

unfamiliar with plant conservation, through its creative plant displays supported by interpretation. Gardens staff use the garden on tours, for example in conservation week, and as a place to teach university labs. As an example of its use, we were able to discuss the threat of myrtle rust to native myrtles at the swamp habitat, on *Syzygium maire*, which has been infected by myrtle rust (but was not evident on our visit). The inclusion of threatened plants that look like weeds, such as *Sonchus kirkii* and *Picris burbridgeae*, demonstrate the value of the TNPG in helping people identify some of our most threatened herbs. Even bot soccers might walk past them and think they are weeds. Plants highlighted on our walk included the green mistletoe (*Ileostylus micranthus*) growing on its main host from Miranda (*Plagianthus divaricatus*) in the saltmarsh habitat. The TNPG has been the venue for the teaching of various conservation groups about seed dispersal in this mistletoe.

Challenges of managing the habitats that are shaped by ecological factors in the wild were shared, like salt-laden winds or tides, that are absent in a garden. Conditions in natural environments are usually far harsher than the benevolent growing conditions in a garden where native plant growth is

often extremely vigorous. In addition, the many exotic annual herbaceous weeds relentlessly find every gap, making the display of 'bare ground' often found in natural habitats impossible to replicate. The saltmarsh/coastal wetland habitat was extensively remodelled in 2020 to try to mitigate the weed issues in this habitat. Managing an invasion of *Cymbalaria muralis* (ivy-leaved toad flax) in the lava field habitat is particularly exhausting as it grows deep into the lava rocks and under the prostrate threatened plants, making hand-weeding difficult. One good 'problem' to have is the 'weedy' threatened native plants that always seem to move away from their plant labels and off to another habitat that they are not usually naturally found in.

Participants were pleased to see a kaka fly overhead twice – Jeff informed us that they were usually present, and that they particularly liked feeding on the ice-cream bean tree (*Inga edulis*). After spending an hour and a half in the TNPG we went 'behind the scenes' at the nursery to see some of the threatened plants being grown for returning to the wild in conservation projects, such as *Metrosideros bartlettii*, *Pimelea eremitica*, *Anogramma leptophylla* (currently dormant) and *Veronica jovellanoides*.

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Rabbit Island / Takangariki, Kawau Bay Auckland Bot. Soc. Field Trip, 17 September 2022

Maureen Young

Participants: Jenny Andrew, Maureen Burke, Ewen Cameron, Amanda Charleton, Anne & Brian Dudley, Frances Duff, Kate Feickert, Alan Foubister, Shelley Heiss-Dunlop, Jetta Laurenson, John Millett, Philip Moll, Peter Moosberger, Brittany Pearce, Helen Preston Jones, Juliet Richmond, Mere Roberts, Joshua Salter, Cheryl Taylor, Dave Wilson, Maureen Young and the island caretaker Leslie Holmes.

Two small islands to the west of Kawau Island are collectively known as the Mayne Islands. The southerly of the two was called Goat Island until the establishment of the Goat Island Marine Reserve [officially Cape Rodney-Okakari Point Marine Reserve] near Leigh. To prevent confusion, the Kawau Bay Goat Island became known by its Māori name, Takangaroa (the long casting of the



Figs. 1 & 2: **1.** Oblique aerial view of Rabbit Island/Takangariki at low tide in 2019, looking SE, with Takangaroa behind to the right, Kawau Island to the left, and, in the distance, Motuketekete and Moturekareka to the right. Photo: *Places NZ* #4763. **2.** Aerial image of Rabbit Island showing the extensive intertidal reef at low tide. Auckland Council Geomaps Public (aerial base map), flown Mar-May 2012, modified by Joshua Salter. Scale bar = 100 m.

net) (Fig. 1). The more northerly island of 2.02 ha, commonly known as Rabbit Island, also has a Māori name, Takangariki (the short casting of the net) (Figs. 1, 2). The rocky reefs between the two are considered to be the buoys of the net. The two were once owned by Sir George Grey and were planted in pines (*Pinus radiata*) (Figs. 3). Rabbit Island is now owned by the Lumsden Family Trust, and in 1976, under the new ownership, the pines were felled. The logs were barged across Kawau Bay and up the Matakana River to the Matakana sawmill, where they were processed and returned to the island to be used to build a long jetty (Figs. 2, 4) across the reef to deep water.

