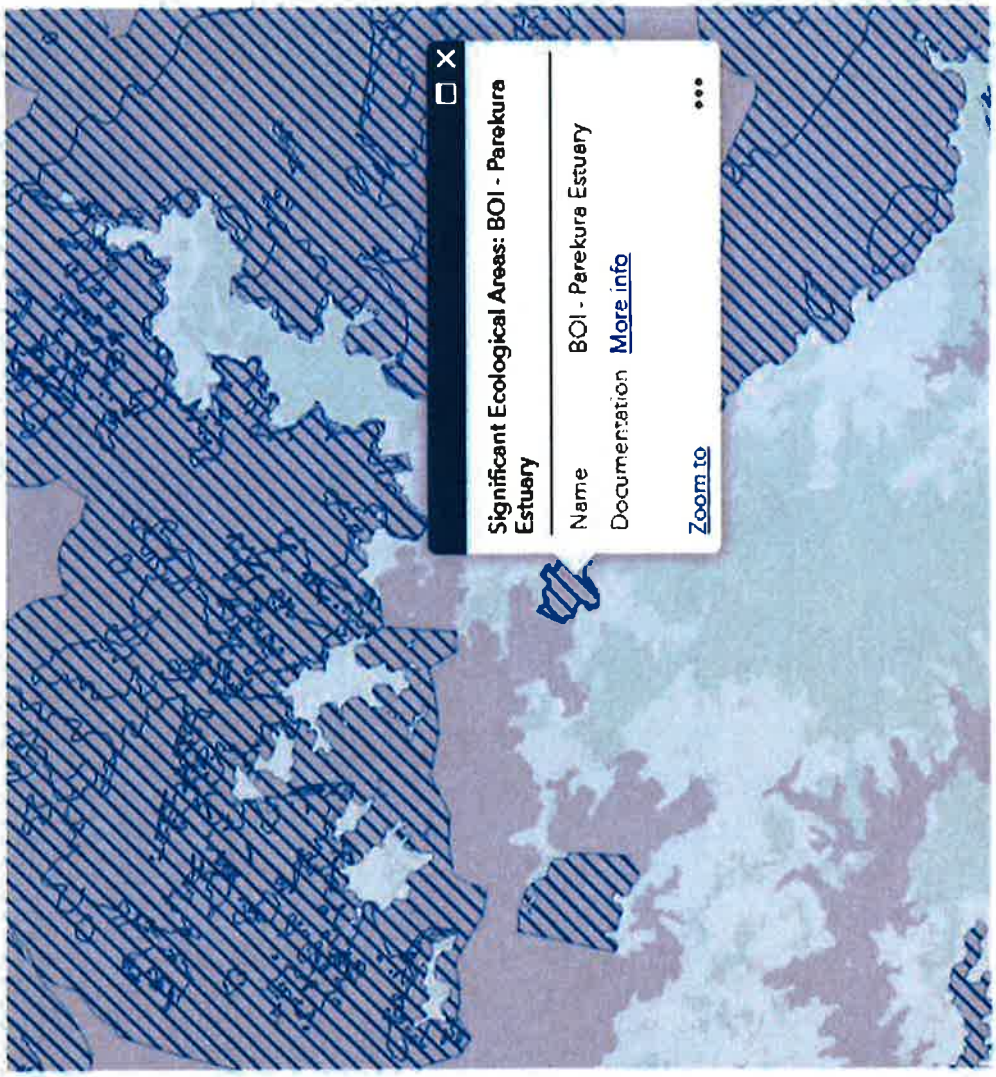
[8] Constantine, R., Brunton, D.H., & Dennis, T., 2004. Dolphin-watching tour boats change bottlenose dolphin (Tursiops truncatus) behaviour. Biol. Conserv.117: 299–307.

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Black Rocks[9]

Black Rocks and Te Pahi Islands Coast Reefs: Assessment of Ecological Significance			Rank
Overall Ranking		**Notes**	**High**
Representation	supports most taxa expected for habitat type	High diversity of marine species	H
	large example of its type	Good size example of complex sequence of habitats.	M
Rarity and Distinctiveness	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale	Has significant number subtropical fish species	H
	supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region	Has significant number subtropical fish species	H
	distinctive of a naturally restricted occurrence	Diversity of habitats is good	M
	developed as a result of unusual environmental factor(s) or is part of an ecological unit that occurs within an originally rare ecosystem	Complex topograhpy created by reefs volcanic origins is very unusual	H
	identified as nationally or regionally rare habitat(s) in MPA Plan	Not evaluated yet	R
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types	Diversity of habitats is good	M
	high diversity of indigenous taxa	One of the better east coast sites for high diversity of fish species	H
	its composition reflects the existence of diverse natural features or ecological gradients	Good complex ecological gradients	M
	contains intact ecological sequences	good examples	M
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	Some connectivity to general environments	M
	supports the natural functioning of freshwater or coastal ecosystems	Small limited systems only	M
	supports life stages of indigenous fauna	High diversity well supported by habitats	H
Assessed by: Vince Kerr		Date: September 2015	
Information Source(s) *see below*			**1-7**
Reliability of Information *see below*			**+++**
Rank (overall score) H = high, M = moderate, L =low, DD = data deficient, R = recommended for further investigation			
Information Source(s) 1 = quantitative report, 2 = qualitative report, 3 = habitat map or classification, 4 = expert opinion, 5 = personal communication, 6 = anecdotal information, 7 = visit and observation			
Reliability of Information expressed as a scale of confidence ranging from high (+++) to low confidence (---)			
Criteria Rank - score for each individual criteria) H = high ranking, M = moderate ranking, L = low ranking, DD = data deficient, R = recommended for further investigation, NA = not assessed for this criteria			

[9] Table 1 details the ranking criteria and scoring that was used to determine the overall high ranking given to the ecological significance of this area. The criteria used have been adopted from Appendix 5 of the Northland Regional Council Proposed Policy Statement. See reference to Methodology report or other council documents to call up


Significant Ecological Areas: BOI - Parekura Estuary
Name
BOI - Parekura Estuary
Documentation
More info
Zoom to

Significant Ecological Marine Area Assessment Sheet

Name: Parekura Bay, Bay of Islands Marine Values

Summary:

The Tangatapu mangrove and saltmarsh, along with the connecting tidal flat of the south-eastern end of Parekura Bay in Eastern Bay of Islands, has been given a high ranking of ecological significance for marine values. It is a very good example of this important habitat sequence and is the only example of this quality in the outer part of the Eastern Bay of Islands suite of important ecological areas. The Parekura Bay tide flat, mangrove, saltmarsh and wetland sequence supports a number of threatened shorebird species and has notable cockle beds in its tidal flat area. The area's tidal flats and mature mangrove saltmarsh sequences form an important ecological connection with wetland areas and local freshwater streams. Combined, these habitat sequences perform important ecological roles as nursery and feeding areas for a wide variety of marine life. These habitats also play a vital role in maintaining water quality and provide connectivity between freshwater ecosystems and the coastal waters. The wetland area and catchment feeding the saltmarsh and estuary is actively being restored and predator management is well established, adding to the ecological values of this site.

Aerial photo of Parekura Bay. Photo Credit: Apple Maps

Description:

Parekura Bay and the Tangatapu Estuary lies in a central locaton in the Eastern Bay of Islands. Its freshwater source comes via the Tangatapu wetland, at the starting point of the walkway to Whangamumu. The estuary has a mosaic of salt marsh, mangrove shrubland, bare intertidal to shallow mud, sand and rocky reef habitats, surrounded by a

mature forest of large mangrove trees. The radiating networks of mangrove breathing roots and dense saltmarsh slow down currents and wave energy, encouraging silt to settle here rather than smothering seagrass meadows in more open parts of the Bay.

There is an active restoration project, Living Waters, in the catchment of Tangatapu, led by the Bay of Islands Maritime Park. [1]

A view of the upper arm of the Tangatupu Estuary showing mature mangrove forest. Just around the corner is more mangrove habitat, salt marsh and a wetland restoration project at the bottom of the catchment. Photo credit: Dean Wright Photography.

Ecological Values

Parekura Bay and the Tangatapu Estuary is a very good example of estuary habitats and the interface with terrestrial and freshwater habitats. The shallow subtidal area tidal flats have healthy shellfish beds and benthic invertebrate communities. The shellfish beds make a major contribution to the process of enhancing water quality of the estuary. Shellfish are very active filtering plankton and nutrients from the water column with each tide cycle. Tangatapu Estuary is a shallow estuarine system with the majority of the volume of the estuary emptying out of the system with each tide. As a result, virtually the entire estuary is very well flushed with coastal water masses during every tide cycle. The upper reaches of Tangatapu are characterised by high quality intact sequences of mangrove forests, saltmarshes and small shallow channels. Much of the upper system has quite good riparian edge environments in native bush, adding greatly to the ecological value of the site. Tangatapu Estuary can be expected to play an important localised role as a nursery and feeding area for coastal fishes. [2] In additon the connection with a valuable wetland and catchment restoration project adds to the ecological significance of this site.

Assessment of Ecological Significance

[1] www.livingwatersboi.org.nz/

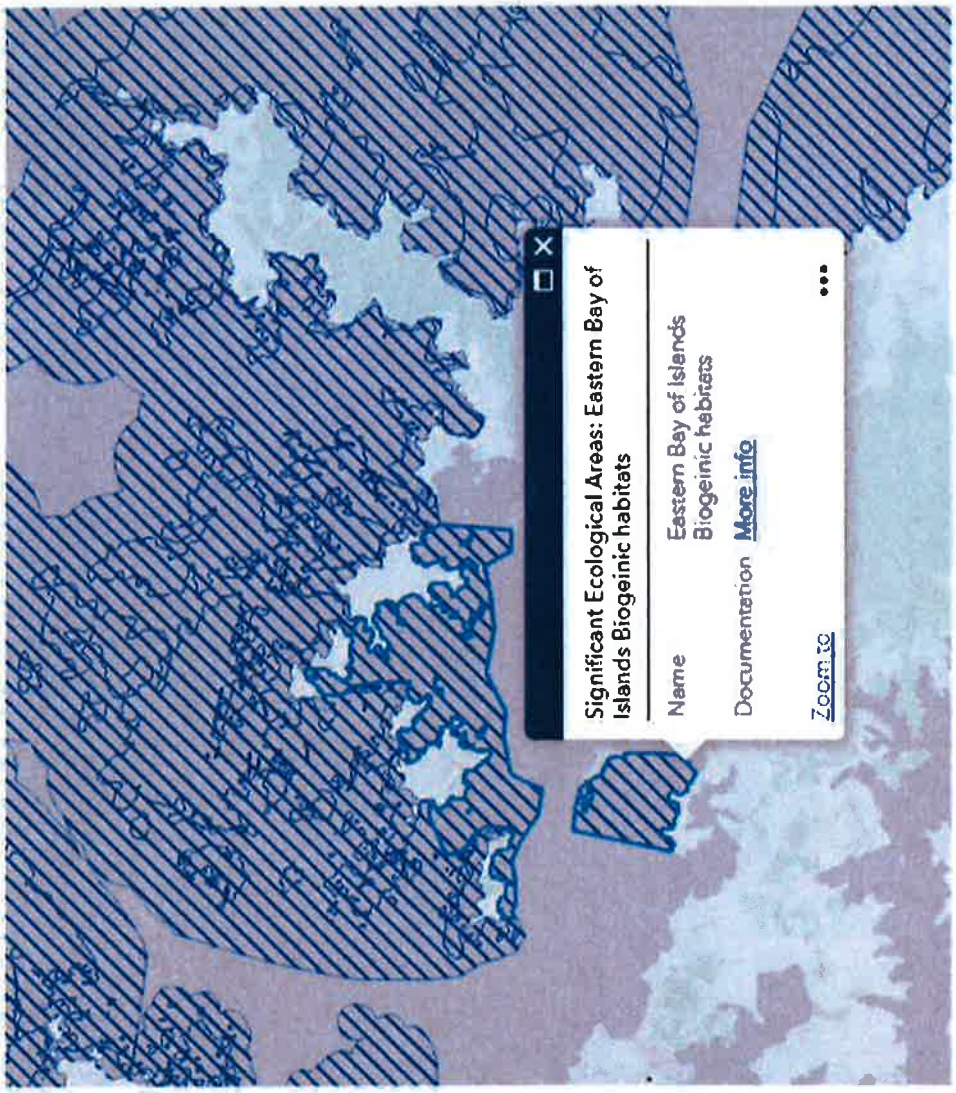
[2] Morrison, M.A.; Jones, E.G.; Parsons, D.P.; Grant, C.M., 2014. Habitats and areas of particular significance for coastal finfish fisheries management in New Zealand: A review of concepts and life history knowledge, and suggestions for future research. New Zealand Aquatic Environment and Biodiversity Report No. 125. 202 p.

Table 1 Ranking score of ecological significance of Tangatapu Estuary[3]

Parekura Bay Marine Values: Assessment of Ecological Significance			Rank
Overall Ranking		**Notes**	**High**
Representation	supports most taxa expected for habitat type	Shellfish beds are typical of this habitat	M
	large example of its type	Not a large example of its type	L
Rarity and Distinctiveness	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale	Not Assessed	NA
	supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region	Not Assessed	NA
	distinctive of a naturally restricted occurrence	Typical small east coast estuary	M
	developed as a result of unusual environmental factor(s) or is part of an ecological unit that occurs within an originally rare ecosystem	Typical small east coast estuary	M
	identified as nationally or regionally rare habitat(s) in MPA Plan	Not Assessed	NA
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types	Typical community of type	M
	high diversity of indigenous taxa	Typical community of type	M
	its composition reflects the existence of diverse natural features or ecological gradients	Typical community of type	M
	contains intact ecological sequences	Sequences outstanding from esturine entrance rocky reefs to salt marsh	H
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	Shellfish beds play very important buffering and ecological role in estuary	H
	supports the natural functioning of freshwater or coastal ecosystems	Shellfish beds and mangrove saltmarsh sequence play important buffering and ecological role in estuary	H
	supports life stages of indigenous fauna	Provides important support for various life stages of benthic invertebrates, shorebirds and nursery for coastal fish species	H
Assessed by: Vince Kerr		Date: September 2015	
Information Source(s) *see below*			2-7
Reliability of Information *see below*			+
Rank (overall score) H = high, M = moderate, L =low, DD = data deficient, R = recommended for further investigation			

[3] Table 1 details the ranking criteria and scoring that was used to determine the overall high ranking given to the ecological significance of this area. The criteria used have been adopted from Appendix 5 of the Northland Regional Council Proposed Policy Statement. See reference to Methodology report or other council documents to call up

Information Source(s) 1 = quantitative report, 2 = qualitative report, 3 = habitat map or classification, 4 = expert opinion, 5 = personal communication, 6 = anecdotal information, 7 = visit and observation
Reliability of Information expressed as a scale of confidence ranging from high (+++) to low confidence (---)
Criteria Rank - score for each individual criteria) H = high ranking, M = moderate ranking, L = low ranking, DD = data deficient, R = recommended for further investigation, NA = not assessed for this criteria


Significant Ecological Areas: Eastern Bay of Islands Biogeinic habitats
Name
Eastern Bay of Islands Biogeinic habitats
Documentation
More info
Zoom to

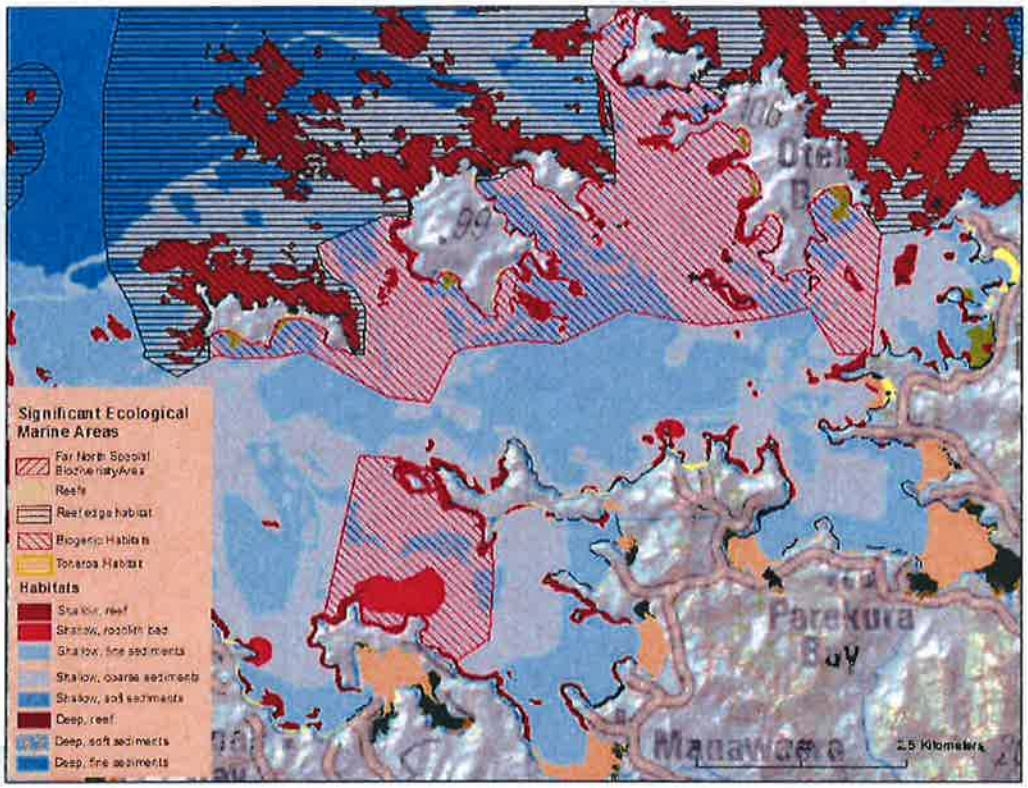
Significant Ecological Marine Area Assessment Sheet

Name: Eastern Bay of Island Biogenic Soft Sediment Complex

Summary:

The semi-sheltered areas between the central islands of the Eastern Bay of Islands and the Rawhiti Channel have been scored as a high ranking significant ecological area. The islands within this area include: Motuarohia, Moturua, Motukiekie, Okahu, Waewaetorea and Urupukapuka. These shallow predominantly soft bottom habitats are one of Northland's best known examples of algal turf beds and rhodolith beds. These habitats are commonly referred to as biogenic habitats because they create physical structure on bottom that many marine organisms can settle on, thus creating a community of significant biodiversity value.

