



Threatened plants of Northland Conservancy



Department of Conservation
Te Papa Atawhai

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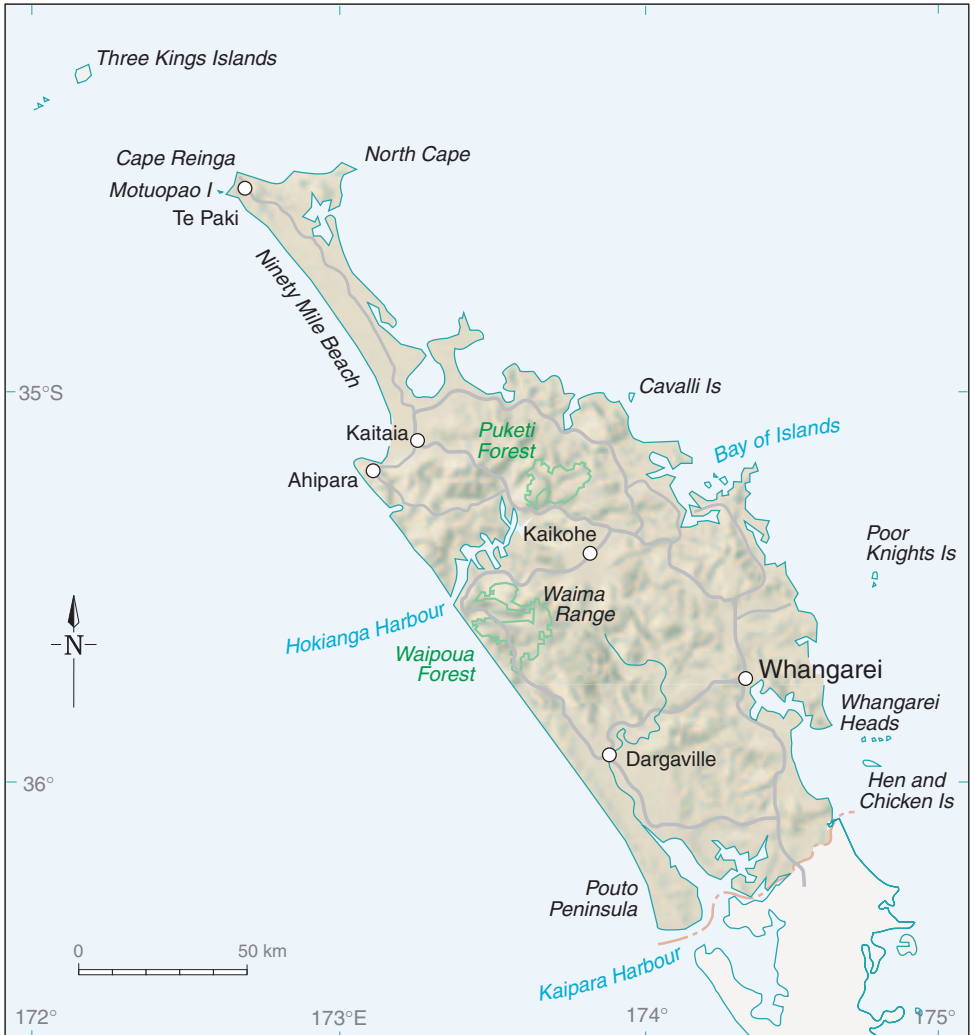
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Introduction

Within New Zealand, Northland (Fig. 1) is one of three regional 'hotspots' for local endemism and species diversity. Of international significance are the Poor Knights and Three Kings Islands, and the magnesium-rich, ultramafic geological features of the North Cape region; these contain many locally endemic, threatened plants. Also

Figure 1. Northland Conservancy with key geographic names mentioned in the text.



of international significance are the kauri forests (*Agathis australis*) around Waipoua, which provide one of the best examples of this forest type. Nationally important sites in the conservancy include the Waima Range, where several locally endemic, threatened plants occur; Poutu Peninsula, on the northwestern side of the Kaipara Harbour, where one of the best remaining dune systems in the North Island occurs; and the numerous offshore islands to the east of the Northland Peninsula, which contain many unique ecosystems within them.

