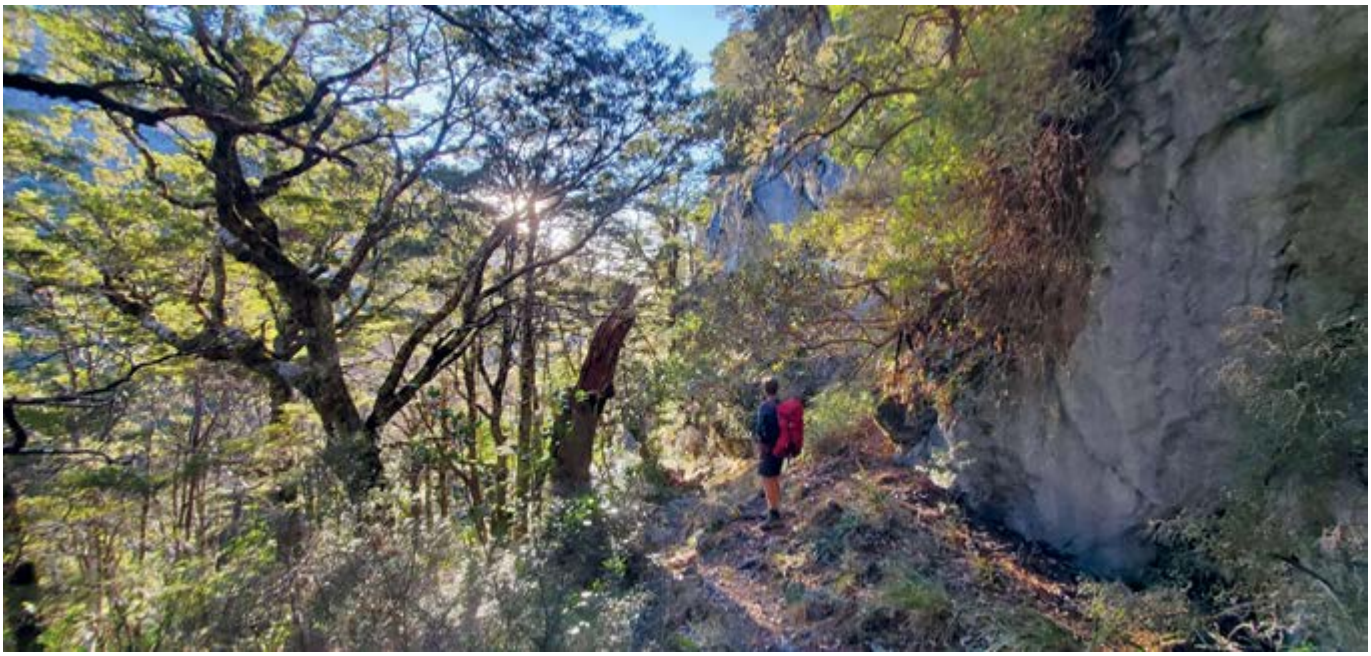


Could Scotland 'go bush'? A young ecologist's Kiwi inspiration

Nature conservation in Aotearoa could give a fresh perspective, as Ben Catchpole *reports.*

Back in September 2023, my partner and I decided to leave behind our comfortable lives in Stirling, bound for Aotearoa (New Zealand), with just a few nights booked in an Auckland hostel, and the bags on our backs. Taking a risk, we bought a rickety little 31-year-old converted campervan, which thankfully proved to be a trusty, reliable companion. Spending a few months working helped keep things ticking over financially, but with our only major outgoings being fuel for our vehicle and food for ourselves, we kept prolonging our adventure, thanks to the country's generous free camping rules.