Habitat map and mapped significant ecological areas for the Eastern Bay of Islands (biogenic habitats).



Description:

The Eastern Bay of Islands marine environments are exceptionally diverse. The mapped ecological area encompasses the semi-sheltered and sheltered coasts of the chain of islands from Motuarohia to Urupukapuka, generally facing towards and bordering the Rawhiti Channel.

The Eastern Bay of Islands has attracted considerable scientific investigation. NIWA as part of an Ocean Survey 20/20 project carried out extensive sonar survey, sediment and

biodiversity sampling in 2008-9. [1] This survey was followed by a regional scale marine habitat mapping project in 2010. [2] A recent publication shows fine scale habitat mapping and habitat and biological community descriptions for the marine areas around Waeweatorea, Okahu and Urupukapuka Islands.[3] This area is unusual in that much of it is exposed to oceanic water masses and offshore currents, with limited amounts of silt being deposited from the inner Bay of Islands water masses. Simultaneously, the area is quite sheltered from the effects of wind and wave energy by the islands. Depths are shallow, ranging from the intertidal habitats to 10-15m. There is a great diversity of substrates ranging from fine sands to gravels with many areas also having high shell content. Some of these coarse substrates allow turfing and coralline algae to establish and form biogenic habitats; these three-dimensional structures provide footholds for other organisms to establish.[4] [5]

An aerial view of the islands central to the Eastern Bay of Islands, the big island on the right is Urupukupuku and the larger island on the left is Moturua Island. In this image the dark streaking shading visible is algal turf beds some with rhodolith communities. In the sheltered bays of Urupukupuku Island you can see darker areas that are seagrass beds. Photo credit; Apple Maps.

[1] Mitchell, J. et al., 2010. Bay of Islands OS20/20 survey report. Chapter 2: Seafloor Mapping. http://www.os2020.org.nz/bay-of-islands-coastal-survey-project/

[3] Kerr, V.C., Grace, R. V., 2015. Marine habitats of the proposed Waewaetorea Marine Reserve. A Report prepared for Fish Forever, Bay of Islands Maritime Park Inc.

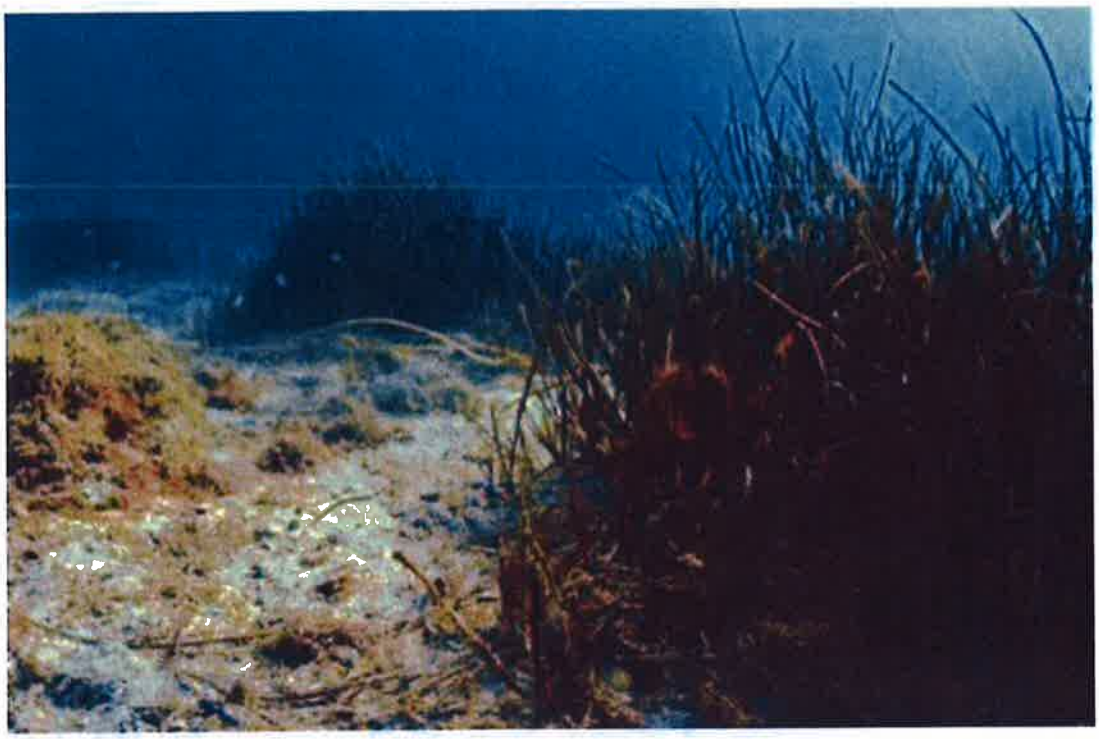
[4] Morrison, M.A., Jones, E., Consalvey, M., Berkenbusch, K., 2014. Linking marine fisheries species to biogenic habitats in New Zealand: a review and synthesis of knowledge. New Zealand Aquatic Environment and Biodiversity Report No. 130. 156 p.

[5] Nelson, W.,A., 2009. Calcified macroalgae - critical to coastal ecosystems and vulnerable to change: A review. Mar Freshwater Res 60:787–801.

An aerial view of the NIWA study area at Te Miko reef between Motuarohia and Moturua Islands. The dark streaking visible in the channel between the islands are algal turf beds with rhodoliths. Photo credit: Apple Maps.

Rhodilith beds in the NIWA study area near Te Miko Reef in the channel between Motuarohia and Moturua Islands. Photo credit: Roberta D'Archino, NIWA.

Underwater scene of seagrass growing well in a shallow subtidal part of the Okahau Channel. Photo credit: Vince Kerr.



Oceanography

The Eastern Bay of Islands area has a variety of exposures to the oceanic influences of the offshore area. The chain of islands on the outside of the Rawhiti channel is less exposed than the shoreline of the Cape Brett peninsula. However, they are still subject to considerable wave energy during easterly gales. In contrast, the coastline that faces towards the Rawhiti Channel and away from the open sea is quite sheltered, but is regularly bathed in the tidal currents of the outer coast and offshore area. The whole area is strongly influenced by the warm subtropical East Auckland Current, derived from the north-western Tasman Sea flowing south-eastwards adjacent to the coast. This current brings with it a variety of Indo-Pacific larvae. The mix of these surviving subtropical species with the many endemic species makes these areas ecologically unique.

Ecological Values

In 1981 a research team did a detailed investigation of soft-bottom habitats off the southern tip of Urupukapuka extending across the Rawhiti Channel. In this study a mosaic pattern of varying grain size soft-bottom sediments were found and the predominant benthic invertebrate groups were characterised. There were also areas identified as rhodolith beds which are now viewed as important biogenic habitats. [5] More recently a NIWA team surveyed areas on both sides of the Rawhiti Channel near Motuarohia Island and documented the abundance and taxonomy of rhodolith species and turfing algae forming habitats there.[6]

[6] Nelson WA, Neill K, Farr T, Barr N, D'Archino R, Miller S, Stewart R (2012) Rhodolith beds in northern New Zealand: characterisation of associated biodiversity and vulnerability to environmental stressors. New Zealand Aquatic Environment and Biodiversity Report. 99.

The habitats adjacent to the central islands of the Eastern Bay of Islands have been more generally described in two habitat studies. [3] [7] It is expected that there are important algal turf and rhodolith beds scattered throughout this area due to the ideal environmental conditions that exist here. These important habitats are also valuable recreational scallop beds. In recent times the scallop resources have suffered from heavy fishing pressure.

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Eastern Bay of Islands Biogenic soft bottom complex [8]

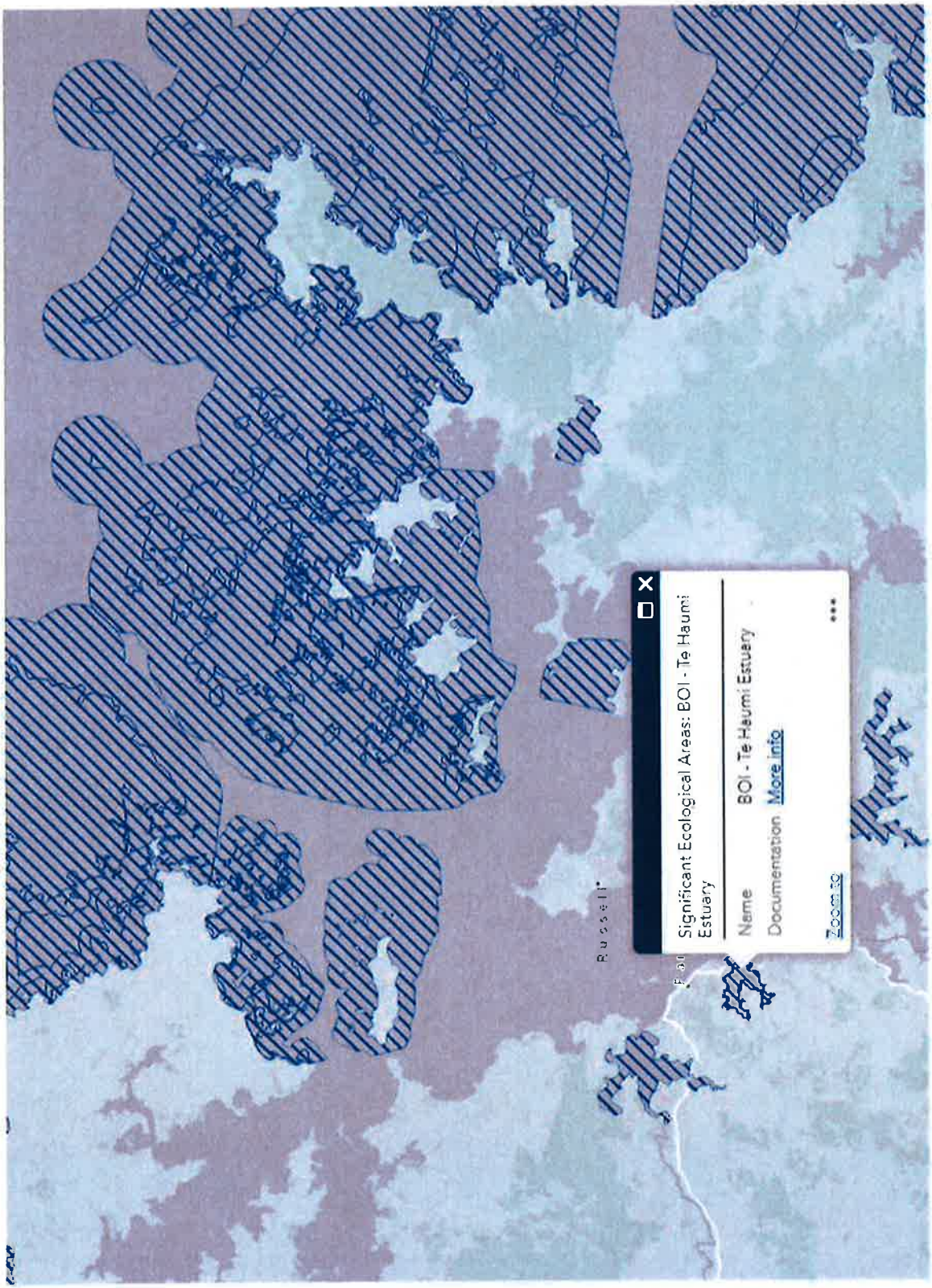
Eastern Bay of Islands Biogenic soft bottom complex: Assessment of Ecological Significance			Rank
Overall Ranking		**Notes**	**High**
Representation	supports most taxa expected for habitat type	diversity good example for its type	M
	large example of its type	Believed to be a large example of its	H
Rarity and Distinctiveness	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale	Not assessed	NA
	supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region	Not Assessed	NA
	distinctive of a naturally restricted occurrence	Habitat very special and unusual	H
	developed as a result of unusual environmental factor(s) or is part of an ecological unit that occurs within an originally rare ecosystem	Unique combination of substrates shelter and currents	H
	identified as nationally or regionally rare habitat(s) in MPA Plan	Habitat identified in MPA document	H
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types	Algal communties diverse for type	M
	high diversity of indigenous taxa	Algal communties diverse for type [9]	M
	its composition reflects the existence of diverse natural features or ecological gradients	Habitat very special and unusual – high diversity of soft bottom substrates	M
	contains intact ecological sequences	Limited sequences	M
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	Important nursery habitat for fishes and habitat for other benthic organisms	H
	supports the natural functioning of freshwater or coastal ecosystems	Not Assessed	NA
	supports life stages of indigenous fauna	Provides support for early life stages for a	H

[7] Nelson, W.; D'Archino, R. (2010). Bay of Islands OS20/20 survey report. Chapter 12: Attached benthic macroalgae [pdf]. *In*: Bay of Islands OS20/20 survey report, pp. 31. Retrieved on 16 May 2012 from ftp://ftp.niwa.co.nz/os2020/boi/Final_chapters/Chapter_12_Macroalgae.pdf

[8] Table 1 details the ranking criteria and scoring that was used to determine the overall high ranking given to the ecological significance of this area. The criteria used have been adopted from Appendix 5 of the Northland Regional Council Proposed Policy Statement. See reference to Methodology report or other council documents to call up

[9] Nelson, W.A. (1987). Marine algae of the Bay of Islands area: a list of species. *National Museum of New Zealand miscellaneous series* 16. 47 p.

		significant number of fish species and other benthic invertebrates	
Assessed by: Vince Kerr			Date: September 2015
Information Source(s) *see below*			**1-7**
Reliability of Information *see below*			**++**
Rank (overall score) H = high, M = moderate, L =low, DD = data deficient, R = recommended for further investigation			
Information Source(s) 1 = quantitative report, 2 = qualitative report, 3 = habitat map or classification, 4 = expert opinion, 5 = personal communication, 6 = anecdotal information, 7 = visit and observation			
Reliability of Information expressed as a scale of confidence ranging from high (+++) to low confidence (---)			
Criteria Rank - score for each individual criteria) H = high ranking, M = moderate ranking, L = low ranking, DD = data deficient, R = recommended for further investigation, NA = not assessed for this criteria			


Russell
Significant Ecological Areas: BOI - Te Haumi Estuary
Name BOI - Te Haumi Estuary
Documentation More info
Zoom to

Ecologically Significant Marine Area Assessment Sheet

Name: Te Haumi Estuary Marine Values

Summary:

Te Haumi Estuary as a whole has been given a high ranking of ecological significance for marine values. Te Haumi Estuary has an array of estuarine habitats ranging from a tidal sand flats and subtidal channels to extensive mangrove saltmarsh sequences, which make up the bulk of the estuary. Tidal flats in the lower part of the estuary have established shellfish beds. Taken as a whole, the estuary plays an important role in buffering the impacts of sediments and nutrients coming down the catchment. [1] The estuary also provides ecological linkages between the coastal waters and marine biodiversity, the estuarine habitats and fringing native bush and freshwater streams.

Aerial photo of Te Haumi Estuary Photo Credit: Apple Maps

[1] Morrison, M.A.; Lowe, M.L.; Parsons, D.M.; Usmar, N.R.; McLeod, I.M., 2009. A review of land-based effects on coastal fisheries and supporting biodiversity in New Zealand. *New Zealand Aquatic Environment and Biodiversity Report No. 37.* 100 p.

Description:

Te Haumi Estuary is situated in the inner Bay of Islands, to the south of Paihia. Te Haumi Estuary has a full range of interconnecting marine habitat types[2]. These habitats include saltmarshes, mangroves, intertidal flats and channels emptying out into the inner Bay of Islands just south of Paihia. Each of these habitats contains distinctive plant and animal communities contributing to the ecological values.

The extent of good quality riparian margins along this estuary is notable; nearly the entire margin of the estuary is in regenerating native forest. The estuary's mangrove and saltmarsh systems extend up the catchment and connect with small wetland areas and freshwater streams enhancing the value and ecological connectivity between estuarine habitats, freshwater wetlands, stream corrridors and the bush covered fringes.

Ecological Values

Te Haumi is a relatively well-functioning small estuary that is in a long term period of recovery from the impacts of intensive deforestation followed by the logging and pastoral farming of the last 200 years. Today the tidal flats have healthy shellfish beds which are monitored as part of a ongoing study of Northland shellfish beds by NIWA. [3] The shellfish beds cover most of the sandy tidal flats on either side of the causeway near the entrance to the estuary. Shellfish are very active, filtering plankton and nutrients from the water column with each tide cycle. Te Haumi estuary is a shallow estuarine system with the majority of the volume of the estuary emptying out of the system with each tide. The estuary is characterised by high quality intact sequences of mangrove forests and saltmarshes and small shallow channels. Some of the upper arms have good riparian edge environments in native forest, adding greatly to the ecological value of the estuary. While small, Te Haumi's estuarine habitats are very good examples of their type, especially when compared to nearby areas of the inner Bay of Islands that have been affected by heavy sedimentation. Te Haumi's habitats would provide good buffering and filtering of nutrient and sedimentation entering its catchment. [4]

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[2] Kerr, V.C., 2010. Marine Habitat Map of Northland: Mangawhai to Ahipara Vers. 1. Technical Report, Department of Conservation, Northland Conservancy, Whangarei, New Zealand.

[3] Berkenbusch, K.; Neubauer, P., 2015. Intertidal shellfish monitoring in the northern North Island region, 2014–15. New Zealand Fisheries Assessment Report 2015/59. 110 p.

[4] Morrison, M.A.; Lowe, M.L.; Parsons, D.M.; Usmar, N.R.; McLeod, I.M., 2009. A review of land-based effects on coastal fisheries and supporting biodiversity in New Zealand. *New Zealand Aquatic Environment and Biodiversity Report No. 37.* 100 p.

