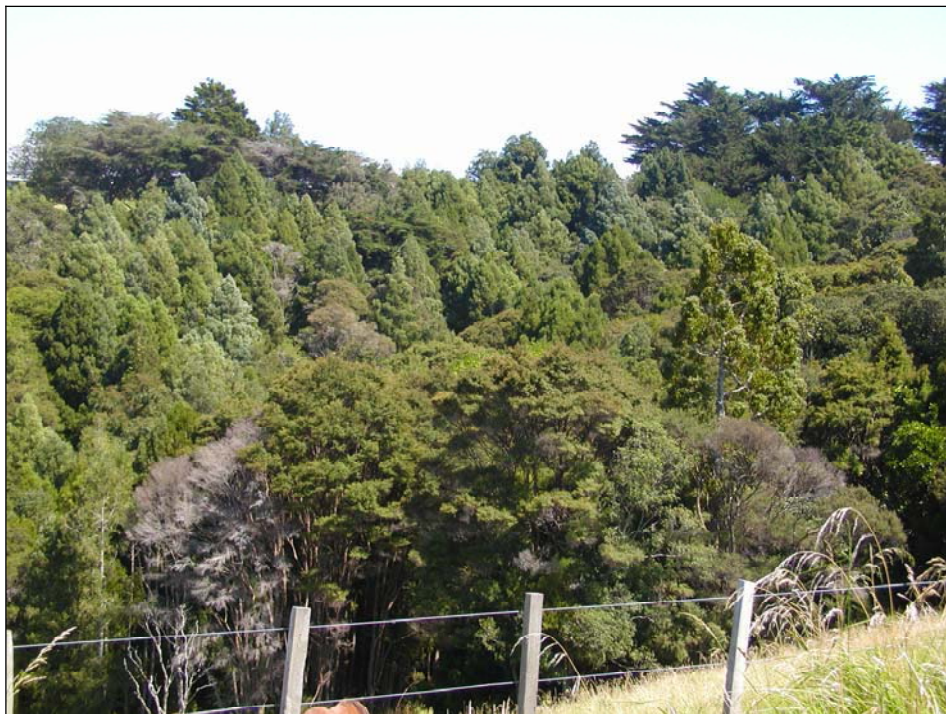


NORTH SHORE CITY ECOLOGICAL SURVEY

A Survey of Sites of Ecological Significance in Tamaki and Rodney Ecological Districts

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Cover photo: Regenerating podocarp forest in Albany

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Executive Summary

The ecological survey report for North Shore City has identified significant areas of indigenous vegetation in the North Shore section of the Tamaki Ecological District, and a small portion of the Rodney Ecological District that lies within the North Shore. Tamaki Ecological District covers the Auckland City isthmus and North Shore of the Auckland region, and is one of a total of eight ecological districts within the Auckland Ecological Region (Figure 1).

The North Shore section of Tamaki Ecological District covers 21% of the district and contains 49% of the indigenous forest and scrub cover of the district. The indigenous vegetation cover of the Tamaki Ecological District as a whole has been significantly reduced from its former extent, with much of the remaining native vegetation lying within the North Shore section. Only 6.9% of the total land cover of the ecological district now remains in native vegetation cover, while 16% of the land cover of North Shore City section remains in native vegetation.

North Shore City contains many of the most significant remnants of indigenous forest remaining in the Tamaki Ecological District and Auckland Region. These include:

- Remnants of kauri forest
- Broadleaved-podocarp forest
- Gumland scrub associations
- Regenerating kanuka forests
- Large forested coastal escarpments
- Large estuaries
- Volcanic forest remnants
- Coastal forest including remnants of pohutukawa forest.

The North Shore vegetation provides habitats for many important northern forest species including kauri, taraire, mangeao, puriri and pohutukawa, and native birds and animals such as kereru, tui and skinks and geckos. Vegetation types are represented that are now rare and much reduced from their former extent in the landscape (e.g. pohutukawa forest, mature kauri forest, kahikatea forest, kauri-hard beech forest, freshwater wetlands and swamp maire associations).