On 17 September 2022, twenty-two Bot Soc members met on the Sandspit wharf on a calm, fine day, and travelled on the Kawau Kat Ferry to Rabbit

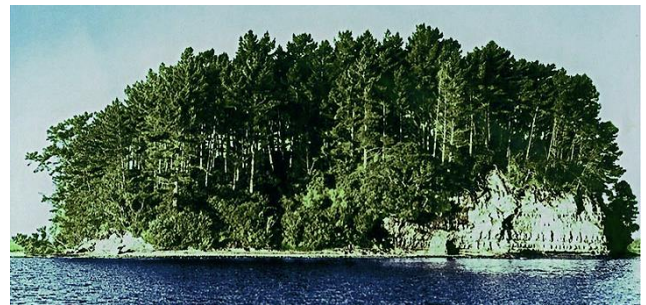


Fig. 3. Pine trees covering Rabbit Island, c.1950, before they were logged in 1976. Photo: Tudor Collins, the Judith Waters Collection, Warkworth & District Museum, reproduced with permission.

Island. At the jetty we were met by caretaker and gardener extraordinaire, Leslie Holmes (Figs. 5, 6). Leslie spends four days per month on the island, and



Fig. 4. Rabbit Island (some 72 years later than Fig. 3) as we approached on the ferry from the NW. Note the upper part of the island mainly lawns and planted trees, and the predominantly wild vegetation on the sandstone cliffs. Photo: Philip Moll. All undated photos were taken during the field trip, 17 Sep 2022.



Figs. 5–10: **5.** The island’s caretaker, Leslie Holmes, with her dog Bassey waiting at the end of the wharf to welcome us to the island. Photo: Shelley Heiss-Dunlop. **6.** Our two leaders for the day on the island wharf: Rabbit Island caretaker Leslie Holmes and Bot Soc stalwart Maureen Young, in Covid times. Photo: Shelley Heiss-Dunlop. **7.** The cliffs of eroding Waitemata sandstone on the south coast with pōhutukawa and a clump of pampas grass. Photo: Philip Moll. **8.** Leslie explaining to us the recent history of the island. Photo: Philip Moll. **9.** A transformed upper part of the island, now partly of planted lawn specimens (pūriri trees in this photo) and landscaped gardens. Photo: Ewen Cameron. **10.** Looking NE from Rabbit Island, towards Takatu Passage (in front), Hauturu behind the Tawharanui Peninsula, and northern tip of Kawau Island just visible on the right. Photo: Philip Moll.

has held the position for approximately ten years. Her small, noisy dog, Bassey (her former dog was named Ella, giving a clue to her musical preference) was very indignant at being briefly imprisoned in the wharf shed to prevent her escaping onto the

ferry. It could be seen from the jetty that the island consists of stratified layers of sandstone and mudstone – part of the Waitemata formation (Fig. 7). Unfortunately, with a mid-day tide, a circumnavigation on foot was not possible.



Figs. 11–16: **11.** The largest natural pōhutukawa trees occurred on the island's west side, just north of the wharf (see Figs. 1 & 2), with trunks c.50 cm diameter; the trees were associated with houpara, karo, taupata, coastal karamū and coastal astelia. Photo: Ewen Cameron. **12.** Boneseed was common, flowering along the cliff-tops. The dead shrubs are mainly purple akeake – perhaps the result of the wet winter? Photo: Shelley Heiss-Dunlop. **13.** The main seed-disperser of fleshy fruit, a kererū, rests in a pōhutukawa after a meal of pūriri fruit. Photo: Philip Moll. **14.** The main pinna of a young *Asplenium haurakiense* growing on the base of a pōhutukawa, showing the diagnostic enlarged acroscopic secondary pinna (arrow). Photo: Philip Moll. **15.** Lunchtime on the deck, taking in the stunning views of the Hauraki Gulf. Photo: Joshua Salter. **16.** Returning to the jetty to wait for the ferry back to Sandspit. Rabbit Island seen from an angle similar to Fig. 3 (some 72 years later). Note the rapid growth of the pōhutukawa on the left. Photo: Shelley Heiss-Dunlop.