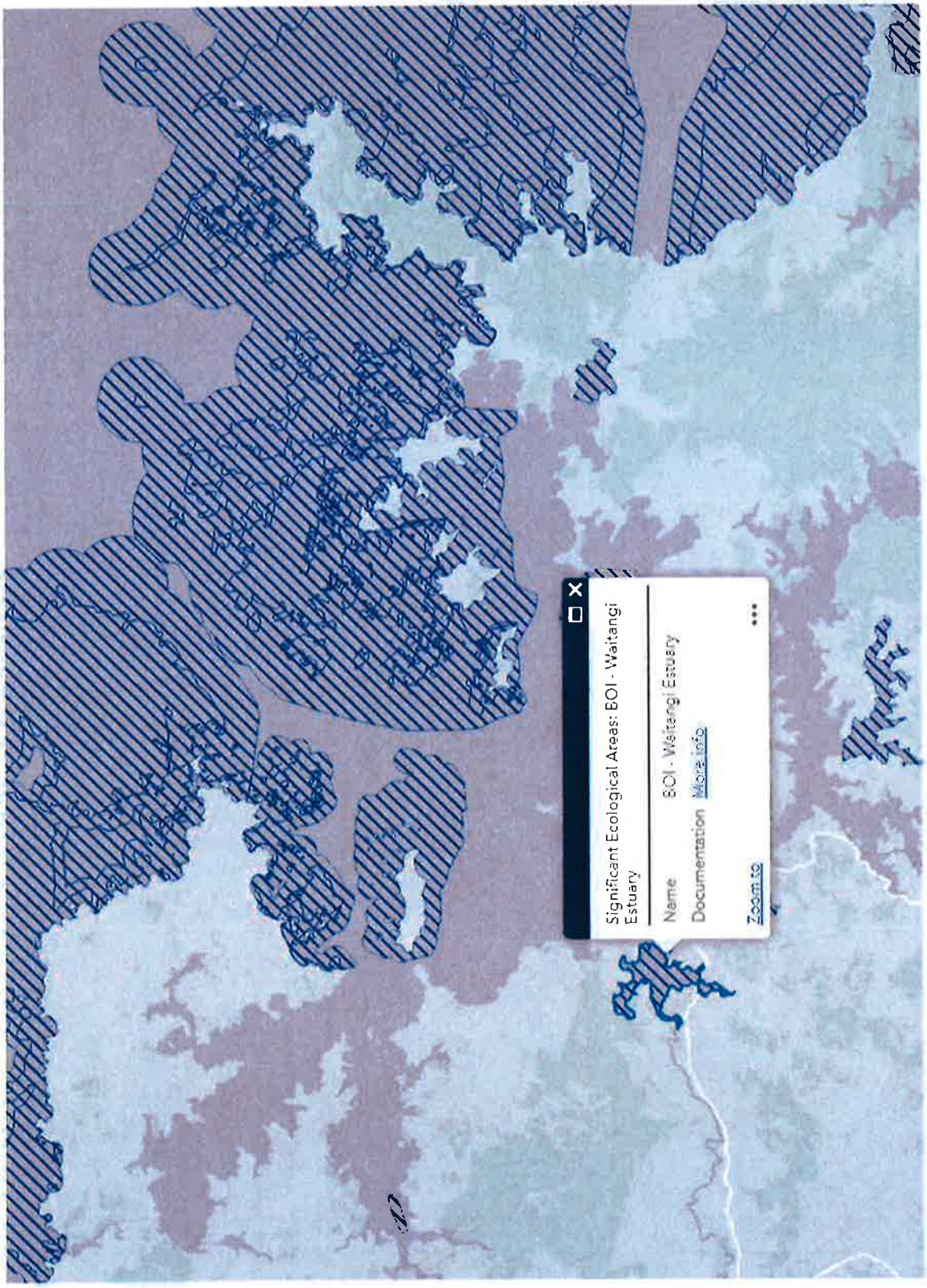
Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Te Haumi Estuary[5]

Te Haumi Estuary Marine Values: Assessment of Ecological Significance			Rank
Overall Ranking		**Notes**	**High**
Representation	supports most taxa expected for habitat type	Shellfish beds are typical of this habitat and good examples	M
	large example of its type	Not a large example of its type	L
Rarity and Distinctiveness	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale	Not Assessed	NA
	supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region	Not Assessed	NA
	distinctive of a naturally restricted occurrence	Typical small east coast estuary	M
	developed as a result of unusual environmental factor(s) or is part of an ecological unit that occurs within an originally rare ecosystem	Typical small east coast estuary	M
	identified as nationally or regionally rare habitat(s) in MPA Plan	Not Assessed	NA
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types	Typical community of type	M
	high diversity of indigenous taxa	Typical community of type	M
	its composition reflects the existence of diverse natural features or ecological gradients	Typical community of type	M
	contains intact ecological sequences	Sequences outstanding from esturine tidal flats to mangrove saltmarsh system	H
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	Shellfish beds mangroves and saltmarsh play important buffering and ecological role in estuary	H
	supports the natural functioning of freshwater or coastal ecosystems	Shellfish beds mangroves and saltmarsh play important buffering and ecological role in estuary	H
	supports life stages of indigenous fauna	Provides support for various life stages of benthic invertebrates, shorebirds and nursery for coastal fish species	M
Assessed by: Vince Kerr		Date: September 2015	
Information Source(s) *see below*			**2-7**

[5] Table 1 details the ranking criteria and scoring that was used to determine the overall high ranking given to the ecological significance of this area. The criteria used have been adopted from Appendix 5 of the Northland Regional Council Proposed Policy Statement. See reference to Methodology report or other council documents to call up

Reliability of Information *see below*	+
Rank (overall score) H = high, M = moderate, L =low, DD = data deficient, R = recommended for further investigation	
Information Source(s) 1 = quantitative report, 2 = qualitative report, 3 = habitat map or classification, 4 = expert opinion, 5 = personal communication, 6 = anecdotal information, 7 = visit and observation	
Reliability of Information expressed as a scale of confidence ranging from high (+++) to low confidence (---)	
Criteria Rank - score for each individual criteria) H = high ranking, M = moderate ranking, L = low ranking, DD = data deficient, R = recommended for further investigation, NA = not assessed for this criteria	


Significant Ecological Areas: EOI - Waitangi Estuary
Name EOI - Waitangi Estuary
Documentation More info
Zoom to

Significant Ecological Marine Area Assessment Sheet

Name: Waitangi Estuary Marine Values

Summary:

Waitangi Estuary as a whole has been given a high ranking of ecological significance for marine values. Waitangi Estuary has an array of estuarine habitats ranging from tidal sand flats and subtidal channels to extensive mangrove saltmarsh sequences; the latter make up the bulk of the estuary. Tidal flats in the lower part of the estuary have established shellfish beds. Taken as a whole, the estuary plays an important role in buffering the impacts of sediments and nutrients coming down the catchment and provides ecological linkages between the coastal waters and marine biodiversity, the estuarine habitats and fringing native bush and freshwater streams. The combination of intact habitats are likely to have a significant impact on maintaining water quality of the waters passing through this small estuary. [1]

Aerial photo of Waitangi Estuary Photo Credit: Apple Maps

[1] Morrison, M.A.; Lowe, M.L.; Parsons, D.M.; Usmar, N.R.; McLeod, I.M., 2009. A review of land-based effects on coastal fisheries and supporting biodiversity in New Zealand. *New Zealand Aquatic Environment and Biodiversity Report No. 37.* 100 p.

Description:

The Waitangi Estuary is situated just to the north of Paihia in the central area of the inner Bay of Islands. Waitangi Estuary has a full range of interconnecting marine habitat types[2]. These habitats include saltmarshes, mangroves, intertidal flats and subtidal channels emptying out into the inner Bay of Islands. Each of these habitats contains distinctive plant and animal communities contributing to the ecological values.

The extent of good quality riparian margins along this estuary is notable; nearly the entire margin of the estuary is in regenerating native forest under active conservation management. This is not the case with the wider catchment, in which intensive livestock farming is the predominant land use. The estuary's mangrove and saltmarsh systems extend up the catchment and connect with small wetland areas and freshwater streams enhancing the value and ecological connectivity between estuarine habitats, freshwater wetlands, stream corridors and the bush covered fringes.

A 3D aerial image of Waitangi Estuary looking from the sea. The Waitangi Estuary has excellent habitat sequences of fringing rocky reef near the entrance, clean sand tidal flats with productive cockle beds, extending up the estuary to mangrove and salt marsh habitats.

Ecological Values

Waitangi is a relatively well-functioning small estuary that is in a long term period of recovery from the impacts of intensive deforestation followed by the logging and pastoral farming of the last 200 years. Today the tidal flats have healthy shellfish beds which are monitored as part of a ongoing study of Northland shellfish beds by NRC. [3] The 2012 NRC monitoring report provides an extensive background to the catchment land uses and reviews previous ecological investigations carried out on the estuary. The monitoring

[2] Kerr, V.C., 2010. Marine Habitat Map of Northland: Mangawhai to Ahipara Vers. 1. Technical Report, Department of Conservation, Northland Conservancy, Whangarei, New Zealand.
[3] Griffiths, R., 2013. Northland Regional Council Estuary Monitoring Programme: Waitangi Estuary. A technical report of the Northland Regional Council. Whangarei.

program reports on sediment classification, presence of heavy metals and nutrients and benthic invertebrate communities of the estuary. In summary the estuary could be described as somewhat enriched and muddy due to the history of land use in the catchment. However the biological communities are generally diverse and productive for this habitat type. The shellfish beds cover much of the sandy tidal flats on either side of the casueway near the entrance to the estuary. Shellfish are very active filtering plankton and nutrients from the water column with each tide cycle. Waitangi estuary is a shallow estuarine system with the majority of the volume of the estuary emptying out of the system with each tide. The estuary has two main arms, with several smaller side arms, and is characterised by intact sequences of mangrove forests and saltmarshes and shallow subtidal channels. Most of the upper arms have good riparian edge environments in native regenerating forest, adding greatly to the ecological value of the estuary. Waitangi Estuary's combination of estuarine habitats plays an important role in buffering and filtering sediment and nutrients that come into this estuary prior to mixing with the waters of the central Bay of Islands. [1]

Assessment of Ecological Significance

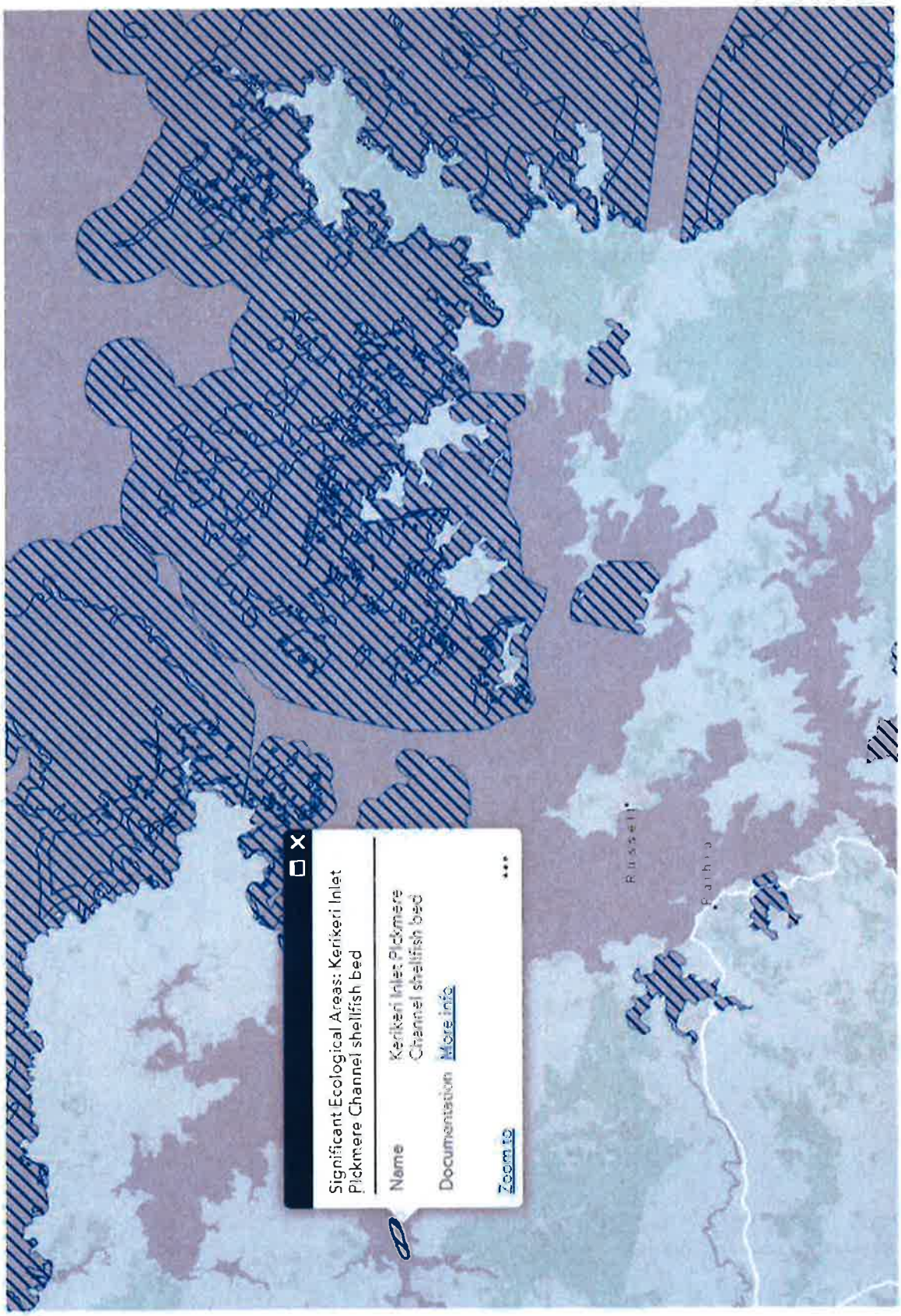
Table 1 Ranking score of ecological significance of Waitangi Estuary[4]

Waitangi Estuary Marine Values: Assessment of Ecological Significance			Rank
Overall Ranking		**Notes**	**High**
Representation	supports most taxa expected for habitat type	Shellfish beds are typical of this habitat and good examples	M
	large example of its type	Not a large example of its type	L
Rarity and Distinctiveness	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale	Not Assessed	NA
	supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region	Not Assessed	NA
	distinctive of a naturally restricted occurrence	Typical small east coast estuary	M
	developed as a result of unusual environmental factor(s) or is part of an ecological unit that occurs within an originally rare ecosystem	Typical small east coast estuary	M
	identified as nationally or regionally rare habitat(s) in MPA Plan	Not Assessed	NA
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types	Typical community of type	M
	high diversity of indigenous taxa	Typical community of type	M
	its composition reflects the existence of diverse natural features or ecological gradients	Typical community of type	M
	contains intact ecological sequences	Sequences valuable - tidal flats to mangrove saltmarsh systems	H
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	Esturine habitats play very important buffering and ecological role in estuary and connectivity between coastal waters and fresh	H

[4] Table 1 details the ranking criteria and scoring that was used to determine the overall high ranking given to the ecological significance of this area. The criteria used have been adopted from Appendix 5 of the Northland Regional Council Proposed Policy Statement. See reference to Methodology report or other council documents to call up

		water environments	
	supports the natural functioning of freshwater or coastal ecosystems	Array of habitats in this estuary very important in this catchment for buffering and filtration roles	H
	supports life stages of indigenous fauna	Provides important support for various life stages of benthic invertebrates, shorebirds and nursery for coastal fish species	M

Assessed by: Vince Kerr	Date: September 2015
Information Source(s) *see below*	1-7
Reliability of Information *see below*	++
Rank (overall score) H = high, M = moderate, L =low, DD = data deficient, R = recommended for further investigation	
Information Source(s) 1 = quantitative report, 2 = qualitative report, 3 = habitat map or classification, 4 = expert opinion, 5 = personal communication, 6 = anecdotal information, 7 = visit and observation	
Reliability of Information expressed as a scale of confidence ranging from high (+++) to low confidence (---)	
Criteria Rank - score for each individual criteria) H = high ranking, M = moderate ranking, L = low ranking, DD = data deficient, R = recommended for further investigation, NA = not assessed for this criteria	


Significant Ecological Areas: Kerikeri Inlet Pickmere Channel shellfish bed
Name
Kerikeri Inlet Pickmere Channel shellfish bed
Documentation
More info
Zoom to
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Paihia

Significant Ecological Marine Area Assessment Sheet

Name: Pickmere Channel Shellfish Bed

Summary:

An extensive tidal flat and shellfish bed area locally known as Pickmere Channel, located in the Kerikeri Inlet of the Bay of Islands, has been given a high ranking of ecological significance for marine values. This tidal flat has a healthy shellfish community and is a good example of this important and productive habitat indicative of a high diversity benthic community.

Aerial photo of the Pickmere Channel shellfish bed and SEA area.

Description:

The Pickmere Channel shellfish bed is situated in the central area of the Kerikeri Inlet, Bay of Islands. The Pickmere Channel shellfish bed is approximately 24 ha and is a muddy sand tidal flat habitat typical of upper harbour soft sediment habitats in estuaries where sedimentation is significant [1]. Tidal flats that have good shellfish beds are considered to be important because of the diversity of benthic invertebrates living as infauna in theses habitats and the number of marine species and birds that feed on these benthic communities.

Ecological Description

The tidal flats mapped as ecologically significant in the Pickmere Channel make up part of the middle area of the Kerikeri Inlet. The area is a muddy sand soft-bottom intertidal habitat. The intertidal areas mapped have extensive cockle beds *Austrovenus stutchburyi,* which have been monitored as part of the Northland Regional Council estuaries monitoring program. [2] In this report the cockle community is described as productive and in good health. Cockles are an indicator of a healthy estuarine soft bottom community. They are generally associated with high benthic invertebrate diversity and substrates that are not heavily impacted by sedimentation. These shellfish communities play a key role in filtering nutrients and plankton from the water column. This in turn has beneficial effects on water clarity and productivity of various algal communities that make up the biodiversity of the estuary. These shellfish and the other associated benthic invertebrates are also a major food source for shorebirds and a significant nursery and feeding area for many coastal fish species. [3]

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Ruakaka Estuary[4]

RuakakaEstuary Marine Values: Assessment of Ecological Significance			Rank
Overall Ranking		Notes	High
Representation	supports most taxa expected for habitat type	Shellfish beds are typical of this habitat and good examples	M
	large example of its type	Not a large example of its type	M
Rarity and Distinctiveness	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale	Not Assessed	NA
	supports species endemic to the Northland-Auckland region or at distributional limits within	Not Assessed	NA

[1] Kerr, V.C., 2010. Marine Habitat Map of Northland: Ruakaka to Ahipara Vers. 1. Technical Report, Department of Conservation, Northland Conservancy, Whangarei, New Zealand.
[2] Griffiths 2011. Kerikeri Inlet Estuary Monitoring Programme Results from 2008- 2010. NRC technical report.
[3] Morrison, M.A.; Jones, E.G.; Parsons, D.P.; Grant, C.M., 2014. Habitats and areas of particular significance for coastal finfish fisheries management in New Zealand: A review of concepts and life history knowledge, and suggestions for future research. New Zealand Aquatic Environment and Biodiversity Report No. 125. 202 p.

