

Northland Regional Landscape Assessment Worksheet

	Unit name – OFF-SHORE ISLANDS
DESCRIPTION AND CHARACTERISATION	
Component	Comment
Land Types Off-shore islands land type	The off-shore islands are highly visible and widely valued features, characterised by steep rocky cliffs and rock formations such as caves and rocky shelves.
Geology (including geopreservation sites)	<p>The islands represent the heavily eroded remains of large lava domes formed during the Pliocene epoch. They are composed of rhyolite weathered into a complex topography that includes archways, caves, tomos and chimneys, as well as the lofty cliffs. There are very steep cliffs and bluffs that contain the best developed marine eroded arches, tunnels and caves in New Zealand. These extend up to 200 m long and 50m wide in size, and are eroded by the sea along joints in silicified rhyolite breccia. There are completely submerged tunnels of depths up to 30 to 40 metres below sea level, and uplifted to 80 metres above the present sea level. They include air bubble caves, many of which have been named. Tawhiti Rahi contains an uplifted sea cave 12 m deep, 8 m wide and 5 m high. The Poor Knights sea arches and sea caves have been classified as being of national geological importance, and are described as extremely well defined landforms of scientific, educational and scenic value (Kenny & Hayward, 1993).</p> <p>Aorangi has a large valley that dips at its northern end to a boulder beach and a flat with salt pans. The Aorangi Island terraces, from the northern coast to Oneho Hill, Puweto Valley floor, are a well-preserved sequence of eight uplifted marine terraces reaching 170-185 metres, possibly dating from 700,000 years ago. There are locally derived rounded pebbles on the terraces (the most well-rounded occurring on the highest terrace, in contrast with the present day sea-cliffed coast. The terrace surfaces are modified by pre-historic Māori horticulture. These terraces are classified as being of regional geological importance by Kenny and Hayward (1993), and the stonewall defences around a prehistoric Pa on a rocky knoll above the north end of Shag Bay are classified in the same inventory as being of national significance.</p> <p>The Hen Island Pinnacles, an area of spectacular rock pinnacles including Balancing Rock on the western end of the crest of Hen Island, have been classified as an extremely well defined landform of regional scientific and educational value (Kenny & Hayward, 1993). Another feature of geological significance is the prehistoric stone works in the area behind Pukanui Bay and Dragon's Mouth Cove. Numerous free-standing walls, stone rows, heaps, platforms and retaining walls have been constructed from andesite scree that was cleared in preparation for gardening. Because this is one of the best preserved areas of stonework associated with prehistoric gardening in New Zealand, this site has been classified as being of national importance (Kenny & Hayward, 1993).</p> <p>The Chickens group of islands, of which the largest are Lady Alice, Whakupuke and Coppermine, are found about 6.8 km north of Taranga. They have steep sided greywacke and andesitic intrusion cliffs, rising up to 234 metres above sea level. Some small gravel</p>