The Northland Peninsula itself is primarily subtropical, coastal or lowland in character and supports an ecologically diverse range of coastal and marine environments. Large tracts of intact forest, shrubland, gumland scrub, wetland and dunes occur. However, pressure from intensive rural, urban and coastal settlement in conjunction with the many animal and plant pests that have invaded the landscape, have modified and fragmented much of the natural character of the Conservancy. This has impacted on its natural areas. The level of degradation of particular habitats is reflected in the number of threatened plants that occur within those ecosystems. Many of our most highly threatened species occur in the most highly threatened ecosystems. About one-third of the threatened plants that occur in the Conservancy are found in wetlands, about one-third are found in coastal environments, and the final third mostly in forest or at forest margins. Many species are endemic to the Northland region whereas others may reach their natural distribution limits here.

Currently, 179 plant species are listed as threatened that occur or have occurred in the Northland Conservancy (Table 1, Appendix 1: data from Hitchmough 2002). Of these, one species is assumed to be nationally extinct: Adams mistletoe—*Trilepidea adamsii*, was last seen in the 1954 near Cambridge in the Waikato region. Other plants such as kakabeak—*Clianthus puniceus* and swamp helmet orchid—*Anzybas carsei* are considered extirpated (i.e., “locally extinct”) in Northland but still occur locally in other parts of the country. Still present but at risk of extinction are species such as the Nationally Critical Holloway’s crystalwort—*Atriplex hollowayi* which are now confined to Northland (having disappeared from elsewhere in the country). Recently reintroduced to Northland at Poutu is *Sebaea ovata*.

TABLE 1. NUMBER OF THREATENED PLANT TAXA IN NORTHLAND, BY THREAT CATEGORY.

THREAT CATEGORY	PLANT TAXA
Extinct	1
Acutely Threatened	
Nationally Critical	24
Nationally Endangered	17
Nationally Vulnerable	3
Chronically Threatened	
Serious Decline	13
Gradual Decline	25
At Risk	
Range Restricted	52
Sparse	31
Data Deficient	13
TOTAL	179

Advocacy

This booklet is designed as a field guide to 50 highly threatened plants that occur in Northland. Its purpose is to raise public awareness about these plants and in doing so, highlight the importance of protecting the communities that these plants occupy. It also provides a resource to assist with the identification of these plants. These species are so threatened or in such serious decline in New Zealand that it is uncertain whether they will continue to persist in the wild. New information about the distribution of threatened plants may be sent to the Northland Conservancy Office of the Department of Conservation (149-151 Bank Street, Whangarei). This guide does not cover the many threatened plants which are endemic to either offshore islands or single sites, such as North Cape Scientific Reserve.

None of the plants identified in this book should be collected from the wild.

Threat classification

To the best of our abilities, all indigenous New Zealand biota have been assessed using the system of Molloy et al. (2002), and lists of assessed taxa were provided by Hitchmough (2002) and de Lange et al. (in press). The number of vascular plant taxa relevant to

Northland Conservancy in each threat category are provided in Table 1. (A full list is provided in Appendix 1, and its qualifiers are explained in Appendix 2.)

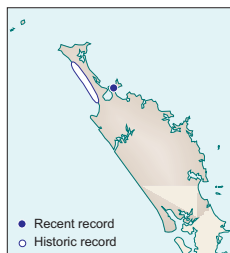
Appendix 3 matches the common names used in the text to scientific names; Appendix 4 contains a glossary of technical terms used in the text.

Species profiles

Information about each plant species is presented along with photographs and illustrations to aid identification. Distributions have been mapped to show where current populations exist, where they have been known historically and when thought to be extirpated, i.e. extinct at a site. To declare a population extirpated is always risky: plants are easily overlooked and one can never be certain. The definition of an extirpated/extinct population for the purposes of this guide is when it has not been seen for more than 50 years. In some instances, plants have been seen more recently than the 50-year mark, but recent searches have found the habitat has been destroyed and/or the population has undoubtedly gone. Records are indicated as historic where the species has not been seen for at least 10 years.