The ecological survey has mapped 2157ha of significant terrestrial and estuarine indigenous vegetation within North Shore City, using national Protected Natural Areas Programme (PNAP) survey techniques. This method is consistent with survey methods used throughout the region for biodiversity survey.

Sites of indigenous vegetation were described in terms of the main vegetation types present and the physical areas they occur on. The PNAP survey method describes this as an “ecological unit”. An example of an ecological unit would be ‘pohutukawa forest on coastal cliffs’.

Ecological units were used to define the biological and physical character of the ecological district and were used to identify the best or most representative examples of the ecological diversity of a district. The protection of representative examples of the full range of biological diversity and ecological patterns and processes in an ecological district is the primary goal of the PNAP.

Given the limited extent of indigenous vegetation remaining in the Tamaki Ecological District, most areas of native vegetation are important to retain and protect. Emphasis was also given to identifying ecological linkage areas in the landscape. Remnants of forest in Tamaki Ecological District play an important role within the region as corridors and ‘stepping stones’ for native wildlife and flora between Gulf Islands and larger habitats such as the Waitakere Ranges and Hunua Ranges.

A small section of the Rodney Ecological District also occurs within North Shore. Significant remnants of forest have been identified in the Rodney Ecological District section, within the context of the remaining vegetation of the North Shore.

Eighty five (85) Sites of Ecological Significance have been identified in the Tamaki Ecological District section of the North Shore with a further 4 significant areas identified in Rodney Ecological District. In addition to these, 28 “ecological linkage” areas have also been identified. These significant areas are the natural areas that best represent the character and diversity of the biodiversity of the North Shore.

Key findings of the Survey

- The biodiversity of North Shore is representative of New Zealand's northern lowland ecosystems, which have been significantly reduced from their former extent in NZ. The kauri forests, coastal pohutukawa, volcanic forest remnants, regenerating forests and coastal escarpments. Their ecological character is special and unique to the North Shore City, and they are important remnants within the Auckland region and in the context of New Zealand's northern biodiversity.
- The indigenous vegetation of Tamaki Ecological District and North Shore City plays a key central role within the region as an ecological linkage and corridor between key large significant natural areas such as the Waitakere Ranges and Hauraki Gulf Islands.
- North Shore City contains a significant proportion (49%) of the remaining indigenous vegetation of the Tamaki Ecological District.
- North Shore contains the largest areas of continuous indigenous vegetation remaining in the Tamaki Ecological District. The largest include:
 - Lucas Creek escarpment = 295.1ha
 - Kauri Park – Birkenhead = 200 ha
 - Hellyers Creek escarpment = 143.5
 - Albany Heights = 109ha
 - Paremoremo Reserve = 106ha
 - Eskdale Bush linking through to Kaipatiki Creek = 72ha
 - Kauri Glen = 30ha
- The main areas of native vegetation occur in the Albany-Lucas Creek area, the escarpments of the Upper Waitemata Harbour Creeks, around the south-west coast of the Waitemata Harbour, and in the steep gullies of Birkenhead, Birkdale and Northcote. Very few areas of vegetation remain on the East Coast Bays and Takapuna- Devonport area of the City.
- A total of 2157ha of indigenous vegetation has been mapped as part of the survey, with 83% being forest communities, 11% scrubland communities, 5% estuarine communities and 0.7% freshwater wetlands. Lake Pupuke is the only natural lake, covering 105.9ha