Although organising Bot Soccers is like herding cats, Leslie never-the-less made a good job of taming us (Fig. 8) with the promise that we would be free to explore after she had led us uphill explaining

the various features. As we had no preconceived ideas of what to expect, we were amazed to find that we were on a beautiful garden retreat. The mind boggles at the amount of work that had been

undertaken to remove the pine stumps and convert the land into smooth lawns and carefully landscaped gardens and shade trees (Fig. 9). Three or four small dwellings were scattered about the grounds, and the main dwelling had a sweeping view north-east from Kawau Island to the Takatu Passage (Fig. 10) with Great Barrier Island (Aotea) in the dim distance, and Little Barrier Island (Hauturu) with a cloud hovering over the summit, along the ridge of the Rodney Range to Snells Beach and Mullet Point to the south. The Spirit of Adventure was seen to be moored in Mansion House Bay on Kawau Island.

The fine gardens demanded attention, and at this season the clumps of clivia (*Clivia miniata*) in long lines bordering many of the gardens were flowering nicely. Many pōhutukawa (*Metrosideros excelsa*) trees had been planted, quite a number having been obtained from Project Crimson, so of unknown provenance. However, the large cliff-dwelling ones were natural (Fig. 11). On a steep-sided island that is exposed, in particular, to strong north-easterly gales, much of the planting was to prevent erosion and wind damage. Flax (*Phormium tenax*) was favoured for erosion control, and it had been found that a Northland coastal entity had the properties that best suited this purpose.

Around the perimeter of the island were the areas of natural vegetation which were the real focus of our attention. Some pest plants were present; these included a few clumps of pampas (*Cortaderia selloana*), much boneseed (*Chrysanthemoides monilifera*) (Fig. 12), which is not surprising, as it is so common on Kawau Island that it is known locally as “Kawau daisy”, sweet pea shrub (*Polygala myrtifolia*) and veldt grass (*Ehrharta erecta*). One species, brush wattle (*Paraserianthes lophantha*), is vigorously removed whenever it appears and only a couple of saplings were seen. An avocado (*Persea americana*) seedling, which had naturalised from the garden, was spotted.

Northern coastal species that are common on inshore islands and headlands in this general area [compare: Saddle Island/Te Haupa (Tennyson &

Taylor 1999, Cameron 2014), Moturekareka, Motutara, Kohatutara, Motuketekete (Tennyson et al. 1997, Cameron 2015) and Challenger/Little Kawau Islands (Cameron et al. 2011)] and were present on Rabbit Island are: pōhutukawa, coastal karamū (*Coprosma macrocarpa*), karo (*Pittosporum crassifolium*), houpapa (*Pseudopanax lessonii*) and *Astelia banksii*. Green fruit was abundant on the female plants of coastal karamū, promising a veritable future feast for the plump kererū (Fig. 13) seen perched in the pūriri (*Vitex lucens*) and pōhutukawa trees. The question was raised on why the species name of “macrocarpa” should apply to this coprosma when the fruit were just of average size. The answer, of course, is that *C. macrocarpa* subsp. *macrocarpa* grows on the Three Kings Islands and the fruit is reputed to be the size of small plums. The much smaller-fruited mainland form is *C. macrocarpa* subsp. *minor*. *Asplenium haurakiense* has been recorded from all the islands previously mentioned, so it was pleasing that the two plants of asplenium that caused a little discussion were finally recorded as that species (Fig. 14). I saw only one each of *Cyathea dealbata* and *C. medullaris* and wondered if they had been planted. Hound’s tongue fern (*Lecanopteris pustulata*) was quite commonly growing on the ground, as it does on well-drained sites. For a full list of what was recorded see Cameron et al. (2023) below.

Lunch was eaten sitting on the edge of the deck of the main house (Fig. 15). One lunch box was briefly ignored while the owner was admiring the view and naughty Bassey took advantage of the lapse to pilfer a sandwich. At 2.15 pm we were back on the jetty waiting for the ferry after a very pleasant day (Fig. 16).

Acknowledgements

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