[4] Table 1 details the ranking criteria and scoring that was used to determine the overall high ranking given to the ecological significance of this area. The criteria used have been adopted from Appendix 5 of the Northland Regional Council Proposed Policy Statement. See reference to Methodology report or other council documents to call up

	the Northland region		
	distinctive of a naturally restricted occurrence	Typical small east coast estuary	L
	developed as a result of unusual environmental factor(s) or is part of an ecological unit that occurs within an originally rare ecosystem	Typical small east coast estuary	L
	identified as nationally or regionally rare habitat(s) in MPA Plan	Not Assessed	NA
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types	Shellfish bed typical community of type	M
	high diversity of indigenous taxa	Shellfish bed typical community of type	M
	its composition reflects the existence of diverse natural features or ecological gradients	Not Assessed	NA
	contains intact ecological sequences	Some sequences but limitee areas of habitats in estuary, some disturbed or degraded	L
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	Shellfish beds play very important buffering and ecological role in estuary	H
	supports the natural functioning of freshwater or coastal ecosystems	Shellfish beds play very important buffering and ecological role in estuary	H
	supports life stages of indigenous fauna	Provides important support for various life stages of benthic invertebrates shorebirds and nursery for coastal fish species	H

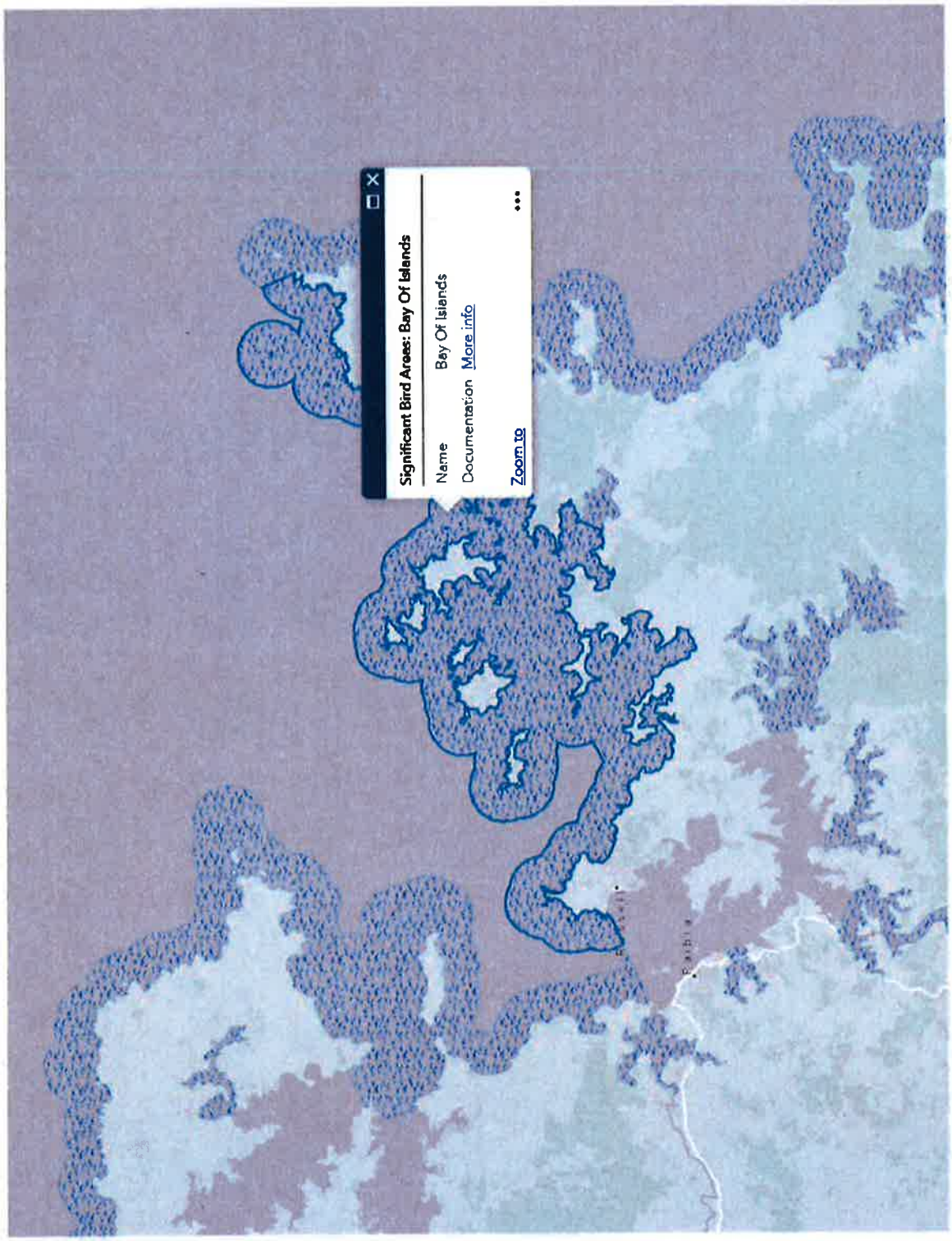
Assessed by: Vince Kerr	Date: September 2015
Information Source(s) *see below*	1-7
Reliability of Information *see below*	+++

Rank (overall score) H = high, M = moderate, L =low, DD = data deficient, R = recommended for further investigation

Information Source(s) 1 = quantitative report, 2 = qualitative report, 3 = habitat map or classification, 4 = expert opinion, 5 = personal communication, 6 = anecdotal information, 7 = visit and observation

Reliability of Information expressed as a scale of confidence ranging from high (+++) to low confidence (---)

Criteria Rank - score for each individual criteria) H = high ranking, M = moderate ranking, L = low ranking, DD = data deficient, R = recommended for further investigation, NA = not assessed for this criteria


Significant Bird Areas: Bay Of Islands
Name Bay Of Islands
Documentation More info
Zoom to

Significant Ecological Estuarine Area Assessment Sheet for Wading and Aquatic Birds

Name/Area: **Bay of Islands**

Summary:

The Bay of Islands comprises a large and diverse harbour and estuarine habitat together with many small to moderate sized islands. There are several inlets extending well inland, with varying levels of buffering, some with extensive mangroves, most with little saltmarsh. Much of the adjacent land is farmed, but there are increasing areas of shrubland recovery. Habitat degradation increases to the north within the Bay, but there are exceptions. There are many residential settlements of varying size. The avifauna is diverse and breeding birds include local breeding red-billed gull, little blue penguin, pied shag, reef heron Australasian bittern, northern NZ dotterel; banded rail, fernbird and pateke. The ecological significance of the Bay is Moderate-High given the local importance and available habitat for some species.

Table 'Threatened' and 'At Risk' shorebird species present at Bay of Islands

Species Scientific Name	*Species Common Name*	*NZ threat classification*		*Significance for species*
Anas superciliosa	Grey duck	Threatened	Nationally critical	Past records
Botaurus poiciloptilus	Australasian bittern	Threatened	Nationally endangered	Locally important breeding and feeding
Phalacrocorax varius	Pied shag	Threatened	Nationally vulnerable	Nationally important breeding and feeding
Egretta sacra sacra	Reef heron	Threatened	Nationally vulnerable	Locally important breeding and feeding
Charadrius obscurus aquilonius	Northern NZ dotterel	Threatened	Nationally vulnerable	Locally important breeding and feeding
Larus novaehollandiae scopulinus	Red-billed gull	Threatened	Nationally vulnerable	Locally important breeding and feeding
Hydroprogne caspia	Caspian tern	Threatened	Nationally vulnerable	Local feeding
Eudyptula minor	Little blue penguin	At Risk	Declining	Locally important breeding and feeding
Haematopus finschi	NZ pied oystercatcher	At Risk	Declining	Local feeding
Himantopus himantopus leucocephalus	Pied stilt	At Risk	Declining	Local feeding
Sterna striata	White-fronted tern	At Risk	Declining	Locally important breeding and feeding
Bowdleria punctata	Fernbird	At Risk	Declining	Locally important breeding and feeding
Gallirallus philippensis	Banded rail	At Risk	Declining	Locally important breeding and feeding
Limosa lapponica	Eastern bar-	At Risk	Declining	Local feeding

baueri	tailed godwit			
Anas chlorotis (North Island)	Brown teal	At Risk	Recovering	Nationally important breeding and feeding
Haematopus unicolor	Variable oystercatcher	At Risk	Recovering	Locally important breeding and feeding
Porzana tabuensis tabuensis	Spotless crake	At Risk	Relict	Locally important breeding and feeding
Phalacrocorax carbo novaehollandiae	Black shag	At Risk	Naturally uncommon	Local feeding
Phalacrocorax melanoleucos brevirostris	Little shag	At Risk	Naturally uncommon	Locally important breeding and feeding
Phalacrocorax sulcirostris	Little black shag	At Risk	Naturally uncommon	Locally important breeding and feeding

Key references:

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Estuaries Reliability Notes and Key References

Site	Assessor	Date	Key references (see below)	Data reliability
North Kaipara	RP	Oct 2015	3, 4, 6, 14, 15	High
Mangawhai	RP	Oct 2015	1, 2, 4, 6, 13, 14	High
Waipu	RP	Oct 2015	1, 2, 6, 13,14	High
Ruakaka	RP	Oct 2015	6, 13	High
Whangarei	RP	Oct 2015	3, 6, 9, 14, 15	High
Taiharuru	RP	Oct 2015	10, 14	High
Pataua	RP	Oct 2015	10, 14	Moderate – High
Horahora	RP	Oct 2015	14, 15	Moderate – High
Ngunguru	RP	Oct 2015	6. 10, 14	High
Matapouri	RP	Oct 2015	10, 15	High
Whananaki	RP	Oct 2015	5, 14, 15	High
Whangaruru	RP	Oct 2015	5, 6, 14, 15	High
Bay of Islands	RP	Oct 2015	5, 6, 14, 15	High
Whangaroa	RP	Oct 2015	14, 15	Moderate – High
Mangonui-Taipa	RP	Oct 2015	14, 15	Moderate –High
Rangaunu	RP	Oct 2015	1, 2, 3, 6, 7, 14, 15	High
Houhora	RP	Oct 2015	3, 6, 11, 14	High

Parengarenga	RP	Oct 2015	1, 3, 6, 7, 14, 15	High
Whangape-Herekino	RP	Oct 2015	14, 15	Moderate – High
Hokianga	RP	Oct 2015	6, 8, 15	High

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Ecologically Significant Marine Area Assessment Sheet for Wading and Aquatic Birds

Name/Area: East Coast: Taiharuru Head to Cape Brett, excluding estuaries (Taiharuru, Pataua, Horahora, Ngunguru, Matapouri, Whananaki, Whangaruru)

Summary:

This area consists of some saltmarsh areas, sandy beaches and dunelands, coastal forested headlands and island groups and islets.

Australasian bittern, banded rail, fernbird and spotless crake are present in swamp/ saltmarsh areas, probably in low numbers. NZ dotterel and variable oystercatcher are present on beaches, stream mouths and islands and breeding in some locations. Pied stilt, red-billed gull, banded dotterel, white-fronted and Caspian tern are also present on beaches and/or stream mouths. Reef heron have been recorded along the coast and breeding on Motutara Island. White heron have been recorded as a regular visitor in a few locations. Pateke (brown teal) utilise stream mouths and other wet and grassy areas, particularly around Mimiwhangata, Pareparea Bay, Helena Bay and others.

Around the headlands and islands there are pied and little shag colonies. Black shag breed on Rimariki Islands, along with blue penguin, red-billed gull, and grey-faced petrel. White-fronted terns are also recorded as breeding on some smaller islands.

Threatened and At Risk bird species - East Coast: Taiharuru Head to Cape Brett

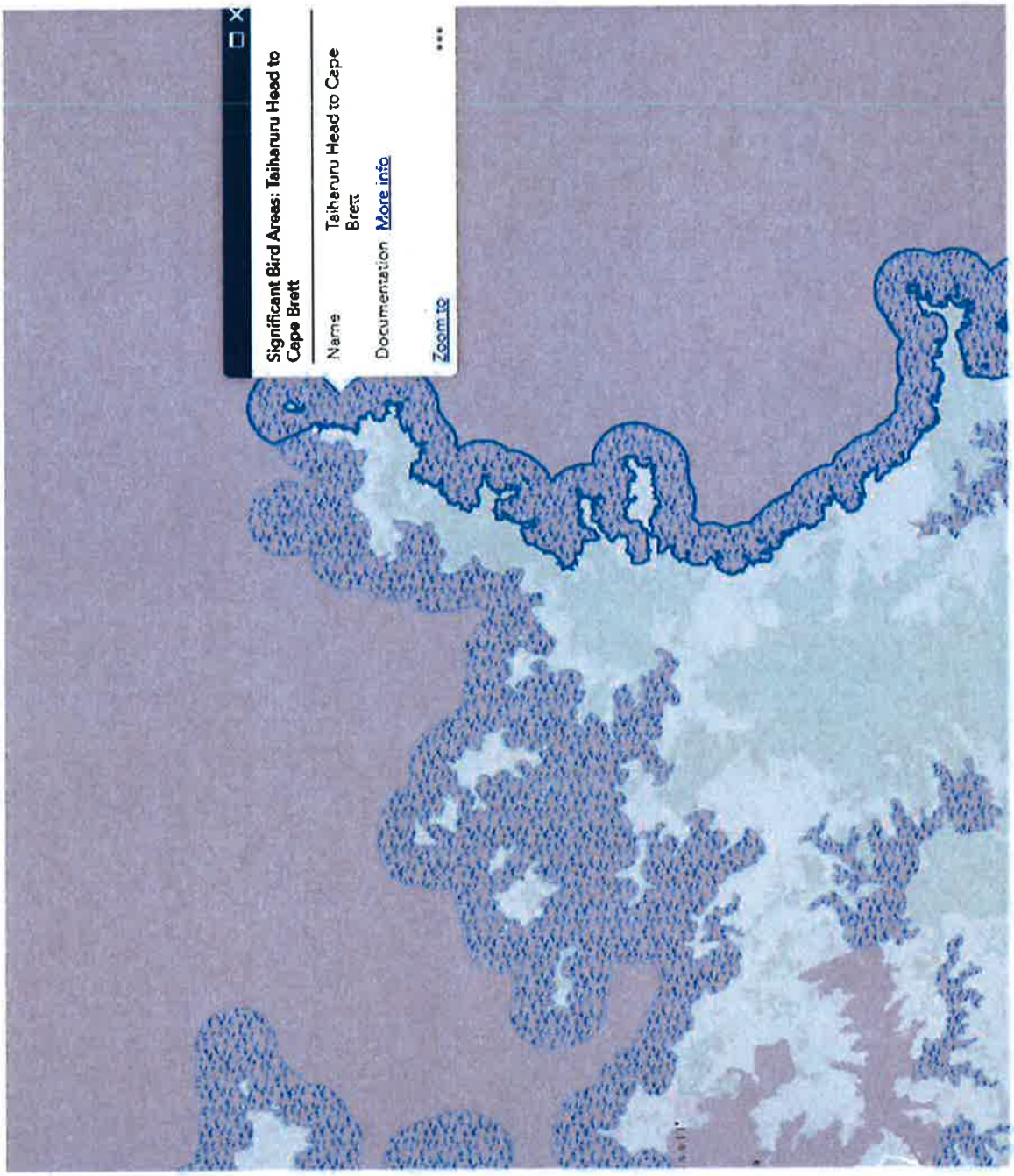
Species Common Name	*Scientific Name - updated 2013*	*NZ threat classification*		*Site status / significance NB. Specific to site*
White heron	*Ardea modesta*	Threatened	Nationally critical	Rare but regular visitor
Australasian bittern	*Botaurus poiciloptilus*	Threatened	Nationally endangered	Uncommon resident, breeds
Pied shag	*Phalacrocorax varius*	Threatened	Nationally vulnerable	Uncommon resident, breeds
Reef heron	*Egretta sacra sacra*	Threatened	Nationally vulnerable	Rare resident, breeds
Banded dotterel	*Charandrius bicinctus bicinctus*	Threatened	Nationally vulnerable	Rare NZ migrant
Northern NZ dotterel	*Charadrius obscurus aquilonius*	Threatened	Nationally vulnerable	Relatively common resident, may breed
Lesser knot	*Calidris canutus*	Threatened	Nationally vulnerable	Rare migrant
Caspian tern	*Hydroprogne caspia*	Threatened	Nationally vulnerable	Uncommon resident
Red-billed gull	*Larus novaehollandiae scopulinus*	Threatened	Nationally vulnerable	Common resident
Little blue penguin	*Eudyptula minor*	At Risk	Declining	Uncommon resident
Banded rail	*Gallirallus philippensis*	At Risk	Declining	Rare resident
NZ pied oystercatcher	*Haematopus finschi*	At Risk	Declining	Rare visitor
Pied stilt	*Himantopus h. leucocephalus*	At Risk	Declining	Rare resident
Eastern bar-tailed godwit	*Limosa lapponica baueri*	At Risk	Declining	Rare migrant
White-fronted tern	*Sterna striata*	At Risk	Declining	Common resident, breed on islets
Fernbird	*Bowdleria punctata*	At Risk	Declining	Rare resident
Brown teal	*Anas chlorotis (North Island)*	At Risk	Recovering	Common resident, breeds
Variable	*Haematopus unicolor*	At Risk	Recovering	Relatively common

oystercatcher				resident, breeds
Spotless crake	*Porzana t. tabuensis*	At Risk	Relict	Rare resident
Black shag	*Phalacrocorax carbo novaehollandiae*	At Risk	Naturally uncommon	Uncommon resident, breeds
Little black shag	*Phalacrocorax sulcirostris*	At Risk	Naturally uncommon	Uncommon visitor
Little shag	*Phalacrocorax melanoleucos brevirostris*	At Risk	Naturally uncommon	Uncommon resident, breeds
Grey-faced petrel	*Pterodroma macroptera gouldi*	Not threatened	Regionally significant/mainland population	Rare resident, breeds

Assessment of Ecological Significance for birds – Coast outside Harbours and Estuaries

Bream Tail to Waipu Cove Bird Values: Assessment of Ecological Significance			Bream Tail to Waipu Cove	Bream Bay	Bream Head to Taiharuru Head	Taiharuru Head to Cape Brett	Cape Wiwiki to Berghan Point	Cavalli, Stephenson and other Islands	Doubtless Bay, Rangaunu Bay, Great Exhibition Bay	Ohau Point to Scott Point	Scott Point to Maungan ui Bluff	Aranga Beach to Pouto Peninsula
Overall Ranking		**Notes**										
Representation	supports most taxa expected for habitat type		M	M-H	H	M-H	H	H	H	H	M	M
	large example of its type	1.	M-H	M-H	M	H	H	H	H	H	H	H
Rarity and Distinctiveness	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale		H	H	H	H	H	H	H	H	H	H
	supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region		M	M	M	H	H	H	H	H	H	M
	distinctive of a naturally restricted occurrence		L	L	L	L	L	L-M	L	L	L	L
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types		M	L	M	M	M-H	M	M	M-H	M	L
	high diversity of indigenous taxa		L-M	L-M	M	M-H	M-H	M-H	M	M-H	L-M	L-M
	its composition reflects the existence of diverse natural features or ecological gradients		M	L	M	M	M-H	M-H	M	M-H	M	L
	contains intact ecological sequences		M	M	M	M	M	M-H	M	M	M	M
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	?N/A	L-M	L	M	M	M	M	M	M-H	L-M	L-M
	supports the natural functioning of freshwater or coastal ecosystems	2. ?N/A										
	supports life stages of indigenous fauna		M-H	M-H	M-H	M-H	H	H	H	H	M-H	M-H

1. Arbitrary as partly based on size of area selected for assessment
2. All could be ranked high as the areas were considered as coastal zones with connections to adjoining estuarine or freshwater wetlands.