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- The Albany-Lucas Creek area contains a significant large corridor of vegetation comprising interconnected forest patches that total an area of 706.2ha.
 - Mature kauri forest would have once been the most common vegetation type on the North Shore (in pre-human times). Examples of mature (original) kauri forest are now only found at 3 sites and cover 8.4ha, only 0.7% of the original extent.
 - Kahikatea forests would have once been extensive in low-lying areas of Northcote, Albany basin and Wairau Valley. They are now a nationally threatened vegetation type. 9ha of kahikatea forest on alluvial soils remains in North Shore, only 0.8% of the original extent. The largest, most significant remnant is at Smiths Bush.
 - There are four remnants of once more extensive broadleaved forest on volcanic tuff crater soils (at Lake Pupuke, Onepoto Basin, Tank Farm and Milford).
 - Freshwater wetlands have been significantly reduced from their former extent in North Shore City. Only 4.8ha of raupo swamp remains and only 3.7ha of swamp maire forest. Soldiers Bay contains the only area of wetland with intact vegetation sequences from estuarine to freshwater to terrestrial forest, remaining in Tamaki Ecological District. It is of regional ecological significance (Auckland Regional Policy Statement, 1999).
 - Young regenerating kauri-tanekaha forest is the most common vegetation type in the district, covering 392ha. Gumland scrub and manuka-kanuka communities cover over 215ha.
 - Kauri-hard beech associations occur at five sites including Hellyers Creek, Chatswood, Lucas Creek escarpment, Paremoremo Reserve and Kauri Park.
 - There is only one remaining intact dune system (which is being restored and replanted) in the ecological district (at Long Bay Regional Park).
 - Pohutukawa forest would have once been extensive in the coastal areas of the North Shore and the Auckland region. It has now been reduced to fragments and narrow strips around the coast, often only one tree wide. 104ha of pohutukawa forest and treeland has been mapped, made up of over 80 fragments.

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- 126ha of mangroves, saltmarsh and shellbanks were mapped as part of this survey. Tank Farm, Shoal Bay, the Upper Waitemata Harbour creeks (Hellyers, Lucas and Paremoremo) and Okura Estuary contain significant areas of mangroves and saltmarsh communities. Shoal Bay to Ngataringa Bay contains extensive areas of shellbanks, mangroves and saltmarsh communities of regional and national ecological significance. The shellbank communities are used as a high tide roost by wading birds and a variety of coastal bird species (Auckland Regional Policy Statement 1999). It is a nesting area for the threatened NZ dotterel.
 - Weeds and animal pests are impacting on the indigenous biodiversity of the North Shore, with 307ha of vegetation containing a significant component of exotic species in the canopy, including pine, wattle, tree privet or gums. Weed species are present within the large majority of vegetation sites identified through this survey. At least two thirds of significant natural areas are impacted to a moderate to high degree by weeds. Weeds and pests present the greatest of all threats to the indigenous biodiversity within this area.
 - North Shore City contains 1867ha of parks and reserves. While many of the significant areas identified in the report lie within or partially within reserves, there are a number of areas primarily in private ownership. These areas include the coastal escarpments of Lucas Creek, parts of Chelsea-Kauri Point, and a number of forest areas in Albany.
 - The native vegetation and ecosystems of North Shore City provide an important habitat for a range of native fauna, including native birds, fish, skinks, geckos and invertebrates. Native bird species (e.g. tui and kaka) are known to fly from the Hauraki Gulf Islands (e.g. Little Barrier and Tiritiri Matangi Islands) to forest remnants on the North Shore. These remnants provide important habitats and ecological corridors for these species. Nationally threatened fauna species recorded from the North Shore include: reef heron, kaka, wrybill, Caspian tern, kereru, banded dotterel, long finned eel, giant kokopu, fernbird, NZ dotterel, banded rail and moko skink.
 - The nationally threatened fern species, king fern, and the regionally threatened, swamp astelia are known from sites on the North Shore. Regionally uncommon vegetation types present include swamp maire forest, kauri-hard beech forest, mature kauri forest, kahikatea forest and volcanic broadleaved forest. Lowland and coastal forest ecosystems, freshwater wetlands and dunelands, in general, are nationally threatened (Department of Conservation and Ministry for the Environment, 2000).