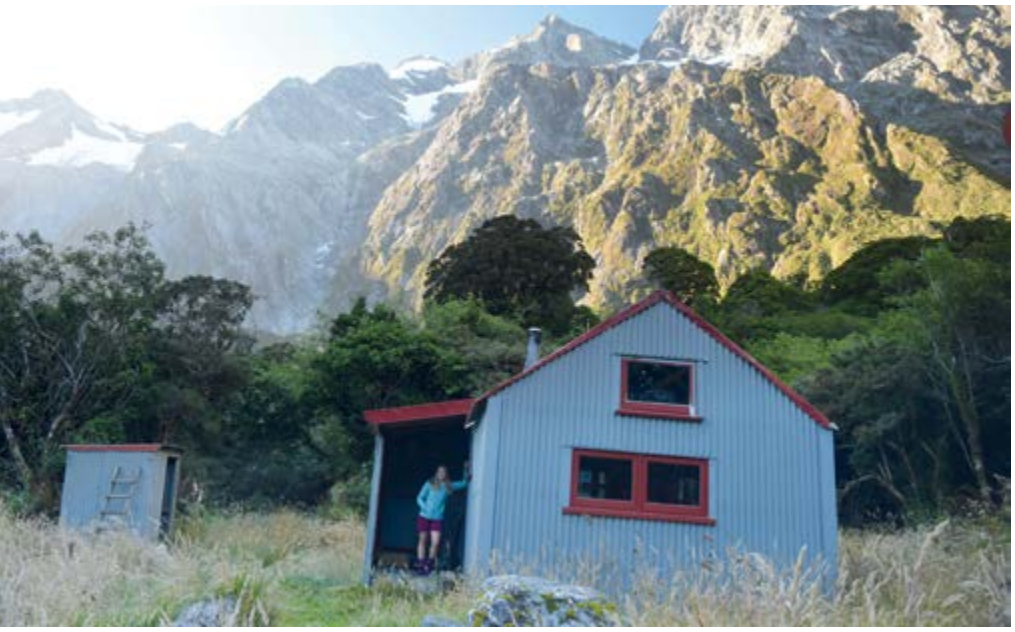
I recognise that it is an enormous privilege to be able to do something like this. As an ecologist with a particular interest in holistic sustainable landscape-scale land management, with previous consultancy experience in herbivore density estimation, peatland restoration, and botanical surveys, I dived headfirst into the Aotearoa conservation sphere. My main reason for writing this article is simply to share my experience of nature conservation in Aotearoa, in the hope that it might be useful to land managers, foresters, ecologists, or anyone interested in the outdoors here in Scotland, as a fresh way of considering how things might be done.

Southern beech forest in Kahurangi National Park. All photos: Ben Catchpole.

Setting the scene

When considering landscape management and conservation here, we often look to our closest neighbours in Europe—Norway in particular, and rightfully so, as it is arguably the most directly comparable place to Scotland for reasons including climate, topography and ecology. However, Aotearoa is an excellent example of an alternative analogue worth considering, owing to its similar environmental conditions. The South Island in particular draws natural comparisons, with its west side: wild, wet and mountainous, contrasting with that of the east: relatively dry, flat and fertile. Even its low population density of 8.2/km^2 is similar to the Scottish Highlands, which stands at about 12/km^2.

When it comes to human history however, our countries could not be more different. On account of its sheer remoteness, Aotearoa was not settled by humans at all until around 800 years ago—the last of all the major global landmasses—when it was discovered by seafaring explorers from Polynesia, who were likely following the flightpaths of migrating birds. These settlers, known as the Māori people, tended to stay on the milder and generally more hospitable North Island, with only a limited number of settlements on the South Island. There are many similarities between traditional Māori and Scottish ways of life, with a deep sense of identity tied to the land, strong oral tradition, respect for elders and ancestors, comparable clan-style systems and social structure, and great importance of music and dance.



A spectacularly located hut, at 750m in Westland Tai Poutini National Park.

Treated poorly by European settlers since the 1800s, recent decades have seen a Māori cultural resurgence and integration of traditional language and customs into national life.