Significant Bird Areas: Taiharuru Head to Cape Brett
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Taiharuru Head to Cape Brett
Documentation
More info
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Ecologically Significant Marine Area Assessment Sheet for Wading and Aquatic Birds

Name/Area: East Coast: Taiharuru Head to Cape Brett, excluding estuaries (Taiharuru, Pataua, Horahora, Ngunguru, Matapouri, Whananaki, Whangaruru)

Summary:

This area consists of some saltmarsh areas, sandy beaches and dunelands, coastal forested headlands and island groups and islets.

Australasian bittern, banded rail, fernbird and spotless crake are present in swamp/ saltmarsh areas, probably in low numbers. NZ dotterel and variable oystercatcher are present on beaches, stream mouths and islands and breeding in some locations. Pied stilt, red-billed gull, banded dotterel, white-fronted and Caspian tern are also present on beaches and/or stream mouths. Reef heron have been recorded along the coast and breeding on Motutara Island. White heron have been recorded as a regular visitor in a few locations. Pateke (brown teal) utilise stream mouths and other wet and grassy areas, particularly around Mimiwhangata, Pareparea Bay, Helena Bay and others.

Around the headlands and islands there are pied and little shag colonies. Black shag breed on Rimariki Islands, along with blue penguin, red-billed gull, and grey-faced petrel. White-fronted terns are also recorded as breeding on some smaller islands.

Threatened and At Risk bird species - East Coast: Taiharuru Head to Cape Brett

Species Common Name	*Scientific Name - updated 2013*	*NZ threat classification*		*Site status / significance NB. Specific to site*
White heron	*Ardea modesta*	Threatened	Nationally critical	Rare but regular visitor
Australasian bittern	*Botaurus poiciloptilus*	Threatened	Nationally endangered	Uncommon resident, breeds
Pied shag	*Phalacrocorax varius*	Threatened	Nationally vulnerable	Uncommon resident, breeds
Reef heron	*Egretta sacra sacra*	Threatened	Nationally vulnerable	Rare resident, breeds
Banded dotterel	*Charandrius bicinctus bicinctus*	Threatened	Nationally vulnerable	Rare NZ migrant
Northern NZ dotterel	*Charadrius obscurus aquilonius*	Threatened	Nationally vulnerable	Relatively common resident, may breed
Lesser knot	*Calidris canutus*	Threatened	Nationally vulnerable	Rare migrant
Caspian tern	*Hydroprogne caspia*	Threatened	Nationally vulnerable	Uncommon resident
Red-billed gull	*Larus novaehollandiae scopulinus*	Threatened	Nationally vulnerable	Common resident
Little blue penguin	*Eudyptula minor*	At Risk	Declining	Uncommon resident
Banded rail	*Gallirallus philippensis*	At Risk	Declining	Rare resident
NZ pied oystercatcher	*Haematopus finschi*	At Risk	Declining	Rare visitor
Pied stilt	*Himantopus h. leucocephalus*	At Risk	Declining	Rare resident
Eastern bar-tailed godwit	*Limosa lapponica baueri*	At Risk	Declining	Rare migrant
White-fronted tern	*Sterna striata*	At Risk	Declining	Common resident, breed on islets
Fernbird	*Bowdleria punctata*	At Risk	Declining	Rare resident
Brown teal	*Anas chlorotis (North Island)*	At Risk	Recovering	Common resident, breeds
Variable	*Haematopus unicolor*	At Risk	Recovering	Relatively common

oystercatcher				resident, breeds
Spotless crake	*Porzana t. tabuensis*	At Risk	Relict	Rare resident
Black shag	*Phalacrocorax carbo novaehollandiae*	At Risk	Naturally uncommon	Uncommon resident, breeds
Little black shag	*Phalacrocorax sulcirostris*	At Risk	Naturally uncommon	Uncommon visitor
Little shag	*Phalacrocorax melanoleucos brevirostris*	At Risk	Naturally uncommon	Uncommon resident, breeds
Grey-faced petrel	*Pterodroma macroptera gouldi*	Not threatened	Regionally significant/mainland population	Rare resident, breeds

Assessment of Ecological Significance for birds – Coast outside Harbours and Estuaries

Bream Tail to Waipu Cove Bird Values: Assessment of Ecological Significance			Bream Tail to Waipu Cove	Bream Bay	Bream Head to Taiharuru Head	Taiharuru Head to Cape Brett	Cape Wiwiki to Berghan Point	Cavalli, Stephenson and other Islands	Doubtless Bay, Rangaunu Bay, Great Exhibition Bay	Ohau Point to Scott Point	Scott Point to Maungan ui Bluff	Aranga Beach to Pouto Peninsula
Overall Ranking		**Notes**										
Representation	supports most taxa expected for habitat type		M	M-H	H	M-H	H	H	H	H	M	M
	large example of its type	1.	M-H	M-H	M	H	H	H	H	H	H	H
Rarity and Distinctiveness	supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale		H	H	H	H	H	H	H	H	H	H
	supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region		M	M	M	H	H	H	H	H	H	M
	distinctive of a naturally restricted occurrence		L	L	L	L	L	L-M	L	L	L	L
Diversity and Pattern	high diversity of indigenous ecosystem or habitat types		M	L	M	M	M-H	M	M	M-H	M	L
	high diversity of indigenous taxa		L-M	L-M	M	M-H	M-H	M-H	M	M-H	L-M	L-M
	its composition reflects the existence of diverse natural features or ecological gradients		M	L	M	M	M-H	M-H	M	M-H	M	L
	contains intact ecological sequences		M	M	M	M	M	M-H	M	M	M	M
Ecological Context	provides or contributes to ecological linkages, networks, buffering functions	?N/A	L-M	L	M	M	M	M	M	M-H	L-M	L-M
	supports the natural functioning of freshwater or coastal ecosystems	2. ?N/A										
	supports life stages of indigenous fauna		M-H	M-H	M-H	M-H	H	H	H	H	M-H	M-H

1. Arbitrary as partly based on size of area selected for assessment
2. All could be ranked high as the areas were considered as coastal zones with connections to adjoining estuarine or freshwater wetlands.

Coastal and offshore birds information notes and references

Site	Assessor	Date	Key references (see below)	Data reliability
Bream Tail to Waipu Cove	KH	Oct 2015	10, 14, 19	High
Bream Bay – except Waipu and Ruakaka estuaries	KH	Oct 2015	14	High
Bream Head to Taiharuru Head	KH	Oct 2015	9, 19	High
Taiharuru Head to Cape Brett, excluding estuaries (Taiharuru, Pataua, Horahora, Ngunguru, Matapouri, Whananaki, Whangaruru)	KH	Oct 2015	1	High
Cape Wiwiki to Berghan Point, excluding Whangaroa Harbour and Cavalli and Stephenson Islands	KH	Oct 2015	7, 22	High
Cavalli Island and Stephenson Islands	KH		7	High
Doubtless Bay, Rangaunu Bay, Great Exhibition Bay, excluding Rangaunu, Houhora and Parengarenga Harbours	KH	Oct 2015	4, 5	High
Ohau Point to Scott Point	KH	Oct 2015	2, 13	Moderately High
Scott Point to Maunganui Bluff	KH	Oct 2015	8, 13, 16	Moderately High
Aranga Beach to Pouto Peninsula	KH	Oct 2015	8, 21	High

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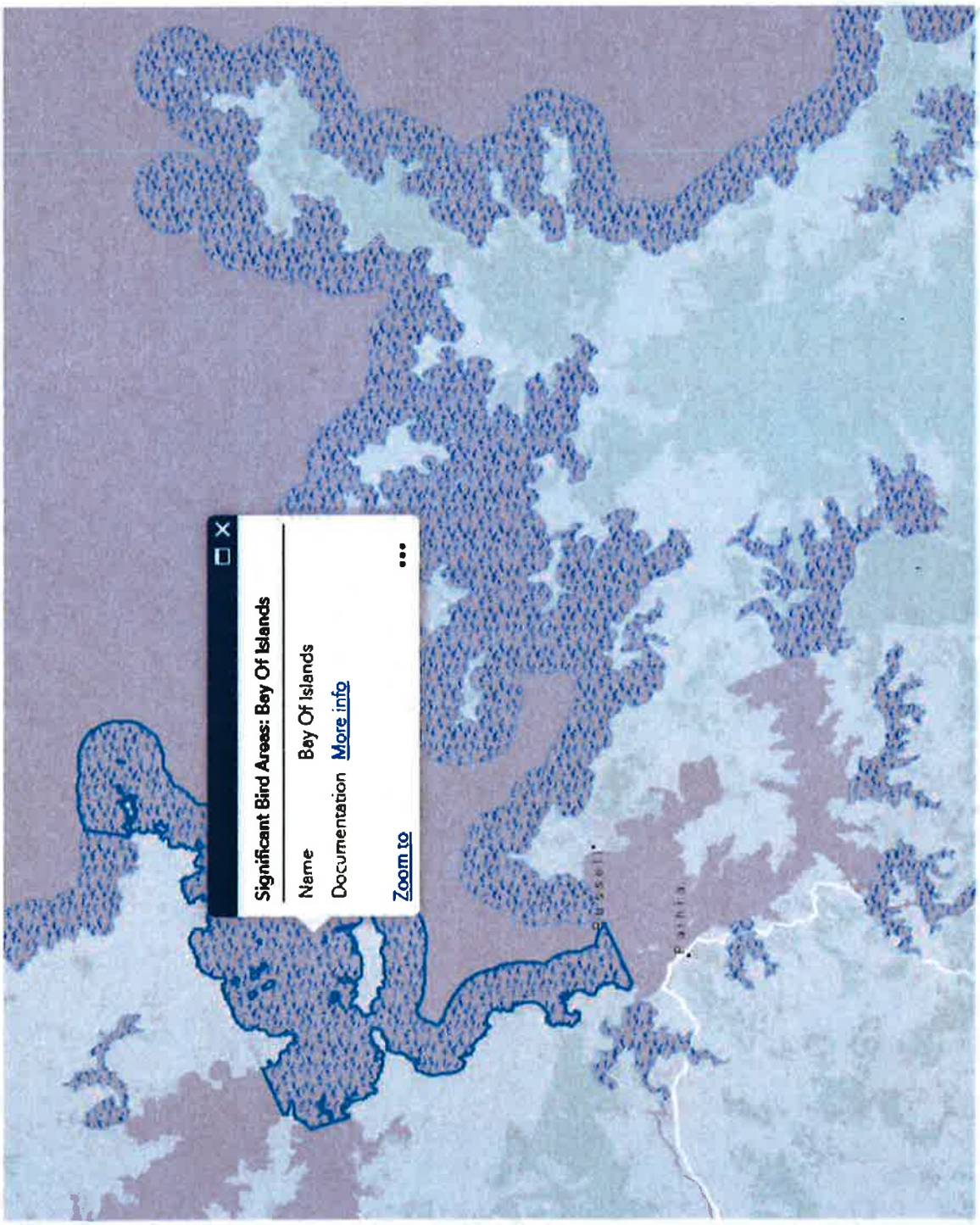
21 www.nzbirdsonline.org.nz
© New Zealand Birds Online 2013 – Museum of New Zealand Te Papa Tongarewa (Te Papa), The Ornithological Society of New Zealand (Inc.), New Zealand Department of Conservation
22 New Zealand Dotterels *Tūturiwhatu pukunui* in the Bay of Islands factsheet. 2014. Department of Conservation, Pēwhairangi/Bay of Islands Office, Kerikeri.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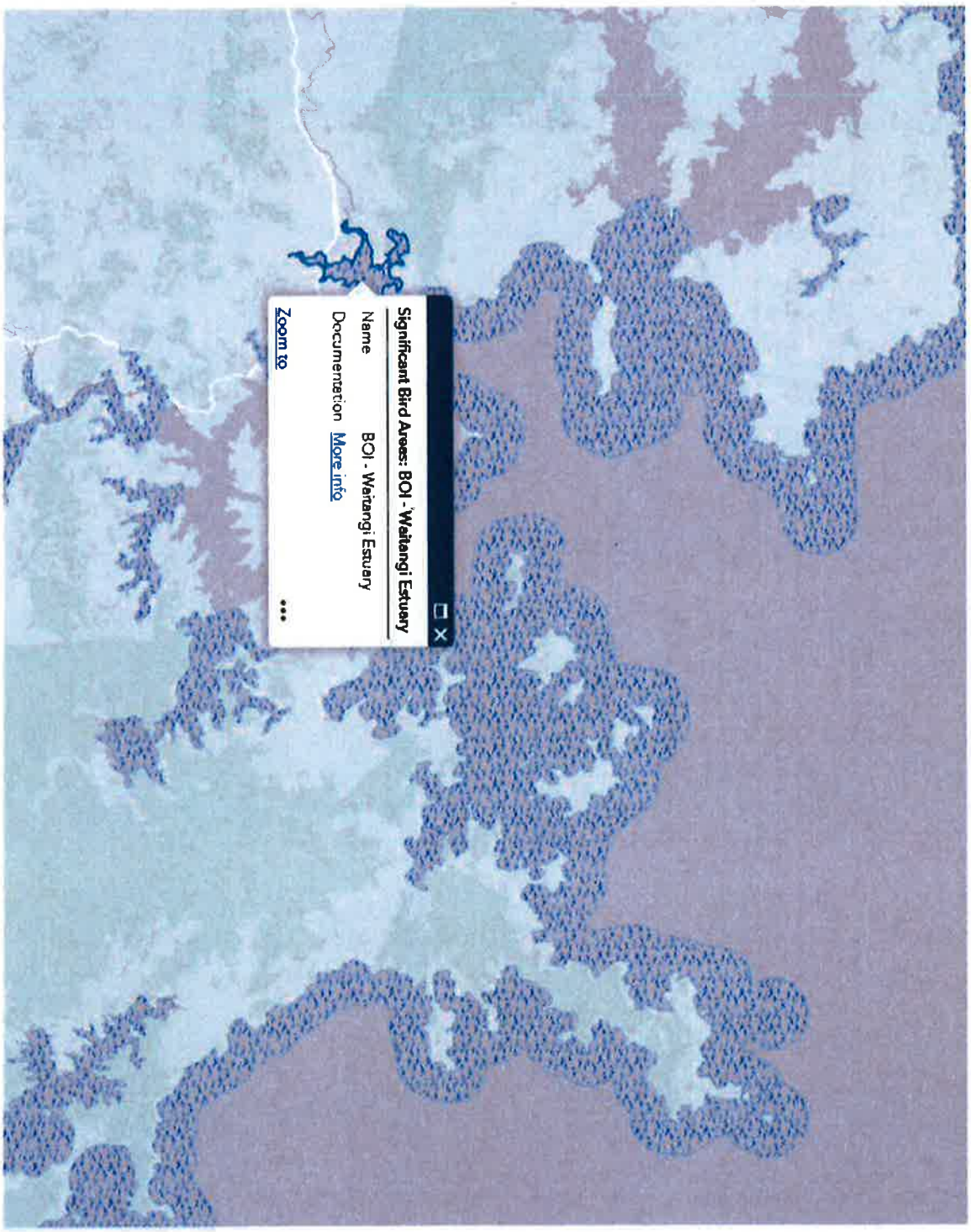
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Significant Ecological Estuarine Area Assessment Sheet for Wading and Aquatic Birds

Name/Area: **Bay of Islands**

Summary:

The Bay of Islands comprises a large and diverse harbour and estuarine habitat together with many small to moderate sized islands. There are several inlets extending well inland, with varying levels of buffering, some with extensive mangroves, most with little saltmarsh. Much of the adjacent land is farmed, but there are increasing areas of shrubland recovery. Habitat degradation increases to the north within the Bay, but there are exceptions. There are many residential settlements of varying size. The avifauna is diverse and breeding birds include local breeding red-billed gull, little blue penguin, pied shag, reef heron Australasian bittern, northern NZ dotterel, banded rail, fernbird and pateke. The ecological significance of the Bay is Moderate-High given the local importance and available habitat for some species.