	<p>and boulder beaches are found on their southern coastlines.</p> <p>Coppermine Island contains several sites of geological significance. The western end of Coppermine Island contains an example of porphyry copper deposit (more specifically pyrrhotite-chalcopyrite hydrothermal mineralisation in pyroxene diorite and dacite breccia) that has been classified as being of national importance. The coastal cliffs on the western end of the island are of regional significance in that they represent the only diorite plutons in the region. These appear as dark coloured, coarse grained, pyroxene diorite, roughly elliptical in shape, with weak foliations parallel to the margins, and date from the Miocene (Kenny & Hayward, 1993). The shore platforms and coastal cliffs around the island also exhibit examples of albite-epidote and hornblende hornfels, which are of regional geological importance (Kenny & Hayward, 1993).</p>
Soil Types	-
Ecology (including protected vegetation / features, PNAP Level 1 and 2 sites)	<p>Rocky shores are the predominant marine habitat across all the offshore islands in the study area. Many ecosystems contain an abundance and variety of species not found on the mainland coast. Most contain some tropical or subtropical species, presumably due to the influence of the East Auckland Current. The Poor Knights Islands are also noted for their large numbers of petrels. Ten species of petrel are known to breed on the Poor Knights Islands, and petrel population numbers are high. The most abundant of these species is the Bullers shearwater. The Poor Knights Islands are the only breeding place for this species. The other common resident sea birds are gannets, which nest on the Sugar Loaf and the Pinnacles. Fairy prions also nest on the islands. Although beyond the scope of this report, it is pertinent to note that there is a high degree of endemism in the terrestrial biota on the Poor Knights, due to the islands' separation from the mainland during the last period of glaciation. These include numerous endemic insects, including weta species. Some of the plant species exhibit features not found elsewhere in the same species, such as particularly large leaves or unusual growth forms. The Poor Knights Islands have been identified as an area of significant conservation value.</p> <p>Unlike the Poor Knights Islands, the Hen and Chickens Island were connected to the mainland during the last glacial period. However, these islands are also important because of their terrestrial fauna, specifically their bird populations, which include forest species that are rare or endangered elsewhere. There are also significant reptile populations, including tuatara, and ten species of lizard (DoC, 1995). The Hen and Chickens Islands have been identified as an area of significant conservation value.</p> <p>Hauturu supports some 370 plant species including 90 fern varieties – it is the largest remaining native forest area in New Zealand unmodified by browsing animals and man (Hauraki Gulf Maritime Park Board, 1983). As a predator-free nature reserve, Hauturu plays an important role in the conservation of rare and endangered bird species, which nest and breed on the island. While the island is most significant in its conservation of terrestrial bird species, and number of marine birds also occur on the island. These include northern blue penguins, flesh footed shearwaters, white-fronted terns, gannets,</p>

	<p>Bullers shearwater, diving petrels, grey-faced petrels, fairy prions, fluttering shearwaters and little shearwaters. Less frequently observed birds include the wandering albatross, black browed mollyhawk, shy (Salvin's) mollyhawk, giant petrel, Cape pigeon, black-winged petrel, Arctic skua, common diving petrel, and white-faced storm petrel. A small population of the endangered brown teal is found on the Hauturu. Ten reptile species and two species of bats also occur on the island, as does a species of giant weta, found only there.</p> <p>The <u>Mokohinau</u> Islands contain a variety of marine habitats, including broken rock, boulder beaches, sandy sediments, and kelp forests. These contain a large diversity of marine species. The islands are particularly noted for their high diversity of encrusting invertebrates and fish. The islands are the closest to Auckland to contain a subtropical element in their marine biota (Auckland Regional Council, 1995). The coastal waters around the islands are renowned for their larger marine life particularly marlin, shark, kingfish and hapuku.</p> <p><u>Fanal Island</u> (75 hectares) is the least modified of the Mokohinau Islands with respect to its terrestrial environment, and is surrounded by cliffs up to 150 m high. Half of the island is covered in mountain flax but the remainder mainly consists of houpara and young kohe kohe. Fanal, Flax, Trig and Groper Islands are all wildlife sanctuaries. Burgess Island (52 hectares) is the site of a lighthouse station. All of the islands have suffered from naturally occurring bush fires and the resulting vegetation is fairly stunted. The cliff vegetation within the coastal environment is the habitat of several threatened plant species. A number of species of coastal and sea birds breed on most of the islands and stacks in the group (Auckland Regional Council, 1995). In addition to a range of native terrestrial birds, eight species of reptiles occur, including a small endangered skink. Rare beetles have also been identified on the islands (Hauraki Gulf Maritime Parks Board, 1983). The area has been selected by the Department of Conservation as an Area of Significant Conservation Value.</p>
Archaeological sites	<p>Bruce Hayward reports in Prehistoric history of the Poor Knights Islands, Northern New Zealand as follows:</p> <p><i>"Fifty-two prehistoric archaeological sites are recorded from the Poor Knights Islands. Two pa are present on each of the main islands - Tawhiti Rahi and Aorangi, and one on smaller Aorangaia. All five pa have high stone retaining walls that probably had defensive purposes. Most sites are terraces and/or stonework features that were produced during cultivation activities, but some smaller habitation sites are also recognised. The extent of these cultivation-related sites suggests that virtually all the flat and gently sloping land (150 ha) on the Poor Knights was cultivated at one time or other in the prehistoric period. Despite this large area that has been used for cultivation, only six kumara storage pits are present on the islands. This could mean that the islands were usually abandoned in winter, but equally it may indicate that the islands' temperate climate allowed year round kumara cultivation. Shell midden is sparse on the islands, reflecting the lack of beaches and the fact that the intertidal rocks are mostly inaccessible cliffs. Three unusual, square to subcircular bowls, each c. 0.2m diameter and up to 0.2m deep, are carved into the tops of large boulders in three separate locations on Aorangi. The extent of cultivations and the fairly uniform 150 to 200 year age of most of the forest cover, indicates that prehistoric forest clearance on the Poor Knights was fairly complete and the resulting impact on the fauna would also have been enormous".</i></p>