Amphibromus fluitans

water brome



Status

Nationally Endangered

Description

A perennial, semi-aquatic grass that forms loose grey-green, tufted mats not usually more than 150 mm tall (can reach 400 mm). Leaf blades are slightly rough to the touch, can be either flat, or slightly in-rolled and generally narrower than the leaf sheath. The blue-grey barley-like flowers are borne on short, slightly rough stems with dark nodes, and are often partially enclosed within the leaf sheath. The inconspicuous inflorescences of this species are produced year round.

Similar species

The identification of water brome without flowers is extremely difficult. Sterile specimens of creeping bent (*Agrostis stolonifera*) are most likely to be misidentified as water brome (*A. fluitans*) as this species often grows in the same habitat. Creeping bent has fleshy leaves and the leaf blade tends to be wider than the sheath. Knead foxtail (*Alopecurus geniculatus*) is also similar in the vegetative state however it is larger and coarser than *A. fluitans*. Sweetgrasses (*Glyceria* species) have long thin (often blue-green coloured) leaves with cross-veinlets and they tend to float on water.

Habitat

Moderately fertile, seasonally dry wetlands (Ogle 1987) and along the edges of shallow lakes and lagoons. Occasionally plants may be found in montane wetland habitats.

Distribution

Australia, New Zealand, both North and South Islands from Ninety Mile Beach and Karikari Peninsula (P.J. de Lange pers. comm.) to Maher's Swamp and Lake Tekapo.

Threats

Habitat loss through wetland drainage, stock grazing and competition from weeds.

Comment

This species exists in habitats dependent on alternating flood/drought cycles so it can be absent from a known site for many years before reappearing. It is thought that plants are unable to survive rapid inundation and water levels over 1 metre. Once water levels drop sufficiently, new plants appear, probably from a large, long-lived seed-bank.

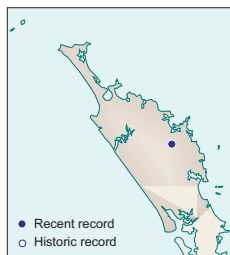


Left: *Amphibromus fluitans*
flower. Photo: C.C. Ogle.

Right: *Amphibromus*
fluitans habit, Waihora.
Photo: A. Brandon.

Anogramma leptophylla

Jersey fern



Status

Gradual Decline

Description

An annual, tufted fern to 60 mm tall. Frond stalks are hairless and dark brown to red-brown. The frond leaf is a delicate pale green and either sterile or fertile. Sterile fronds are smaller and appear first. Fertile fronds each have one black sorus near the tip of each leaflet. This is the only native annual fern in New Zealand, appearing in winter and dying off by early November.



Similar species

None

Habitat

East or south facing rocks or clay banks above streams, often occurring with the liverwort *Targionia hypophylla*.

Distribution

Throughout New Zealand, from Waiomio to Dunedin. Only one small population known in Northland. Also in Central and South America, Africa, Europe, India and Australia.

Threats

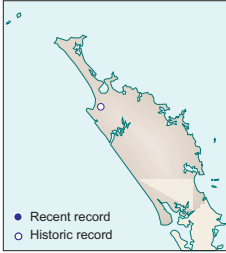
Vegetation clearing and competition from weeds.

Anogramma leptophylla.

Photo: A.J. Townsend.

Anzybas carsei

helmet orchid



Status

Nationally Critical

Description

An inconspicuous orchid to 30 mm tall when flowering. It has a small heart-shaped leaf about the size of a finger nail. The tubular, 8–10 mm long maroon-purple flowers are usually solitary. The hood of the flower has a deep cleft and the lower lip (labellum) is raised to show butted, rather than overlapped, edges. Flowering occurs in mid-to-late spring. The leaf is present from February to December.

Similar species

Anzybas (Corybas) rotundifolius, though similar, never grows in bogs. It is a mid-winter flowering species which possesses a larger flower whose tubular lips overlap and whose hood has no cleft. The orchid more likely to be confused with *Anzybas (Corybas) carsei* is *Singularlybas (Corybas) oblongus*, as it also grows in bogs. However the flowers are quite different: the labellum is fringed and the petals of *S. oblongus* form long, thin 'spider'-like projections. It has a thin, textured, oblong leaf with reddish veins on the underside.