Table 'Threatened' and 'At Risk' shorebird species present at Bay of Islands

Species Scientific Name	*Species Common Name*	*NZ threat classification*		*Significance for species*
Anas superciliosa	Grey duck	Threatened	Nationally critical	Past records
Botaurus poiciloptilus	Australasian bittern	Threatened	Nationally endangered	Locally important breeding and feeding
Phalacrocorax varius	Pied shag	Threatened	Nationally vulnerable	Nationally important breeding and feeding
Egretta sacra sacra	Reef heron	Threatened	Nationally vulnerable	Locally important breeding and feeding
Charadrius obscurus aquilonius	Northern NZ dotterel	Threatened	Nationally vulnerable	Locally important breeding and feeding
Larus novaehollandiae scopulinus	Red-billed gull	Threatened	Nationally vulnerable	Locally important breeding and feeding
Hydroprogne caspia	Caspian tern	Threatened	Nationally vulnerable	Local feeding
Eudyptula minor	Little blue penguin	At Risk	Declining	Locally important breeding and feeding
Haematopus finschi	NZ pied oystercatcher	At Risk	Declining	Local feeding
Himantopus himantopus leucocephalus	Pied stilt	At Risk	Declining	Local feeding
Sterna striata	White-fronted tern	At Risk	Declining	Locally important breeding and feeding
Bowdleria punctata	Fernbird	At Risk	Declining	Locally important breeding and feeding
Gallirallus philippensis	Banded rail	At Risk	Declining	Locally important breeding and feeding
Limosa lapponica	Eastern bar-	At Risk	Declining	Local feeding

baueri	tailed godwit			
Anas chlorotis (North Island)	Brown teal	At Risk	Recovering	Nationally important breeding and feeding
Haematopus unicolor	Variable oystercatcher	At Risk	Recovering	Locally important breeding and feeding
Porzana tabuensis tabuensis	Spotless crake	At Risk	Relict	Locally important breeding and feeding
Phalacrocorax carbo novaehollandiae	Black shag	At Risk	Naturally uncommon	Local feeding
Phalacrocorax melanoleucos brevirostris	Little shag	At Risk	Naturally uncommon	Locally important breeding and feeding
Phalacrocorax sulcirostris	Little black shag	At Risk	Naturally uncommon	Locally important breeding and feeding

Key references:

Dowding, J.E., Davis, A.M., 2007. New Zealand dotterel (*Charadrius obscurus*) recovery plan, 2004–14. Threatened Species Recovery Plan 58. NZ Department of Conservation.

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Estuaries Reliability Notes and Key References

Site	Assessor	Date	Key references (see below)	Data reliability
North Kaipara	RP	Oct 2015	3, 4, 6, 14, 15	High
Mangawhai	RP	Oct 2015	1, 2, 4, 6, 13, 14	High
Waipu	RP	Oct 2015	1, 2, 6, 13,14	High
Ruakaka	RP	Oct 2015	6, 13	High
Whangarei	RP	Oct 2015	3, 6, 9, 14, 15	High
Taiharuru	RP	Oct 2015	10, 14	High
Pataua	RP	Oct 2015	10, 14	Moderate – High
Horahora	RP	Oct 2015	14, 15	Moderate – High
Ngunguru	RP	Oct 2015	6. 10, 14	High
Matapouri	RP	Oct 2015	10, 15	High
Whananaki	RP	Oct 2015	5, 14, 15	High
Whangaruru	RP	Oct 2015	5, 6, 14, 15	High
Bay of Islands	RP	Oct 2015	5, 6, 14, 15	High
Whangaroa	RP	Oct 2015	14, 15	Moderate – High
Mangonui-Taipa	RP	Oct 2015	14, 15	Moderate –High
Rangaunu	RP	Oct 2015	1, 2, 3, 6, 7, 14, 15	High
Houhora	RP	Oct 2015	3, 6, 11, 14	High

Parengarenga	RP	Oct 2015	1, 3, 6, 7, 14, 15	High
Whangape-Herekino	RP	Oct 2015	14, 15	Moderate – High
Hokianga	RP	Oct 2015	6, 8, 15	High

Key references:

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Significant Marine Mammal Area

Significant Ecological Marine Area Assessment Sheet

Name: Northland Coastal Management Area - General marine values for highly mobile and dispersed species (marine mammals and seabirds)

Summary:

The Northland Coastal Marine Area is arguably one of the most diverse and biodiversity-rich areas of country. There is tremendous underlying productivity driving marine species' movement and use of the region's waters. The process of identifying significant ecological marine areas, recently completed for Northland, used a criteria system (Proposed Regional Coastal Plan, Appendix 5) to map specific habitats and areas of known ecological values that could be described in a specific spatial manner. This approach can work well for some species and some communities that are spatially constrained to an area that can be mapped and easily studied. There is, however, much more to marine ecosystems than that which can be documented with this approach. Some species have extremely mobile lifestyles and are dispersed over very large areas. They are no less important and where they have threatened species status they deserve protection. Marine mammals and many of the pelagic seabirds and residential seabirds fit in this category. In this worksheet we discuss the values of these two groups of marine species in relation to the entire Northland Coastal Management area which they utilize.

Description and Oceanography

The Northland Coastal Management Area is a complex coastline with complex oceanography and rich productive upwelling currents offshore mixing with productive coastal waters. Currents are dynamic, with two oceans mixing and a strong flow of the East Auckland current from the north bringing warm water and subtropical and tropical species to the east coast in particular. The coastline is approximately 1700 km of rugged cliffs, rocky shoreline, sandy beaches and sheltered harbours. There are also many offshore islands and stacks, including three major island groups, the Three Kings (outside Northland's territorial waters), Poor Knights and the Hen and Chicken Islands. Northland contains some of the largest areas of mudflats and mangrove forest in the country. Many of the off-shore islands and parts of the mainland coast are influenced by the warm subtropical East Auckland Current, derived from the north-western Tasman Sea flow south-eastwards adjacent to the coast. This current brings with it a variety of Indo-Pacific larvae. The mix of these surviving subtropical species along with the many endemic species, make these areas ecologically unique.

Northland Marine Mammals

Information on the presence and conservation status of marine mammals in relation to Northland's coasts and estuaries has been reviewed by Baker. [1] [2] Thirty-five species of marine mammals are known from Northland waters (within the 12 n ml limit). Some marine mammal species are resident or semi-resident and breed along the Northland coast, and others are transients. Three threatened species are amongst the species most often encountered in inshore waters as well as offshore: Bryde's whales *Balaenoptera edni*, bottlenose dolphins *Tursiops truncates* , and Orca *Orcinus orca*. The common dolphin *Delphinus delphis,* which is not threatened, is also commonly seen in

[1] Baker, A. N., 2005. Sensitivity of marine mammals found in northland waters to aquaculture activities. Report to the Department of Conservation, Northland Conservancy. A. N. Baker Cetacean Biology Consultant, Kerikeri.

[2] Baker, C.S, Chilvers, B.L., Constantine, R., DuFresne, S., Mattlin, R.H., van Helden, A. & Hitchmough, R., 2010. Conservation status of New Zealand marine mammals. New Zealand Journal of Marine and Freshwater Research, 44:2, 101-115.

Northland waters. Less common, but occasionally encountered offshore are pilot whales *Globicephala spp.*, false killer whales *Pseudorca crassidens*, and some of the large baleen whales. In recent years humpback whales and Southern Right whales have been observed moving along Northland's east coast and even entering some of the larger Harbours like Whangarei. These species are slowly recovering their populations from near extinction.

Data on the use of our marine habitats by this wide range of marine mammals is based on aerial surveys, sighting records and whale stranding records. Comprehensive data on habitat use is notoriously hard to gather for such large spatial areas but some definite patterns are known. Basically these species at one time or another use most of the coastal area moving from place to place and taking advantage of the ample feeding opportunities that exist here. For some species there is more detailed data. Dolphin species have been extensively studied in the Bay of Islands [3] where ecotourism concessions are operating for dolphin viewing. Orca have a strong database supporting the knowledge of their use of our marine habitats. [4] Essentially the threatened Orca and bottlenose dolphins visit all our estuaries, including the small ones and quite shallow tidal areas. [5] Bay of Islands, Whangaroa, Hokianga, Kaipara and Whangarei Harbours are known to be important feeding grounds for Orca and are regular visitors. Whangarei Harbour especially is a hotspot for Orca feeding forays.

On the West Coast the critically endangered Maui dolphins range up the coast to Maunganui bluff and occasionally venture into the Kaipara Harbour. This home range of the Maui dolphin is recognized as a marine mammal sanctuary under the Marine Mammals Act affording the animals special protection by limiting set net fishing.

New Zealand fur seals are present in small but growing numbers in various locations on both east and west coast. Populations of up to 100 individuals use a number of haul out locations near the Kaipara entrance and at Matapia Island on Ninety-mile beach, but no breeding populations have established.

Table 1 Marine Mammals recorded in Northland waters [6] [7]

Baleen Whales

Blue whale *Balaenoptera musculus*
Pygmy blue whale *Balaenoptera musculus brevicauda*
Fin whale *Balaenoptera physalis*
Sei whale *Balaenoptera borealis*
Bryde's whales *Balaenoptera edeni*
Minke whale *Balaenoptera bonaerensis*
Dwarf minke whale *Balaenoptera acutorostrata*
Humpback whale *Megaptera novaeangliae*
Southern right whale *Balaena glacialis australis*
Pygmy right whale *Caperea marginata*

Sperm whales

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[3] Constantine, R., Brunton, D.H., & Dennis, T., 2004. Dolphin-watching tour boats change bottlenose dolphin (Tursiops truncatus) behaviour. Biol. Conserv.117: 299–307.
[4] Visser, I. N., 2007. Killer whales in New Zealand waters: Status and distribution with comments on foraging. Orca Research Trust, P.O. Box 402043, Tutukaka, 0153, New Zealand. ingrid@orca.org.nz
[5] Visser, I. N., 1999. Benthic foraging on stingrays by killer whales (orcinus orca) in New Zealand waters. Marine Mammal Science, 15(1):220-227.
[6] DOC Cetacean Sightings Database, New Zealand Whale Strandings Database
[7] Baker, A.N. 1999 Whales and Dolphins of New Zealand and Australia. Victoria University Press 133 pp.

Sperm whale *Physeter macrocephalus*
Dwarf sperm whale *Kogia simus*
Pygmy sperm whale *Kogia breviceps*

Beaked whales
Gray's beaked whale *Mesoplodon grayi*
Strap-toothed whale *Mesoplodon layardii*
Andrew's beaked whale *Mesoplodon bowdoini*
Hector's beaked whale *Mesoplodon hectori*
Dense-beaked whale *Mesoplodon densirostris*
Goose-beaked whale *Ziphius cavirostris*
Bottlenose whale *Hyperoodon planifrons*
Arnoux's beaked whale *Berardius arnouxii*
Shepherd's beaked whale *Tasmacetus shepherdi*

Dolphins
Long-finned pilot whale *Globicephala melas*
Short-finned pilot whale *Globicephala macrorhynchus*
Killer whale *Orcinus orca*
False killer whale *Pseudorca crassidens*
Risso's dolphin *Grampus griseus*
Bottlenose dolphin *Tursiops truncatus*
Common dolphin *Delphinus delphis*
Striped dolphin *Stenella caeruleoalba*
Southern right whale dolphin *Lissodelphis peronii*
Maui's dolphin *Cephalorhynchus hectori maui*
Dusky dolphin *Lagenorhynchus obscurus*

Seals
NZ fur seal *Arctocephalus forsteri*
Leopard seal *Hydrurga leptonyx*

Seabirds

As part of the process of identifying significant ecological marine areas in Northland, worksheets detailing threatened bird species have been produced for the offshore islands, coastal areas and estuaries of Northland. These worksheets reflect that the coastal areas and estuaries are a stronghold for many threatened birds species and virtually all of the estuaries and coasts are being used by one or, more often, many species, as highlighted in Figure 1. There is also extensive use made of the offshore waters generally for traveling, resting and feeding. Over 11 different species of seabirds breed on the Poor Knights Islands or visit them frequently, making this area a centre for seabird movements. The list of birds that are present in our offshore waters and islands is presented below in Table 2.

The numbers of birds involved in these dispersed ecological values are impressive and give an indication of the ecological importance of both the marine species, which are food sources supporting the birds populations, but also the bird themselves. The most numerous is the Buller's shearwater, estimated at a total population of 2.5 million. Approximately 3000 pairs of Australasian gannet breed at the High Peak Rocks and Sugarloaf Rock near the Poor Knights Islands.

Figure 1 – Seabird species richness / number of seabird species known in each area
Note: There is data bias towards the eastern Northland coastline due to there being few records on the west coast mainly due to its exposed nature.

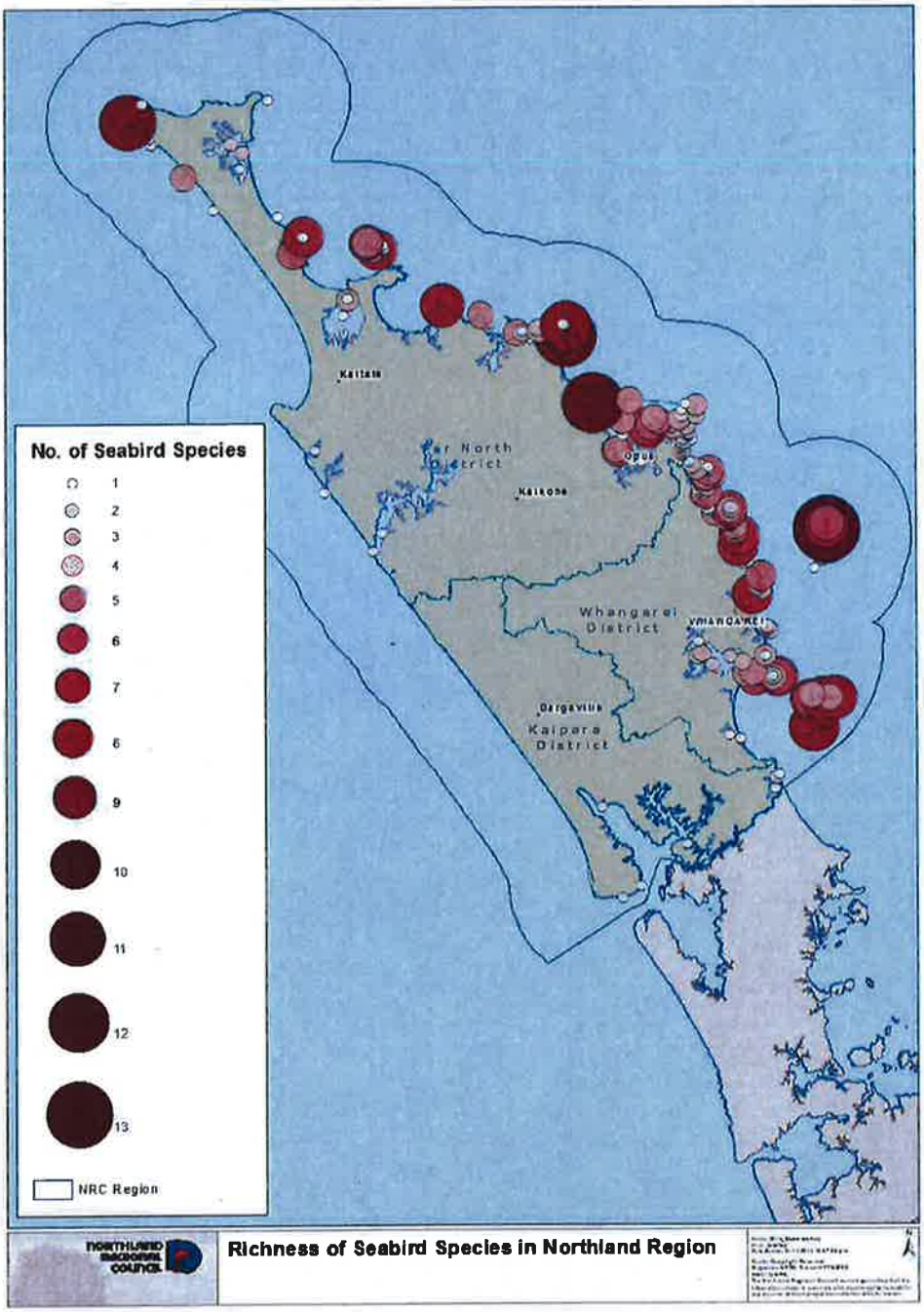


Table 2 Threatened seabird species using Northland waters [8] [9] [10]

Species Common Name	*Scientific Name - updated 2013*	*NZ threat classification*		*Site status / significance NB. Specific to site*
Red-billed gull	*Larus novaehollandiae scopulinus*	Threatened	Nationally vulnerable	Breeding
Sooty shearwater	*Puffinus griseus*	At Risk	Declining	Breeding
Flesh-footed shearwater	*Puffinus carneipes*	At Risk	Declining	Visitor, breeding?
Little blue penguin	*Eudyptula minor*	At Risk	Declining	Breeding
White-fronted tern	*Sterna striata*	At Risk	Declining	Breeding
Pycroft's petrel	*Pterodroma pycrofti*	At Risk	Recovering	Rare, breeding
Little shearwater	*Puffinus assimilis haurakiensis*	At Risk	Recovering	Breeding
Fairy prion	*Pachyptila turtur*	At Risk	Relict	Breeding
Common diving petrel	*Pelecanoides urinatrix urinatrix*	At Risk	Relict	Breeding
Fluttering shearwater	*Puffinus gavia*	At Risk	Relict	Breeding
NZ white-faced storm petrel	*Pelagodroma marina maoriana*	At Risk	Relict	Breeding
Grey ternlet	*Procelsterna cerulean albivittata*	At Risk	Naturally uncommon	Seasonal visitor
Buller's shearwater	*Puffinus bulleri*	At Risk	Naturally uncommon	Breeding
Black-winged petrel	*Pterodroma nigripennis*	Not threatened	Not threatened	Visitor
Grey-faced petrel	*Pterodroma macroptera gouldi*	Not threatened	Regionally significant/mainland population	Breeding
Arctic skua	*Stercorarios parasiticus*	Not threatened	Migrant	Seasonal visitor offshore
Yellow-nosed mollymawk	*Thalassarche chlororynchos*	Not threatened	Vagrant	Seasonal visitor offshore

