

Significant Ecological Marine Area Assessment Sheet

Name: Kawerua Offshore Reef

Summary:

The deep reefs offshore of Kawerua have been assigned a high ecological ranking based on their extensive size, the relative rarity of this habitat type on the West Coast and within the Central Bioregion ¹. This reef system is a unique example of an offshore rocky reef of this type and size along the West Coast. The reef lies approximately 17 km offshore from Kawerua and Maunganui Bluff north of the Kaipara Harbour.

Habitat map and mapped significant ecological area for the Kawerua offshore reef

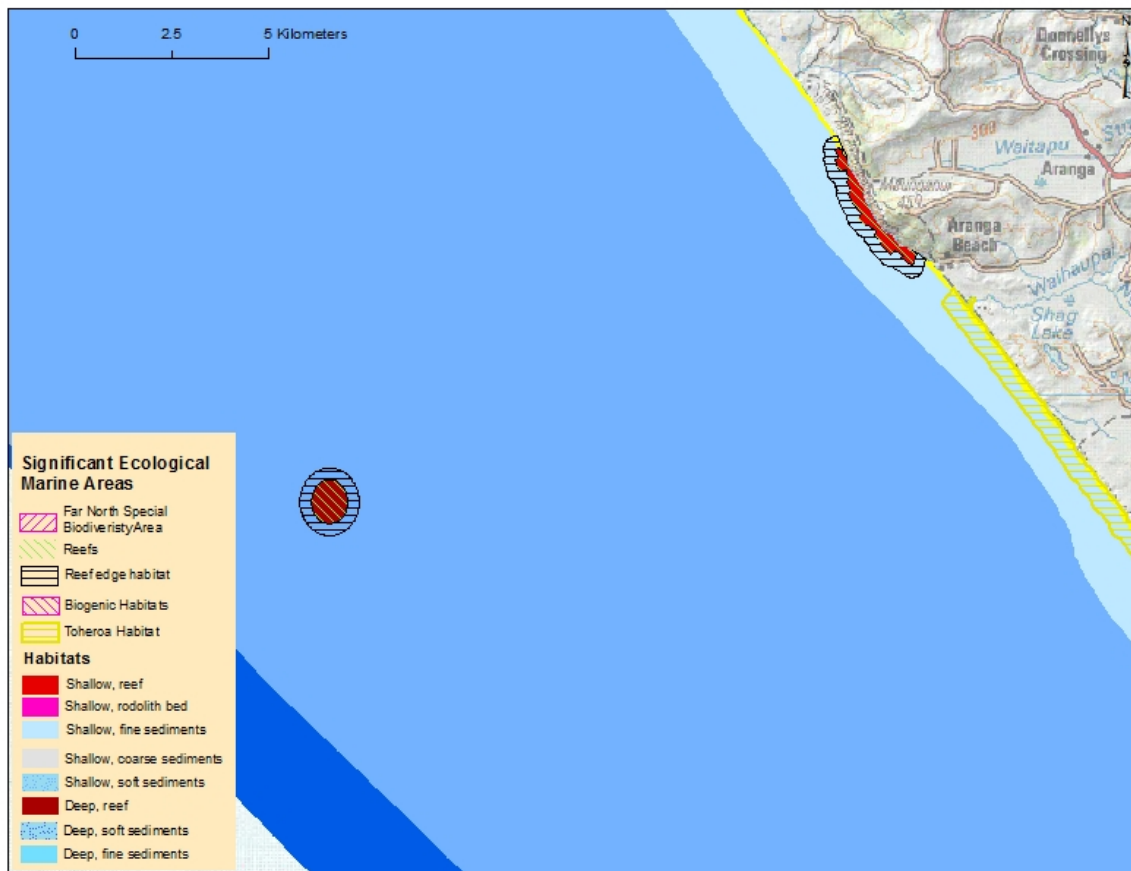


Figure 1 Habitat map and mapped significant ecological area for the Kawerua offshore reef

Description:

The offshore west coast of Northland typically has a relatively smooth outline, with gradually sloping sandy habitats. In the area approximately 16km offshore from Maunganui Bluff there is an extensive reef area rising some considerable distance vertically from the surrounding soft bottom seabed. The Kawerua Offshore Reef has never been surveyed to any extent or formally described. It is well known to local fisherman but never mapped, as such. The marine chart for this area is based on widely-spaced bathymetric data: it shows an area rising up to 50m depth from the surrounding

¹ Department of Conservation & Ministry of Fisheries, 2008. Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines.

sea floor, which is at a depth of 100m 3.3 kms to the landward side and 200m 2.1 kms to seaward side of the indicated reef. There are reports of divers dropping down on this reef and describing the top of the reef as 25-30m depth.² Given the normally flat nature of the near shelf sea bottom off the West Coast this alone is indication of a substantial reef structure being present, which - in relation to the West Coast - is very rare and is likely to be of considerable geological interest as well as a marine biodiversity hotspot.

