

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 truncatus*, 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

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.

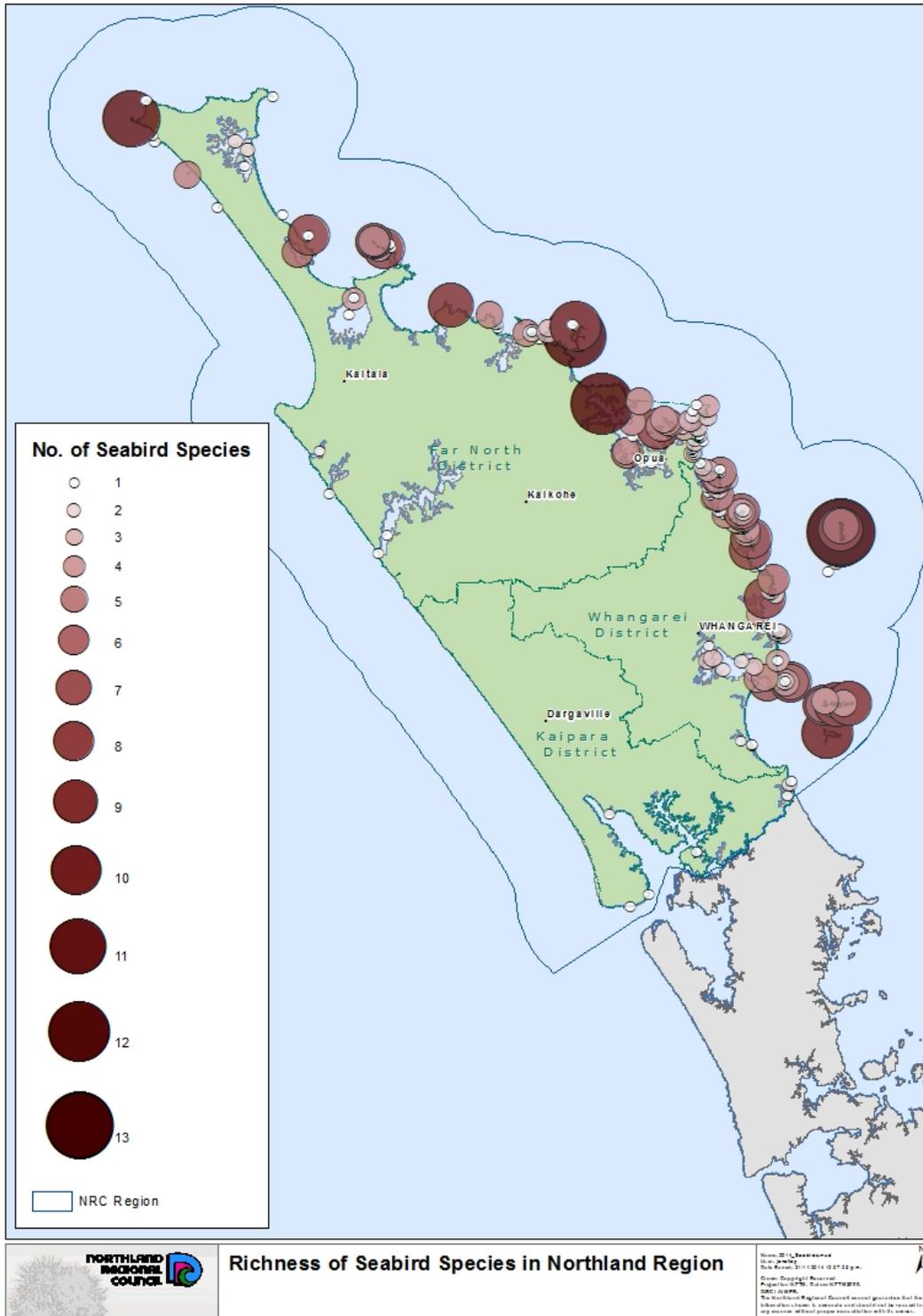


Table 2 Threatened seabird species using Northland waters ^{8 9 10}

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

Table 3 - Northland areas recognised by the Important Bird Area programme¹¹ 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.