As with most colonisations of virgin lands, much of the native fauna was wiped out, and after around 600 years of settlement, forest cover was reduced from 85 to 53 per cent thanks to large-scale burning to reduce cover and improve hunting conditions. The permanent arrival of Europeans in the early 18th century brought far more serious consequences for nature, and the Māori themselves, with their population falling by 60 per cent in the first hundred years post-Europeans. Of the 91 terrestrial bird species found on the islands before humans arrived, 40 are now extinct, mostly due to invasive mammals (Aotearoa has no native land mammals, so indigenous species are defenceless). Deforestation to make available land for agriculture, commercial forestry, and other development, saw native woodland cover fall again from 53 to 24 per cent by the early 2000s. Since all native forest was legally protected from any form of logging in 2002, things have started to improve.

Land management

The Department of Conservation (DOC) is the government body charged with management and protection of natural and historical heritage; DOC manages around 30 per cent of Aotearoa (8 million hectares of public conservation land), including 13 outstanding national parks, with some 2,500 staff. Compare this with Scotland: combine our three major governmental nature conservation bodies (NatureScot and our two National Park Authorities), and you get around 950 staff, managing an area of about nine per cent of the country—that is 736 hectares per employee here in Scotland compared to 3,200 hectares per employee in Aotearoa. This is quite a contrast, especially when one considers that most of the land in our two national parks is managed by private landowners or charitable bodies, rather than civil servants. Yes, Aotearoa has genuine wilderness areas, which require little to no intensive management, but the public infrastructure and ecological condition there is leaps and bounds ahead of where we are in Scotland (thanks in no small part to the work of DOC).

Aside from the common theme of land dispossession and reappropriation by (mostly) English invaders, the patterns of modern land ownership are very different from Scotland and the wider UK. Prior to European colonisation, Māori communities held land communally, guided by ancestral ties and customary stewardship. The 1840 Treaty of Waitangi was intended as a partnership between Māori and the British Crown, but differing interpretations and subsequent breaches led to significant land loss for Māori. Interestingly, a wild area in the eastern North Island, originally protected as Te Urewera National Park in 1954, shed that status in 2014 when DOC returned control and management to local Māori. Since then, the region has been granted legal recognition as an environmental 'person', giving it rights and protections of its own. This legal status has also been afforded to other locations particularly important to Māori—the Whanganui River, and Mount Taranaki.

Historically, much marginal high-country land was held under Crown (government) pastoral leases for sheep and cattle grazing. The Tenure Review Process, beginning in 1998, reassessed such pastoral leaseholds, transferring roughly half into public conservation land, with the remainder being 'freeholded' and sold or retained by former leaseholders for grazing or other uses. With these sales, 20-metre-wide strips of land alongside waterways of three metres or wider were reserved for public access and ecological protection. Around half of the country is currently owned as private land, most of which is agricultural. Whilst clearly not perfect, the Kiwi model of land ownership does appear more equitable than the highly concentrated pattern of land ownership we have in Scotland. Here, just 430 people own half of the country, many of them absentee, owning land simply as investment and/or for the purposes of 'fieldsports'—namely our continually torched, carbon-haemorrhaging, raptor-vacuuming grouse moors and equally desolate, treeless, and chronically overgrazed deer 'forests'. In Aotearoa, the natural succession of forested landscapes is healthy and complete in most upland areas, typically with large mature trees lower down, gradually decreasing in height and becoming increasingly *krummholz* (German for 'twisted wood') and eventually dwarf, grading up into montane scrub, then alpine grassland. Dense, closed-canopy forest is the norm, with large trees regularly growing well above 1,000 metres, in conditions very similar to our Highlands.

