

A Future for Coastal Herbfields

Rare and endangered coastal herbs continue to be found on the shores of Taranaki. The latest discovery is *Lepidium flexicaule*, a vulnerable coastal cress native to the northwest Nelson coast and southern Australia.

Until last year, it had been found just eight times in the North Island – first in 1769, and most recently in 1934 — and never in Taranaki.

This *Lepidium* is a delicate creature that grows in small colonies, often in the company of ‘weeds’ — the introduced Cape daisy, plantain and a native groundsel. Certainly no one expected to stumble across it in a coastal herb field at Stent Road, a south Taranaki beach more famous locally for its surf break than its botanical treasures.

A scientist from Dunedin, Geoff Rogers of the Department of Conservation, found it while visiting there. The rare plant grew with *Zoysia*, a dwarf native grass which grows in dense mats, and a keystone species in the development and survival of herb fields.

The biodiversity ranger for DoC in Stratford, Jim Clarkson, who was one of the first contacted by Geoff Rogers about the discovery, believes the relatively large size of *Lepidium flexicaule* may, ironically, have

helped it to avoid earlier detection.

‘When we go to herb fields, we all think small,’ he says. ‘We’re looking for tiny plants.’ He believes the relatively bulky *Lepidium* was too big to be noticed.

The Stent Road *Lepidium* population is on the seaward lip of the coastal platform, where the cress prospers in luxurious clumps of Cape daisy. There are six main clumps of plants, with about 20-30 individuals in total.

The site has been degraded by dairy farming, but — more irony — there is speculation that boosted fertility from nitrogen-rich cow-pats may have played a part in the survival of the *Lepidium* colony.

So, invasive though cattle can be, the villain of the piece is not the dairy cow, but its diet — exotic pasture grass.

‘In Taranaki, it’s a case of farm to the coast as much as you can, and a lot of places you go you’ll get exotic grasses and weeds growing right to that coastal edge,’ says Jim Clarkson. ‘Natural cover survives only where you’ve got the influence of weather, the salt spray and high winds — that trims the exotics back and leaves the native herb fields alone.’

This exposure, combines with thin soils, lack of shelter and



HAL WILLIAMS

A close look at the plant at the centre of the mystery, *Lepidium flexicaule* recently discovered in a south Taranaki herb field.

cattle trampling and causes topsoil to erode back to rock, gravel or compact tephra and lahar deposits. This makes for too hostile a place for most exotic species to establish, according to Colin Ogle, formerly a DoC conservancy scientist and now a part-time consultant. *Zoysia* grass and other specialised natives can cope with this, however.

Even with the knowledge of the dangers of overstocking, introduced pasture grasses and weeds, there are contradictions which highlight the dilemma of how best to manage herb fields.

‘With grazing, the hooves of cattle break up the turf plants, and grazing animals do create space for plants to come in on the bare ground,’ says Colin Ogle, ‘but they also bring in weeds, whose growth is enhanced by raised fertility.

‘If you fence it off, the weeds do even better, because they’re not being grazed any more, and they invade the turf mats. It’s a Catch-22 situation,’ he says. ‘If you don’t fence [the herbs] deteriorate, and if you do fence, they deteriorate. I think at present, for a lot of these sites

low-level grazing is preferable to no grazing, and sheep are preferable to cattle.’

‘As soon as a boundary is erected, you’ve got to go in there with hands-on management,’ says Jim Clarkson, ‘you’ve actually got to start hand-weeding and other things to keep those exotic grasses at bay.’

At present, most of Taranaki’s herb fields lie on private land and have no DoC protection in terms of legislation. DoC works to educate farmers on the dangers of overgrazing, however.

Lepidium isn’t the only plant deserving of attention. Other special species in Taranaki include the dwarf buttercup, *Ranunculus recens* (which grows at only one site in the region); a tiny, unnamed species of native carrot *Oreomyrrhis* ‘minutiflora’; and the pygmy forget-me-not *Myosotis pygmaea* variety ‘minutiflora’.

A national Coastal Cress Recovery group is now devising suitable policies and tactics to ensure the continued survival of plants like *Lepidium flexicaule* and another relative, Cook’s scurvy grass *L. oleraceum*.

— HAL WILLIAMS



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Coastal herb field on southern Taranaki coast. Conservation scientists and technical officers survey the Stent Road site for populations of rare coastal cress and other coastal herbs.