Heritage Landscapes	Refer to above
<p>Landscape characterisation (including the identification of any specific characteristics)</p> <p>A number of islands are included within this Land Type including islands within the Poor Knights group, the rocky islets to the south (High Peak Rock and Sugarloaf Rock), Islands within the Hen and Chickens group including Sail Rock, and Mokohinau Island group.</p> <p>The Poor Knights Islands form a scattered group of islands roughly orientated north-south 18 km from the nearest mainland and 21 km north east of Tutukaka Harbour. There are two large islands, Tawhiti Rahi (129 ha) and Aorangi (66 ha), with numerous smaller islets, stacks and rocks. These are almost entirely bounded by cliffs (up to 240 m above sea level), which drop below the water surface to depths of 50 to 100 m where loose boulders lie on a sandy flat. The Pinnacles (two islets surrounded by five smaller stacks and rocks), found 6 km to the south, and the Sugarloaf, a solitary rock 7.7 km to the south, are also included in the Poor Knights Island group.</p> <p>The Hen and Chickens Islands are a group of islands only 20 kilometres out to sea from the Whangarei Harbour entrance. The largest island (Taranga) is 475 hectares in size. It is composed of andesitic breccia and flows with very steep cliffs and bluffs rising to 417 metres. The northern shores are constantly buffeted by heavy swells, and rise as steep V-sided valleys to the deeply weathered peaks.</p> <p>The islands generally display similar characteristics, forming clusters of rocky islands with small islets. They are largely bounded by steep cliffs and bluffs along the waterline, with vertically striated or sculpted rock. Caves and rock stacks are common.</p> <p>Some of the larger islands have recognizable silhouettes with prominent peaks and headlands. The profile of Taranga, with its rocky pinnacles echoes the profile of Manaia when viewed from the south west.</p> <p>The islands are vegetated with a dense low indigenous tree and shrub cover. Where the islands are edged with steep slopes, vegetation flows down these slopes almost to water level and has the appearance of being 'draped' over the landform.</p> <p>The islands are unaffected by built development, however fifty-two prehistoric archaeological sites are recorded on the Poor Knights Islands and these island have significant cultural importance to Maori.</p>	

EVALUATION		
Criteria	Rank	Comment
Natural Science Factors		
Representativeness Natural landscapes are clearly characteristic of the area, district or region. The key components of the landscape will be present in a way that defines the character of the place and distills its character and essence. Endemic associations.	5	Like the islands of the Hauraki Gulf, the island off the Northland coast are highly distinctive and representative of the east coast. They are essential component of the character of the coast and demonstrate strong endemic associations.
Rarity Natural features are unique or rare in the region or nationally, and few comparable examples exist.	5	Whilst a number of examples of this land type exist, the strength lies partly in the repeated occurrence within the region. They are characteristic of Northland and rare in a national sense.
Aesthetic Values		
Coherence The patterns of land cover and land use are largely in harmony with the underlying natural pattern of the landform of the area and there are no significant discordant elements of land cover or land use.	5	The islands display a high level of coherence with the natural vegetation patterns clearly reflecting the underlying topography. The island have a strongly natural appearance.

