The track emerged at the shoreline near the jetty and we were intrigued to see many eagle and short tailed rays present in the warm shallow water. We looked forward to climbing up the slope into the higher part of the covenant the next day.

DAY 3 MONDAY 15 FEBRUARY 2016
PURIRI PRESERVATION QEII COVENANT
Miles Giller

While some of us had briefly followed a walking track through the very lower reaches of the covenant on the previous day, we all knew there was much more scope to botanise. Presented with another fine day, we hoped to reach the upper altitude portions of the 109 ha Puriri Preservation covenant in the headwaters of the gully immediately behind the house, and perhaps also look at the DoC-administered land beyond that. We had arranged to meet local QEII representative Tom Stein and DoC senior biodiversity ranger Phil Clerke a short distance into the bush, who gave us a great run-down on the botanical history and features of both the covenant, and of Arapawa and nearby islands (Fig. 5). It was late morning before we headed uphill in earnest, but soon came into old-growth riparian kohekohe (*Dysoxylum spectabile*) and titoki (*Alectryon excelsus*) forest, noting the distinctive fruit hanging from the older kohekohe trunks and branches. A few pukatea (*Laurelia novae-zelandiae*) were seen growing on alluvial surfaces, made easy to spot by the

Figure 5 Puriri Preservation Covenant. QEII regional representative Tom Stein providing some local insights (photo Miles Giller).

characteristically buttressed roots. A short distance up-slope we were shown a netting exclosure, erected a few years previously in order to help demonstrate the impact that feral goats were having on the more palatable species. Behind the netting we could see young shining spleenwort (*Asplenium oblongifolium*), nikau (*Ropalostylis sapida*), kawakawa (*Piper excelsum* subsp. *excelsum*), karaka (*Corynocarpus laevigatus*) and five-finger (*Pseudopanax arboreus*) progressing up to some size. Outside the exclosure these species were generally only seen as mature plants or as small seedlings, but very rarely between knee height and shoulder height. Tom explained that this was due to the feeding patterns of goats, which rarely browsed below 30 cm and could not reach much above about 1.5 m, but targeted anything palatable between.

Beyond the exclosure the stream became narrow and gorgy, and we had to ascend the steep rocky hill-slopes. Here we encountered young secondary scrub and short forest of kanuka (*Kunzea ericoides*) with numerous *Olearia solandri* and tauhinu (*Ozothamnus leptophyllus*). A few residual five-finger trees showed fresh ring-barking damage on their lower trunks, presumably caused by goats. A small population of white mistletoe (*Tupeia antarctica* - Declining) appeared threatened from the damage to its host species.

Nearer the main ridge we suddenly came into taller forest dominated by black beech (*Fuscospora solandri*), miro (*Prumnopitys ferruginea*) and kamahi (*Wienmannia racemosa*), where we stopped for a well-earned lunch break. Occasional rock outcrops and gnarled old broadleaf butts (*Griselinia littoralis*) supported sprawls of kidney ferns (*Cardiomanes reniforme*) and occasional strap ferns (*Notogrammitis* species). The larger branches and crowns of the broadleaf trees carried several epiphytes including *Astelia hastata*, clubmoss (*Phlegmariurus varius*) and hanging spleenwort (*Asplenium flaccidum*). On the broader ridge top the filmy fern *Hymenophyllum demissum* often formed broad mats interspersed with kidney fern, giving the impression of being in cloud-forest (Fig. 6, p. 74). A small group of *Hoheria* aff*. sexstylosa* was found on the ridge crest. The transition between this damp ridge top forest and the dryland forest of the lower slopes was remarkably abrupt and clear. Thankfully the feral goats also appreciated the difference and apparently rarely utilise the damper ridge tops, thus a few highly palatable species including *Raukaua edgerleyi* could still be found.

Unfortunately, time was not on our side, and an expedient descent route down an old boundary fence was taken, largely under successional kanuka forest. Despite its relatively vacant understorey and groundcover, even this provided some surprises, including four-square sedge (*Lepidosperma australe*) and a small patch of *Schoenus maschalinus* growing on a dry ridgeline. Nearing the safety of an old farm track, several of us went aside to check a group of ferns

in a moist gully, revealing *Diplazium australe* and *Deparia petersenii* subsp. *congrua*, two species that most of us had rarely encountered.

Figure 6 Puriri Preservation Covenant. The cool and humid ridge top supported abundant ferns & epiphytes (photo Miles Giller).

DAY 4 TUESDAY 16 FEBRUARY 2016

BLUMINE ISLAND

Paul Maurice

Two gun emplacements were built on Blumine Island in 1942 to provide protection for a secure anchorage for the US Navy in Queen Charlotte Sound. The feared Japanese invasion did not materialise and the batteries were formally disestablished in December 1945. The island is now a 337 ha predator-free Scenic Reserve administered by DoC. South Island saddleback were translocated to the island in 2009, three pairs of non-breeding rowi (a rare kiwi) in 2010, and orange-fronted parakeets in 2011 and 2012.

We explored the steep, densely wooded slopes on the south-eastern side of the island (Figs. 7, 8, p. 75), eventually reaching the ridge which led to the highest point at approximately 270 m. The native vascular plants seen are listed (Table 1, p. 78). Of particular interest was the *Adiantum fulvum* cleverly spotted by Gillian as we were descending a rather dark and very steep slope, clearly differing from the commoner *Adiantum cunninghamii* by the midribs of