Oceanography

The area is influenced by the north-flowing Westland Current and occasionally in summer months by the south-flowing West Auckland Current. Sea surface temperatures range between 15–22°C. This is a high wave energy area with swells of 1.5 – 2.5m on average and often exceeding 8m. Swells of this size would have an effect on a reef even at 30-50m depth. Considering the size of this reef and its depth range, extending down into deep water (approximately 150m), there is likely to be significant upwelling and eddy currents associated with this reef, which can be expected to support a rich and diverse marine community. The offshore position would result in the reef area being exposed to the warmer West Auckland south-flowing currents in the summer months, bringing with it subtropical species.

Ecological Values

The Kawerua Offshore Reef is believed to be extensive and complex in topography, thus creating a special deep reef environment that is extremely rare on the entire west coast of the North Island. The potential depth range of 30 – 150 m means that this reef system is described as a deep reef. The biological community here has not been studied or described in any detail. Given the location and size of this reef it is likely that the biological communities would be dominated by cooler water species. However, in the summer months with the influence of the East Auckland Current, there are many game fish species present at these reefs and possibly subtropical reef-associated species as well. Most of the reef would be too deep to support macro algae communities. Instead there would be a complex filter-feeding encrusting invertebrate community on the reef supporting marine life. It is highly likely with this system that there are significant rare and endemic flora and fauna.

The Kawerua Offshore reef has an initial depiction of its spatial extent indicated on the draft West Coast marine habitat map.³

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. There is a paucity of sightings of marine mammals on the West Coast. This is largely due to the remote nature of these waters. Three

² Pers. Com. Lew Richie former Minister of Fisheries marine biologist

³ 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.

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.

threatened species are amongst the species most likely to be encountered in inshore waters: Bryde's whales *Balaenoptera edni*, bottlenose dolphins *Tursiops truncatus*, and Orca *Orcinus orca*. The common dolphin *Delphinus delphis*, which is not threatened, would be expected to be seen in this area along the coast.

Assessment of Ecological Significance

Table 1 Ranking score of ecological significance of Kawerua Offshore Reef Shallow Reefs ⁶

| Kawerua Offshore Reef Shallow Reefs x Estuary Shorebird Values: Assessment of Ecological Significance | | | Rank |
|--|---|---|----------|
| Overall Ranking | | Notes | High |
| Representati on | supports most taxa expected for habitat type | Diversity is likely to be large for its type | DD, R |
| | large example of its type | These reefs are believed to be a large example of type | DD, R |
| Rarity and Distinctivene ss | supports indigenous species threatened, at risk, or uncommon, nationally or within the relevant ecological scale | Marine mammal status unknown | DD, R |
| | supports species endemic to the Northland-Auckland region or at distributional limits within the Northland region | Level of endemism is not well known | DD, R |
| | distinctive of a naturally restricted occurrence | Offshore rocky reefs are very rare in this entire Bioregion | H |
| | developed as a result of unusual environmental factor(s) or is part of an ecological unit that occurs within an originally rare ecosystem | Rare occurrence on this coast and in this Bioregion | H |
| | identified as nationally or regionally rare habitat(s) in MPA Plan | Not evaluated as of yet | DD, R |
| Diversity and Pattern | high diversity of indigenous ecosystem or habitat types | Expected to be high for this habitat and Bioregion. | DD, R |
| | high diversity of indigenous taxa | Expected to be high for this habitat and Bioregion. | DD, R |
| | its composition reflects the existence of diverse natural features or ecological gradients | Expected to be high for this habitat and Bioregion | DD, R |
| | contains intact ecological sequences | Expected to be high for this habitat and Bioregion | DD, R |
| Ecological Context | provides or contributes to ecological linkages, networks, buffering functions | Expected to be high for this habitat and Bioregion | DD, R |
| | supports the natural functioning of freshwater or coastal ecosystems | Expected to be high for this habitat and Bioregion | DD, R |
| | supports life stages of indigenous fauna | Expected to be high for this habitat and Bioregion | DD,R |
| Assessed by: Vince Kerr | | Date: September 2015 | |

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

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| Information Source(s) <i>see below</i> | 5,6 |
| Reliability of Information <i>see below</i> | -- |
| 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 | |