Huts and tracks

Some readers may already be aware of Aotearoa's incredible backcountry hut network, which features around 1,000 DOC-run huts on state conservation land, and another 500 or so which are privately run (usually also accessible to the public). 'Hut-bagging' is a popular pastime, having taken inspiration from our Munro-bagging tradition! Depending on the size, quality, facilities, remoteness, and popularity of each hut, visitors usually have to pay a small fee to use them, around £4.50 to £11 per night, though you can also buy a yearly pass for around £70. I can attest from personal experience, having visited around 80 such huts during my time in the country, that these prices are an absolute steal! Some basic huts are free, and more luxurious huts are pricier, particularly those on the most popular 'Great Walks' (international visitors must pay more for these) and, again depending on popularity, a small number must be booked in advance, though the majority are first-come-first-served. Most huts have bunkbeds, complete with thick gym-style mattresses, woodburning stoves (fuel either taken responsibly from surrounding deadwood, or supplied by DOC), a rainfed water tank with indoor and/or outdoor sink(s), and an external composting or 'long drop' toilet. Being run by a government organisation, they are all kept to a fairly high standard. And outdoorsy Kiwis, with their rough-and-ready, always-up-for-adventure mindset, certainly seem to appreciate and make good use of this incredible asset—DOC recorded approximately 1.25 million bed-nights in the 2023/24 season. Most attempts to remove huts are met with staunch public opposition, resulting in very few suffering this fate.

Possibly even more impressive than the huts, DOC also maintains an epic 15,000 kilometres of walking tracks, each graded into different categories of seriousness, with most waymarked using small orange triangles attached to trees or brightly coloured poles. With frequent subtropical storms battering the country, it is a constant battle to overcome damage caused by landslides, floods and all manner of extreme weather. After using and loving the huts, swapping stories with strangers, thawing and drying out after some challenging days in the bush and mountains, I could not help but wonder whether any landowners in Scotland—private, governmental, or charitable—would be willing to trial a similar approach. Bothies are great, but can be in poor repair, cold, damp, and in unhelpful locations. Surely we would benefit hugely from purpose-built huts, particularly in the remoter corners of the Highlands?

Remote Fiordland National Park, which was among the last refuges of wild kākāpō.

Deer management

A selection of ungulates (large hooved mammals) were introduced to Aotearoa by Europeans in the Victorian period for the purposes of recreational hunting. Species included chamois, Himalayan tahr, feral goats, pigs, and sika and fallow deer. However, like here, the most prolific and widespread is the red deer. With no predators and an abundance of food, populations spread and expanded rapidly. This caused widespread ecological damage, by overgrazing the landscape through the suppression of native vegetation, as well as damaging crops and commercial forestry.

The crisis was recognised by the government as early as 1930, when large-scale state-sponsored deer culls began, requiring the construction of a network of remote hunting camps. Often living out of these inhospitable bases for long periods of time, a team of full-time deer cullers were employed, shooting tens of thousands of animals each year from the 1930s through to the 1960s. From the mid-1960s through to the early 1980s, helicopter-based shooting prevailed, with a 'venison rush' making things highly profitable for cullers. Through decades of concerted effort, the wild deer population was significantly reduced, reaching target numbers. At present, the majority of deer culling is done by recreational hunters—much like continental Europe and North America, where it is a right—allowing people to put an affordable, healthy and more sustainable protein on the table—rather than the preserve of the elite, as it so often is here.

Despite around 55,000 deer each year currently being culled by hunters, monitoring by DOC shows that populations have steadily been increasing since the end of the helicopter-shooting era. Considering the remoteness, extremely challenging terrain, dense vegetation and difficulty of extraction, the fact that the population was brought to a manageable level at all is very impressive—and almost makes the challenge of achieving sufficient deer control here in Scotland seem quite benign.

Native vs. invasive

One of Aotearoa's greatest conservation success stories is that of the kākāpō. Once widespread and highly abundant, the flightless, tree-climbing, bright green, old-

fashioned-looking parrot was driven to the brink of extinction by introduced predators. They have an ecological niche and perilous conservation status comparable to that of our capercaillie. Efforts to find and capture remaining wild birds in the '70s and '80s were epic, with their final refuges being among the wildest, most remote places in the country. With survival on a knife-edge, DOC implemented an 'every bird matters' philosophy, with all kākāpō being transferred to predator-free islands, fitted with transmitters, and even given names! Rangers monitored breeding and nesting via cameras, managed feed closely to encourage clutches, relocated chicks, and used artificial incubation where needed. Groundbreaking tools including GPS tracking and genome sequencing supplemented meticulous nest protection and foster parenting. Thanks to this tailored, hands-on care, the population grew from just 51 birds in 1995 to over 247 today, marking one of the world's most remarkable endangered species recoveries.