Habitat

At present known only from one site where it grows in open *Schoenus/ Empodisma* sedge/wirerush vegetation, though it was formerly more common in several, now drained, *Sporadanthus*-dominated bogs.

Distribution

Currently known only from the Waikato Basin but previously known from Lake Tangonge in Aupouri Ecological District.

Threats

Wetland drainage and plant collectors have contributed to the decline of this species in the past. The single remaining population is now primarily at risk through natural succession.

Comment

Locations of this orchid should be kept confidential as there is a risk that it may be taken by orchid collectors.

This species was until recently known as *Corybas carsei*.



Anzybas carsei.
Photo: E.A. Scanlen.

Atriplex hollowayi

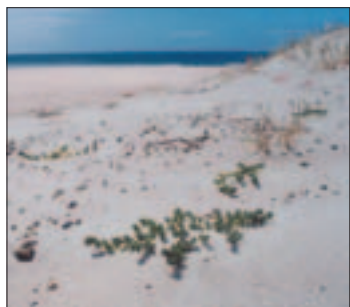
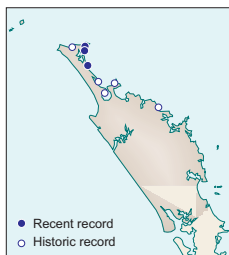
Holloway's crystalwort

Status

Nationally Critical

Description

A much-branched, very soft, prostrate annual herb, which forms a low mound (to 2 m across) as sand builds up around it. Branches are yellowish brown, fleshy 0.3–1.5 m long. Leaves are small, thick and fleshy; deep green and covered in tiny glistening 'warts' which become silvery-white when dry. These give the plant the look of having been frosted with sugar. Seeds germinate in spring and plants grow rapidly and flower by mid-summer.



Atriplex hollowayi plant
(top) and habitat.

Photos: L.Forester.

Similar species

Atriplex billardierei is similar but restricted in New Zealand to the Chatham Islands.

Habitat

Open, sandy beaches. Seeds are dispersed on ocean currents and germinate just above the high tide mark.

Distribution

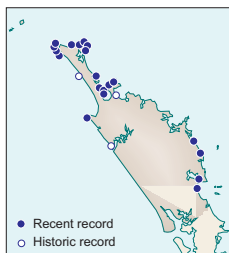
Previously widespread throughout the North Island from Northland to Wellington, now known only from the Far North of Northland.

Threats

Over-collection from botanists, browse (the plant is possibly palatable to horses, hares and rabbits), competition (from weeds) and disturbance (e.g., physical damage from animals and vehicles, and housing development) are the most significant threats.

Austrofestuca littoralis

sand tussock



Status

Gradual Decline

Description

A stout, tufted erect grass forming pale yellow-green tussocks, 0.75 – 1 m tall. The leaves are fine, rolled and needle-like. Seed heads are buried within foliage, are flattened, yellowish-white and have a zigzag appearance. Flowers appear in early summer and seeds are produced in late summer.

Similar species

Marram grass has larger, blue-green leaves and is much a more robust plant. Its seed heads are larger and overtop the foliage.

Habitat

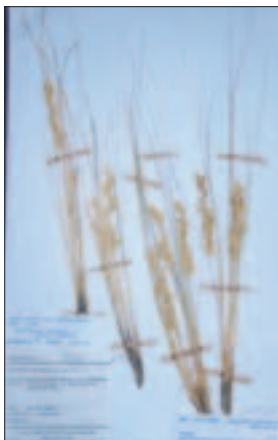
Coastal dunes and sandy and rocky places near the shoreline, occasionally on damp sand near coastal stream margins.

Distribution

Locally distributed on North, South, Stewart and Chatham Islands. Most records in Northland are from the far north. Also found in temperate Australia.

Below: *Austrofestuca littoralis*.

Photo: S.P. Courtney.



Threats

Marram, a far more aggressive species, has out-competed sand tussock. Habitat loss through coastal development, dune disturbance by vehicles, competition from marram grass and browse by sheep. Cattle, goats and horses are the main threats.

Austrofestuca littoralis herbarium specimen. Photo: L.J. Forester.