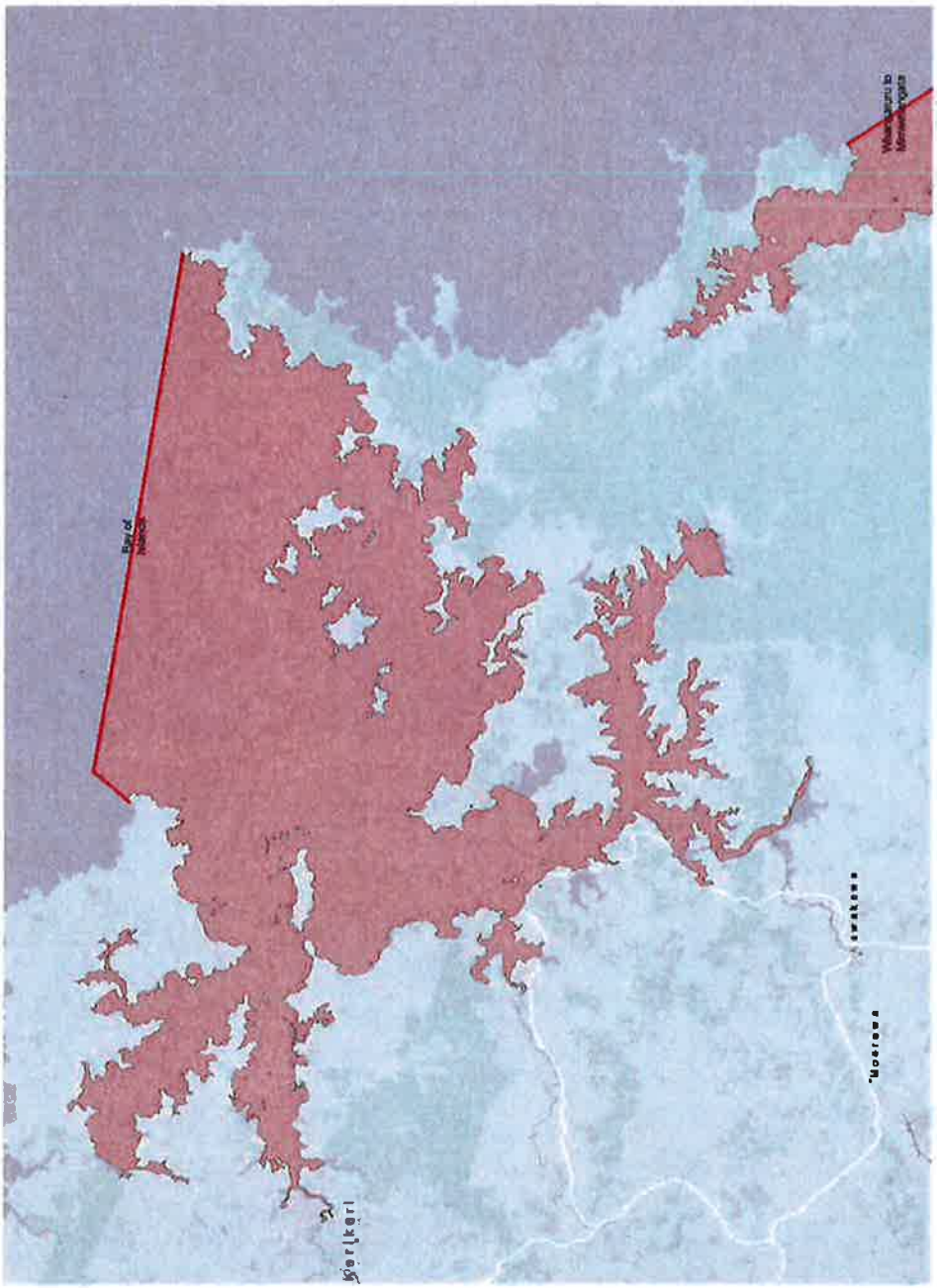
[8] Marchant, S. & Higgins, P.J. (co-ordinating editors). 1990. Handbook of Australian, New Zealand & Antarctic Birds (HANZAB).
[9] Protected Natural Areas Program survey reports, Department of Conservation, Northland Conservancy, Whangarei
[10] Conservation Status of New Zealand Birds, 2012, New Zealand Threat Classification Series 4, Department of Conservation, Wellington

Black-browed mollymawk	*Thalassarche melanophrys*	Not threatened	Coloniser	Seasonal visitor offshore
Short-tailed shearwater	*Puffinus tenuirostris*	Not threatened	Migrant	Seasonal visitor offshore
Australasian gannet	*Sula serrator*	Not threatened	Regionally significant	Breeding

Table 3 - Northland areas recognised by the Important Bird Area programme[11] as having international importance for seabirds and the key species that trigger importance.

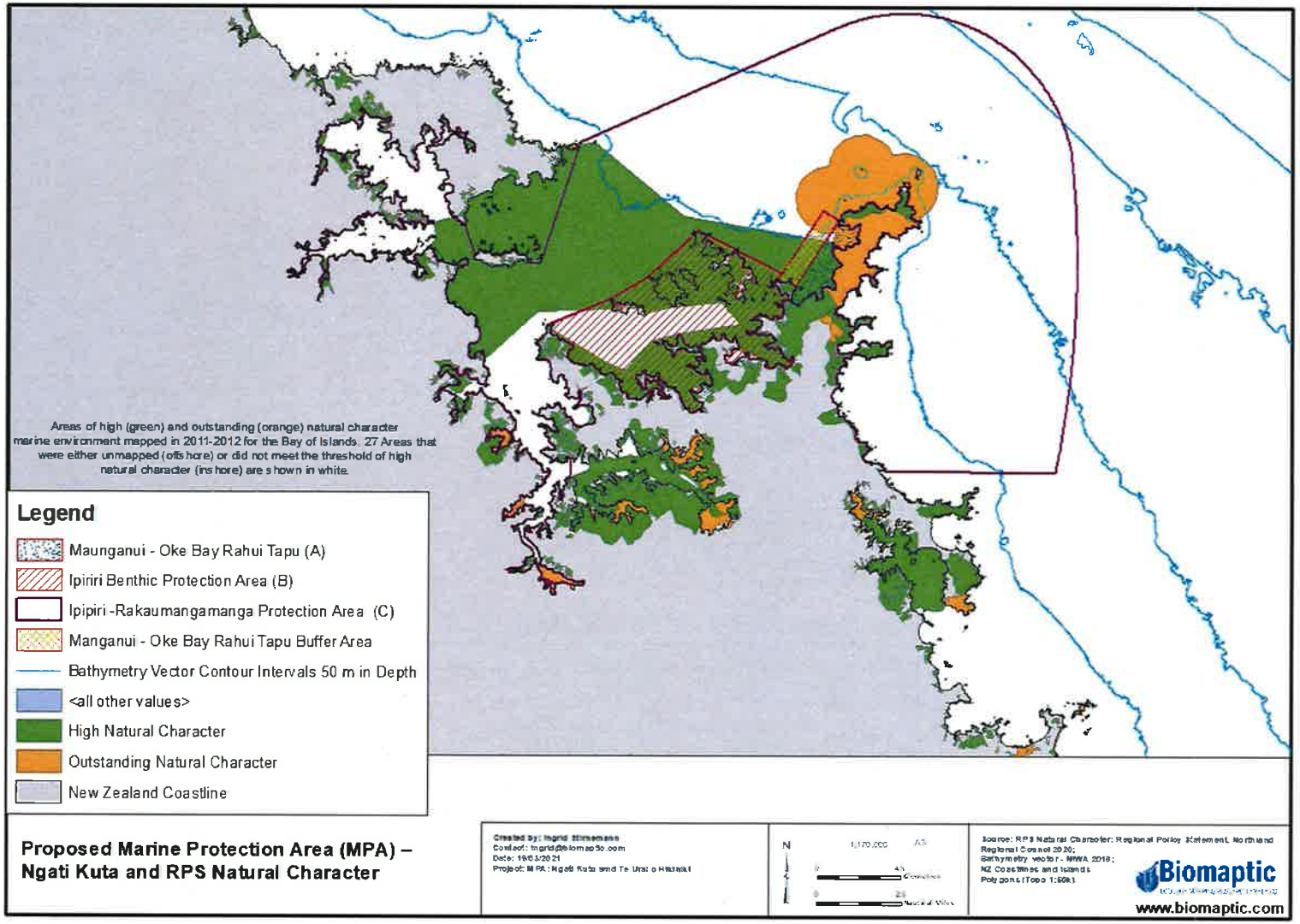
Important Seabird Area	**Trigger species**
Poor Knights Islands	Buller's Shearwater, Pycroft's Petrel, Fairy Prion, Australasian Gannet, seabirds*
Marotere Chickens Islands	Pycroft's Petrel, Flesh-footed Shearwater, Fluttering Shearwater, Seabirds*
Taranga Hen Island	Pycroft's Petrel, Great-winged Petrel (Grey-faced Petrel), Seabirds*
Waipu Estuary	NZ Fairy Tern, Black-billed Gull, (NZ Dotterel, Wrybill, Australasian Bittern)
Managawhai	NZ Fairy Tern, Black-billed Gull, (NZ Dotterel, Wrybill, Australasian Bittern)
Kaipara Harbour	NZ Fairy Tern, Black-billed Gull, Black Stilt, NZ Dotterel, Wrybill, South Island Pied Oystercatcher, Australasian Bittern, Shorebirds*,
Kaipara Harbour - North Auckland Seabird Flyway (see map below)	Cook's Petrel, NZ Fairy Tern and Seabirds*
Important seabird seaward extension areas: - North Eastern North Island (including the entire east and northern coast of Northland) - West Coast North Island (includes Kaipara Harbour and coast off Pouto peninsula)	- 14 species including Buller's Albatross, 7 Petrel and 3 Shearwater species - Australasian Gannet and NZ Fairy Tern
Note: * indicates greater than 10,000 pairs (or 20,000 individual) water birds	

[11] Gaskin, C, 2013. Important areas for New Zealand seabirds, Part 1 – North Island. Compilation for Forest & Bird / BirdLife International.



Marine Pathways

APPENDIX C – MAPS



Natural Character - RPS

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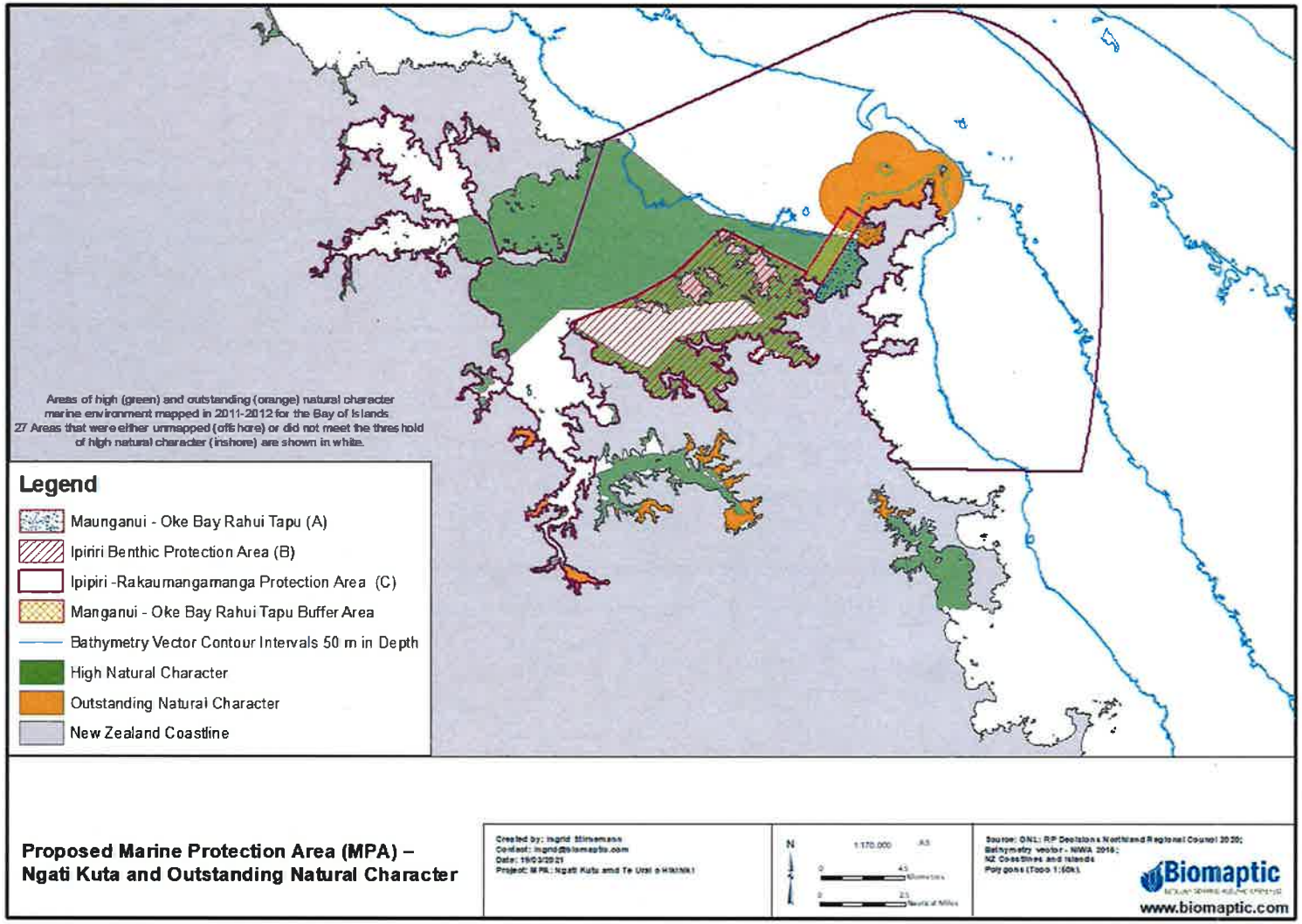