Diversity & Complexity The elements contributing to overall landscape character are diverse and complex (particularly in ecological terms) without creating disharmony.	5	The ranges display a high level of ecological diversity and complexity, with a variety of vegetation types reflecting the topography, drainage patterns and slope aspect.
Vividness Natural features and landscape are widely recognised across the community and beyond the local area and remain clearly in the memory; striking landscapes are symbolic of an area due to their recognisable and memorable qualities.	5	The naturalness of the islands, their scale and dramatic cliffs and rock formations are particularly striking and highly memorable. The colour of the sea varies, but on clear days, the vivid aquamarine colour of the ocean further heightens the vividness of the features.
Naturalness How affected by human activity is the landscape? Does human activity intrude on the landscape? Eg. <ul style="list-style-type: none"> • Presence of buildings and associated built development. • Presence of infrastructure services. • Extent of indigenous forest cover. • Homogeneity of exotic vegetation. • Presence / extent of modified agricultural land use. • Strength of natural processes / ecological patterns. • Unmodified and legible physical relief and landform. • Presence of water. 	5	The unit displays a high level of naturalness with minimal evident human activity. Vegetation types and patterns are clearly representative of topography, drainage patterns and slope aspect, and this suggests a high level of strength of natural processes.
Intactness Natural systems are intact and aesthetically coherent and do not display significant visual signs of human modification, intervention or manipulation, visually intact and highly aesthetic natural landscapes.	5	The islands display a very high level of intactness.
Experiential Values		
Expressiveness The 'legibility' of the landscape. Natural features clearly demonstrate the natural processes that formed them.	5	The islands display a high level of legibility in terms of the the coastal and hydrological processes that have shaped their form – including the sculpted rock formations, stacks and caves. The complexity and spatial arrangement of vegetation reflects the underlying topographical form of the unit.
Sensory qualities (These are landscape phenomena as directly perceived and experienced by humans, such as the view of a scenic landscape, or the distinctive smell and sound of the foreshore).	5	Whilst dependent on the weather conditions, the islands are generally perceived as highly distinctive, dramatic and attractive. Their location engenders a sense of exposure and vulnerability.
Transient Values The consistent and repeated occurrence of transient features that contributes to the character, qualities and values of the landscape; landscapes are widely recognised for their transient features and the contribution that these make to the landscape.	5	Strongly influenced by light and weather conditions, the islands display considerable and varied values. Ridges create extremely distinctive silhouettes during dawn and dusk. Seasonal influences of flowering trees and other plants, including pohutukawa and poor knights lilies.
Remoteness / Wildness Does the landscape display a wilderness character, remote from and untouched by human presence? Eg. <ul style="list-style-type: none"> • Sense of remoteness • Accessibility • Distance from built development 	5	The distance of the islands from the mainland reduces the number of visitors, although regular trips are scheduled to the poor knights from Tutukaka. The sense of remoteness and wildness is very high.

Shared and recognised values Natural features and landscape are widely known and valued by the immediate and wider community for their contribution to a sense of place leading to a strong community association with, or high public esteem for the place.	5	The off-shore islands are widely recognised and valued by the wider community and contribute in a significant sense to the sense of place
Spiritual, cultural and historical associations Natural features and landscapes can be clearly and widely known and influenced by their connection to the spiritual, cultural and historical valued in the place and includes associative meanings and associative activities valued by the community. These can include both activities and meanings associative meanings are spiritual, cultural or social associations with particular landscape elements, features, or areas, whilst associative activities are patterns of social activity that occur in particular parts of a landscape, for example, popular walking routes or fishing spots.	5	Cultural associations associated with the unit are very high. The islands are also valued as a recreational resource, both for fishing in some areas, and as a marine reserve around the Poor Knights.

Rank scale between 1 (low) and 5 (high)

Land Types
Coastal cliffs / escarpment
Low escarpment
Bays and headlands
Beach
Dune complex
Reefs and islands
Estuarine / inlet
Open harbour
Coastal plain
Rolling hills
Steep hills; moderate to high relief
Ranges; high relief
Strongly rolling land
Low rolling land
Valley floors and flats
Plains
Volcanic cones
River mouth
Wetland
Watercourses
Lakes and water bodies

Photographs of unit



Poor Knights Islands



Poor Knights Islands



View to west end of Taranga (Hen and Chickens Islands)



View of Marotere Islands (Hen and Chickens) from east