As seen with the kākāpō, there is an urgent need for areas of natural habitat safe from invasive mammals. One excellent example is the Brook Waimarama Sanctuary, where I worked as a volunteer. Established in 2004 with the aim of ecologically restoring a steep-sided valley, a 14.4-kilometre predator-proof fence, enclosing the whole valley, was finished in 2016. A spell of intensive mammal eradication followed, with the sanctuary being declared entirely pest-free in 2018. Unsurprisingly, native species of both fauna and flora, have rebounded—some native bird species' populations had increased by over 400 per cent after just one year, and a rare kiwi species has recently been reintroduced. The efforts undertaken by volunteers to keep things ticking over are herculean—an army of over 400 complete daily tasks ranging from native wildlife monitoring and fence checks, to track maintenance and pest eradication.

Such sanctuaries cover only a miniscule proportion of the country though, meaning that equally huge efforts are required to reduce, rather than totally eradicate the number of invasive mammals. The country has committed to an ambitious target of being invasive predator-free by 2050 (estimated to eventually cost upwards of £4 billion), a bold commitment to preserving their unique biodiversity. Enormous networks of physical traps are used in more accessible areas, but in the remoter parts of the country, DOC undertakes periodic helicopter drops of sodium fluoroacetate (known as 1080) poison baits, which decomposes quickly in water and soil into harmless compounds and is highly effective—single applications typically kill over 90 per cent of target species, and native wildlife rarely consume it. While strongly opposed by many hunters who say that deer are being unfairly exterminated (though not a target species, some deer are killed), and animal rights groups, due to the perceived suffering of poisoned animals, the majority of the population, as well as all major political parties and particularly the farming and conservation communities, are in favour of its use.

Lush treeline vegetation at around 1300m in Arthur's Pass National Park.

I would like to end by talking about a highly elusive species of wattlebird—the South Island kōkako. Previously classed as extinct, with the last confirmed sighting in 1967, things were not looking good. Then, the species was reclassified as 'data deficient' in 2012, which enabled a 2007 sighting to be accepted as genuine. Early explorer Charlie Douglas described their haunting call as "the sweetest and most mellow toned I ever heard a bird produce", and is far from the only person to have been charmed by the species. I was fortunate enough to get to know Rhys Buckingham, a renowned Kiwi ornithologist and ecologist, who has spent the best part of his life searching for this kōkako (as well as literally catching, by hand, one of the last surviving mainland kākāpō back in the 1980s). Bad luck has beset the search, with a promising audio recording, a physical feather, and an old photo all being lost at various points in time. Undeterred by previous misfortune, a committed group of individuals continue the hunt, determined to find them. To me, the simple fact that Aotearoa has enough wilderness and relatively pristine virgin forest to likely harbour a medium-sized bird species, never before photographed, is inspirational. And it has happened before—the takahē, a large, bulky rail bird, was rediscovered in Fiordland in 1948 after being declared extinct 50 years prior. Could the kōkako be next?

My time in Aotearoa helped to reinforce the idea that conservation thrives when individuals, institutions, and communities unite around a shared purpose. From DOC's huts to community-led predator-free zones and the kākāpō recovery effort, it is clear that local engagement magnified by institutional support can achieve real ecological and recreational gains. In Scotland, we have the beginnings of the same model, sparked by grassroots projects such as Carrifran Wildwood. These efforts demonstrate that meaningful environmental progress does not necessarily require grand gestures; it can be built one step at a time by people who care and are committed. As a young ecologist concerned with the worrying direction we seem to be heading in, I find that deeply encouraging. If we take to heart the spirit behind Aotearoa's approach—partnership, perseverance, and rooted action—perhaps we could better foster ecological recovery here in our own landscapes.

***Ben Catchpole** is 26 and an ecologist who works for a rivers trust in the northeast of Scotland.*