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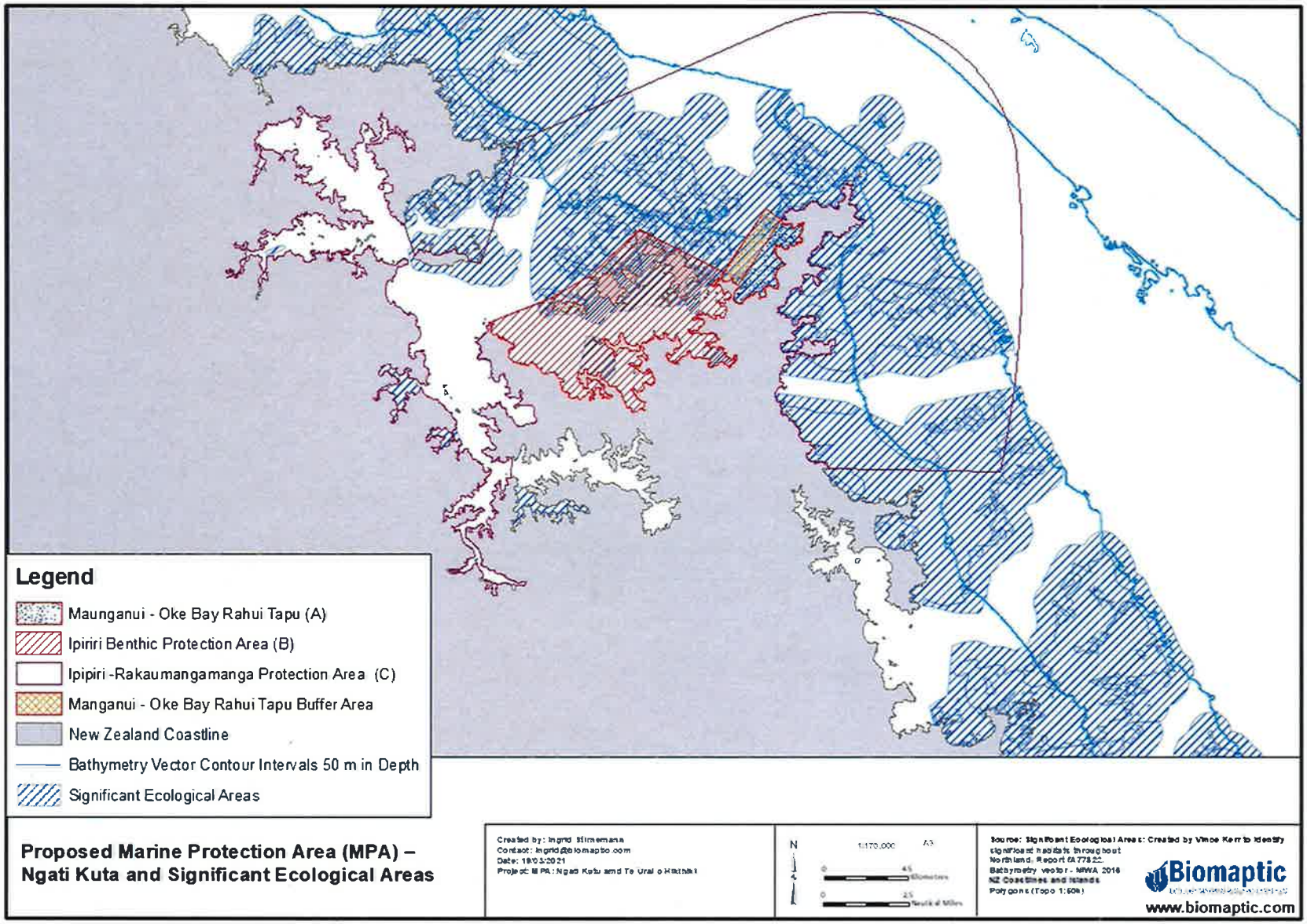
Legend
Maunganui - Oke Bay Rahui Tapu (A)
Ipiriri Benthic Protection Area (B)
Ipipiri -Rakaumangamanga Protection Area (C)
Manganui - Oke Bay Rahui Tapu Buffer Area
New Zealand Coastline
Bathymetry Vector Contour Intervals 50 m in Depth
Significant Ecological Areas
Proposed Marine Protection Area (MPA) – Ngati Kuta and Significant Ecological Areas
Created by: Ingrid Stimemann
Contact: ingrid@biomaptic.com
Date: 19/03/2021
Project: MPA: Ngati Kuta and Te Ural o Hakihiki
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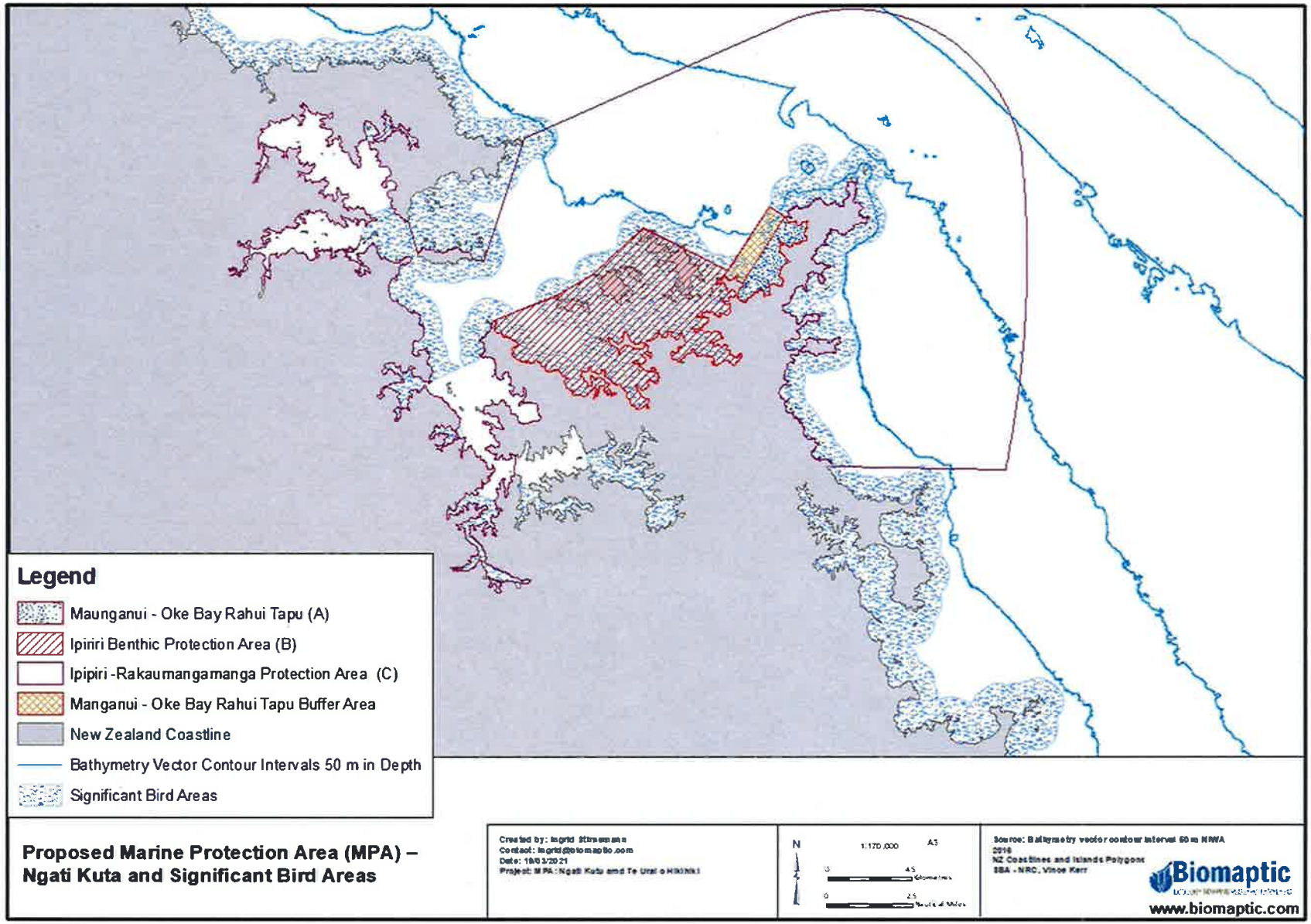
1:170,000
A3
Source: Significant Ecological Areas: Created by Vince Kerr to identify significant habitats throughout Northland. Report #A778.22.
Bathymetry vector - NIWA 2016
NZ Coastlines and Islands
Polygons (Topo 1:50k)
Biomaptic
www.biomaptic.com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Maunganui - Oke Bay Rahui Tapu (A)
Ipiriri Benthic Protection Area (B)
Ipipiri -Rakaumangamanga Protection Area (C)
Manganui - Oke Bay Rahui Tapu Buffer Area
New Zealand Coastline
Bathymetry Vector Contour Intervals 50 m in Depth
Significant Bird Areas
Proposed Marine Protection Area (MPA) – Ngati Kuta and Significant Bird Areas
Created by: Ingrid Stinemans
Contact: Ingrid@biomaptic.com
Date: 19/03/2021
Project: MPA: Ngati Kuta and Te Uri o Hikihiki
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1:170,000
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Source: Bathymetry vector contour interval 50 m NIWA 2016
NZ Coastlines and Islands Polygons
SBA - NRC, Vince Kerr
Biomaptic
www.biomaptic.com

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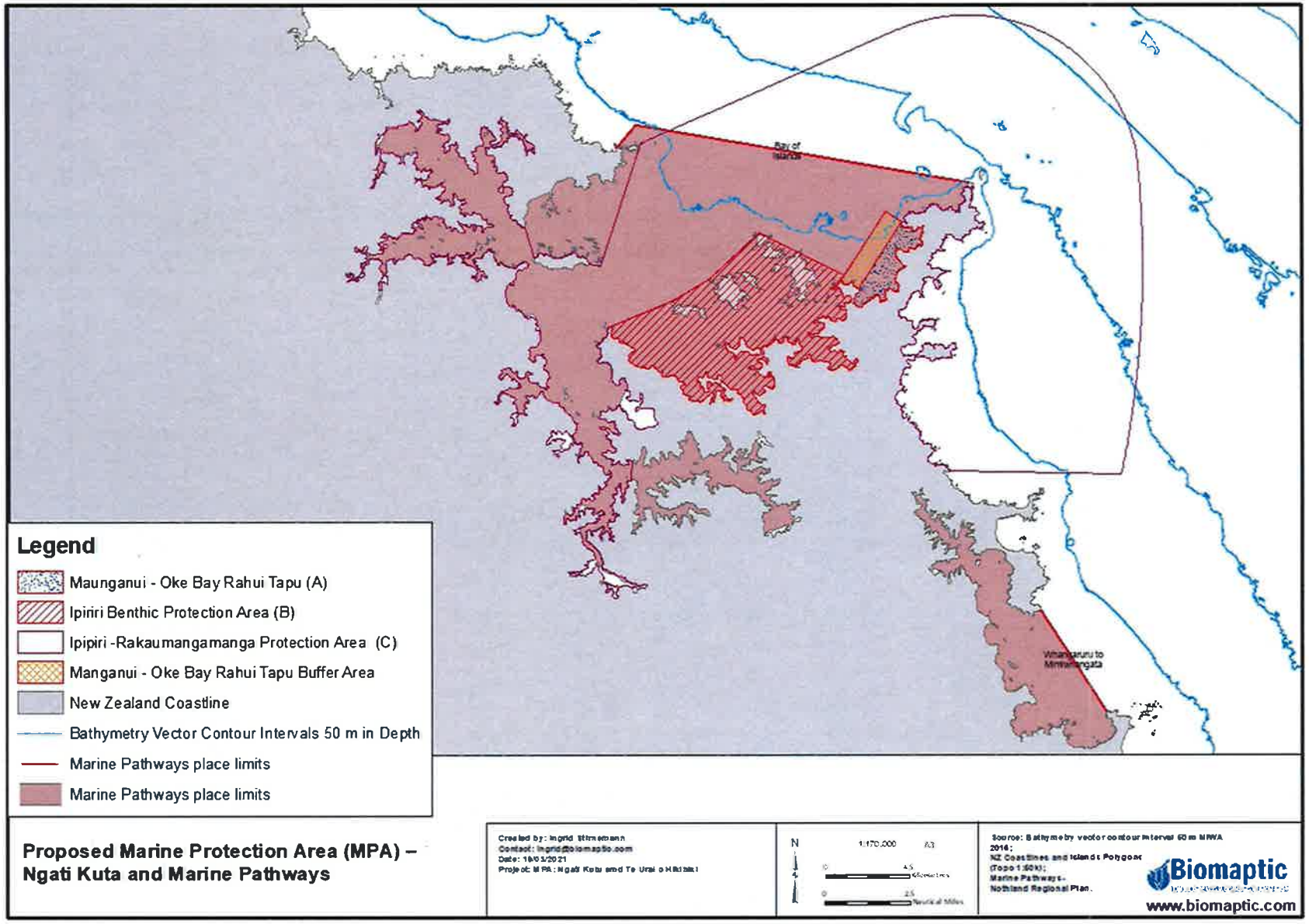
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Maunganui - Oke Bay Rahui Tapu (A)
Ipiriri Benthic Protection Area (B)
Ipipiri -Rakaumangamanga Protection Area (C)
Manganui - Oke Bay Rahui Tapu Buffer Area
New Zealand Coastline
Bathymetry Vector Contour Intervals 50 m in Depth
Marine Pathways place limits
Marine Pathways place limits
Proposed Marine Protection Area (MPA) – Ngati Kuta and Marine Pathways
Created by: Ingrid Stirnemann
Contact: ingrid@biomaptic.com
Date: 19/03/2021
Project: MPA : Ngati Kuta and Te Urai o Hikitaki
N
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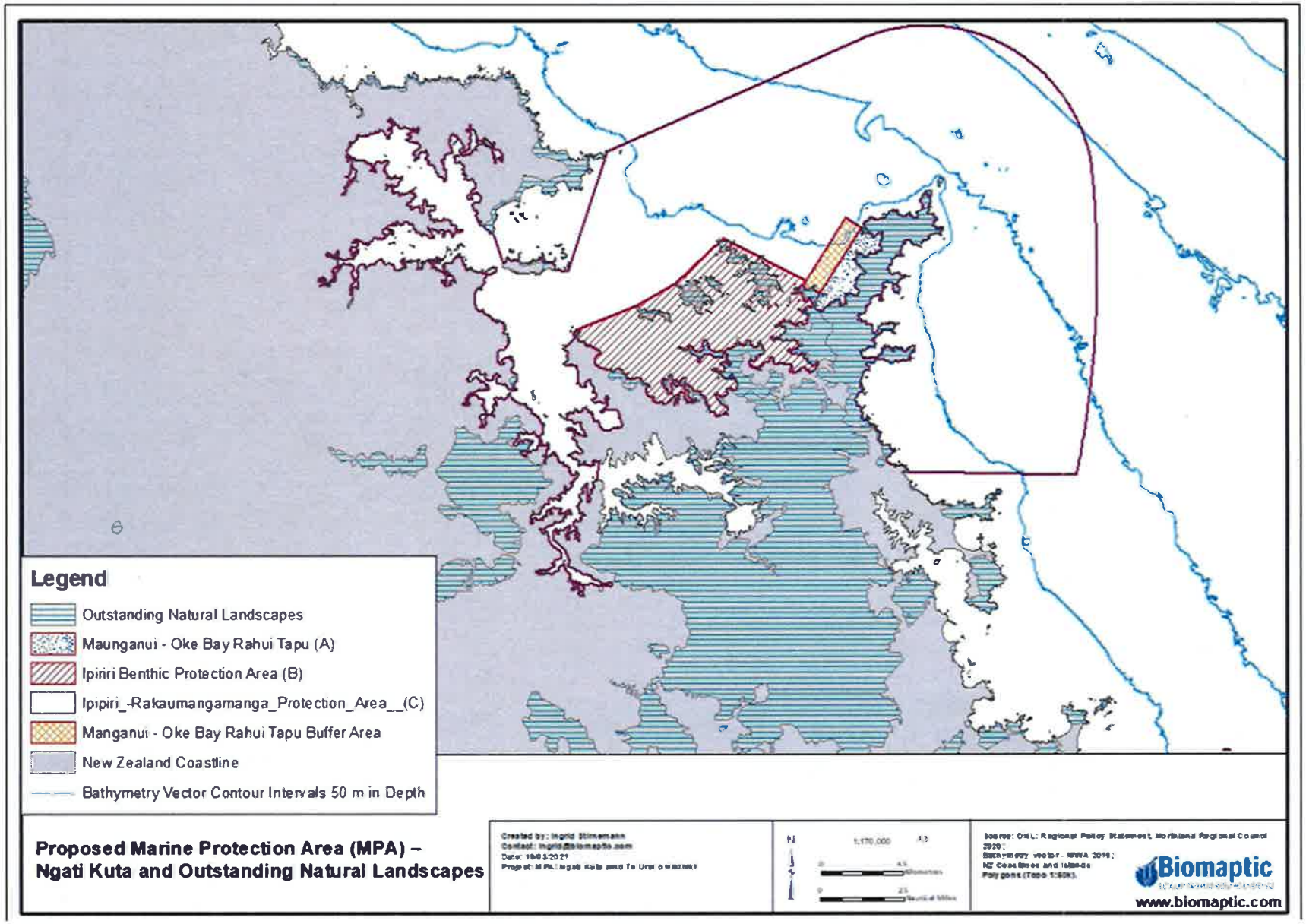
Source: Bathymetry vector contour interval 50 m MWA 2014;
NZ Coastlines and Island Polygons (Topo 1:50k);
Marine Pathways -
Northland Regional Plan.
Biomaptic
www.biomaptic.com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Outstanding Natural Landscapes
Maunganui - Oke Bay Rahui Tapu (A)
Ipiriri Benthic Protection Area (B)
Ipipiri_-Rakaumangamanga_Protection_Area__(C)
Manganui - Oke Bay Rahui Tapu Buffer Area
New Zealand Coastline
Bathymetry Vector Contour Intervals 50 m in Depth
Proposed Marine Protection Area (MPA) –
Ngati Kuta and Outstanding Natural Landscapes
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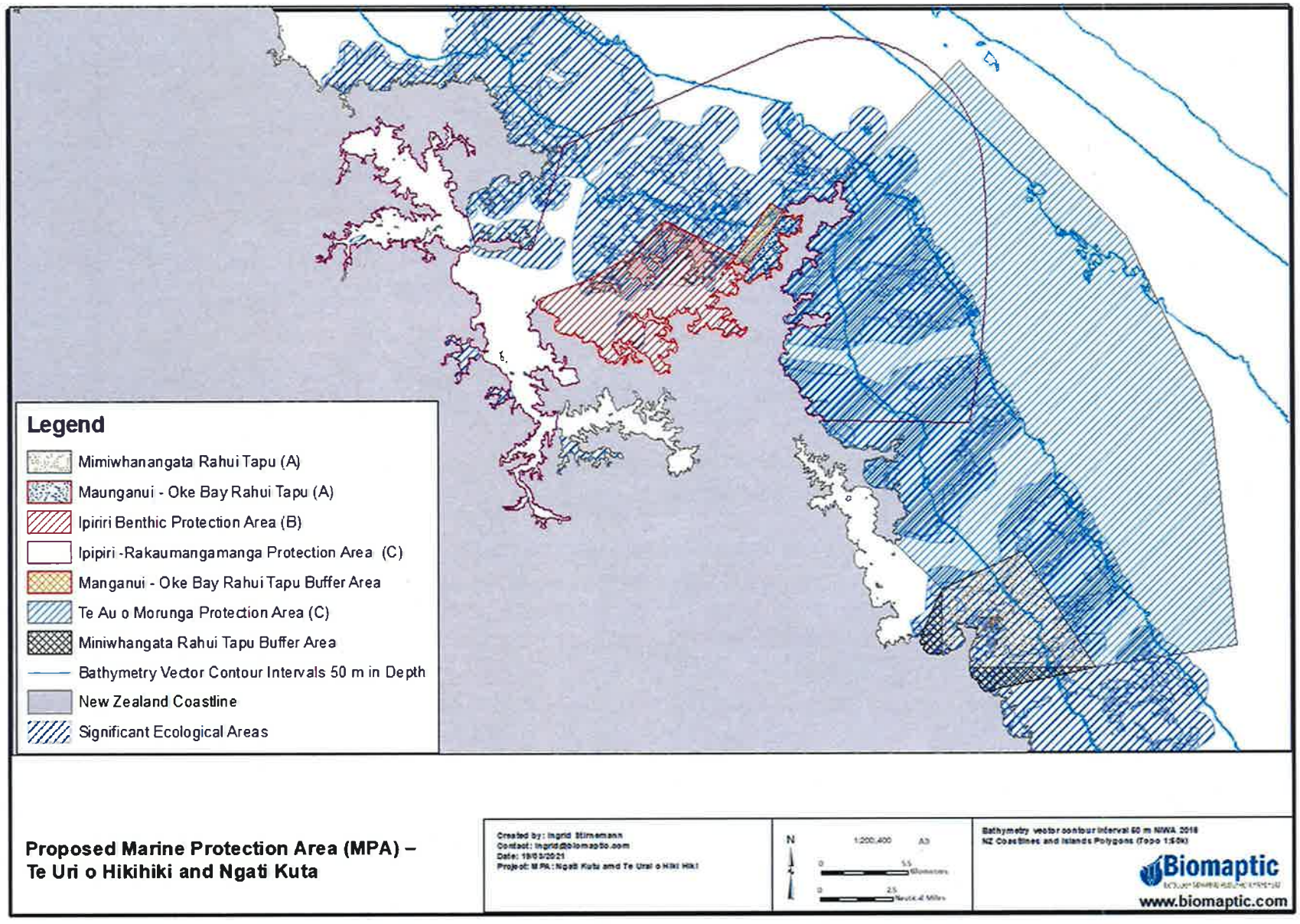
Legend
Mimiwhanangata Rahui Tapu (A)
Maunganui - Oke Bay Rahui Tapu (A)
Ipiriri Benthic Protection Area (B)
Ipipiri -Rakaumangamanga Protection Area (C)
Manganui - Oke Bay Rahui Tapu Buffer Area
Te Au o Morunga Protection Area (C)
Miniwhangata Rahui Tapu Buffer Area
Bathymetry Vector Contour Intervals 50 m in Depth
New Zealand Coastline
Significant Ecological Areas
Proposed Marine Protection Area (MPA) –
Te Uri o Hikihiki and Ngati Kuta
Created by: Ingrid Stirnemann
Contact: ingrid@biomaptic.com
Date: 19/03/2021
Project: MPA: Ngati Kuta and Te Uri o Hiki Hiki
N
1:200,400
A3
Bathymetry vector contour interval 50 m NIWA 2016
NZ Coastlines and Islands Polygons (Topo 1:50k)
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