

GRABBING THE TIGER BY THE TAIL

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I am writing this article as a member of Canterbury Botanical Society and addressing you, the lay and professional communities of New Zealand botany.

When first asked to write an article for the journal I thought sure thing. But what to write about? Field botany has become such a scarcity - the cupboard is quite bare! Because I have become a desktop botanist, field work has largely been sacrificed for office time, written critiques, evidence briefs, and courtrooms. Botany has been my relentless battle ground!

Who would have thought it would be so taxing? When I started working in conservation, the NZ Biodiversity Strategy had recently been released. It boldly proclaimed that not only would we be halting the decline of indigenous biodiversity, we would also be restoring it. The Resource Management Act required not just the protection of significant ecological values, but also the maintenance of indigenous biodiversity, per se. It seemed we had entered a new enlightened era that appreciated the importance of our native species, valued our ecosystems and natural landscapes as great assets; demanding that at the very least, they be maintained. Hooray to a brave new world, we said!

Fast forward to the 21st century - aspiration and optimism takes a reality check. Although the lamentable decline in fresh water quality is the high profile public face of environmental concern, coupled with this has been the enormous loss of terrestrial ecosystems and species. The losses are widespread throughout the montane, and even sub-alpine, zones of the eastern South Island, not to mention the lowland plains. The green tide of intensive agricultural development has moved inland, up-slope, and up-valley. Everywhere there was (rapidly diminishing) developable land. This is nowhere more obvious than in the Mackenzie Basin, in what can only be described as an onslaught of loss, and with it the industrialisation of outstanding natural landscapes, the shop window of Aoraki National Park. This transformation can be seen from space, with the first pivot irrigator appearing in c. 2000.

This is not to accept that loss won't or cannot occur. Development that is well considered and mitigated can not only be beneficial for the economy, but is required to keep pace with a burgeoning population. But when is development simply rapacious? A direct result of rapid expansion of intensive agriculture over recent years has been to push many more native species closer to extinction. This is obviously reflected in recent increases in threat rankings for many dryland species in the montane environments of eastern South Island. Moraine and outwash ecosystems especially have undergone substantial loss

in recent years, and as a direct result, several species of mat and cushion forming native brooms have moved into, and up, the threatened categories. We can guess this is mirrored by lesser known host-dependent invertebrates and microbes. Numerous other species of similar habitats have also increased in threat ranking owing to habitat loss, but also ecological fragmentation and increased vulnerability to edge effects, such as cross-boundary irrigation and competition from vigorous exotic grasses.

Has the ecological community been complacent to the loss of our indigenous biodiversity? Perhaps. I certainly assumed that some sites were so exceptional that their 'development' would be clearly so inappropriate that no one would be brazen enough to attempt it. This was a naïve hope, as evidenced by many of Canterbury's finest natural areas being threatened from development proposals in recent years, saved only by the conviction and resolve of those morally courageous individuals who stood in opposition. So alas, in my experience, we cannot take for granted that sites will be safe, despite having exceptional values.

Has the ecological community been complicit in the loss of our indigenous biodiversity? Absolutely, but thankfully not by all! Some may think that is too harsh, but in reality, 'inappropriate' developments invariably involve ecologists employed to advise developers on the pros or cons of proposals. Although most ecologists are ethical in their commitment to environmental protection requirements and objectivity in advising clients, in my experience there are some who simply champion their clients' wishes regardless of the values affected or the impacts involved. If one considers projects that would have caused major losses of indigenous biodiversity, typically values were ignored, or obfuscated, and effects downplayed. So, I don't necessarily blame developers for loss of indigenous biodiversity, but I do their acquiescent ecological advisors. Their legacy has contributed to desecrated landscapes, declining water quality, and growing threatened species lists.

The ecological destruction of the Mackenzie Basin that has been occurring is just one of many examples where extensive losses have been facilitated by ecologists, but there are many others. Take the proposal to dam Lake Sumner, the only large lake in the eastern South Island that remains almost entirely natural. This proposal would have drowned the outstanding forested lake edge ecotone. In this case, the exceptional values present were mostly overlooked; the effects propositioned to be "less than minor to negligible" because the drowned forest edge, it was claimed, would be largely unaffected. Although research proved to the contrary (Mark et al. 1977), it was dismissed as "out-of-date", the implication being that native trees have evolved to survive prolonged inundation over the last few decades. Fortunately, this proposal failed after considerable opposition, including from Professor Alan Mark, as well as some local bach owners upon realising they would be immersed at maximum lake storage.

Consider also the proposal to build a windfarm along Mt Cass ridge, which would have carved up a nationally significant limestone ecosystem, end to end. Again, the associated loss and other impacts were assessed as “less than minor”, being stated that there were “better examples around”, though no ‘better’ examples were presented. “We can make it better” it was proclaimed, but after hearing sound scientific evidence in opposition, not least from the peerless Dr Brian Molloy, the late Dr Colin Burrows and Dr Peter Wardle, the commissioners unanimously disagreed, and the application was declined.

There was also a recent proposal to develop an area in the Waimakariri Basin recommended for protection (RAP) - a site of longstanding ecological values, which was also an integral part of the designated outstanding natural landscape. The values of this site were clearly still present as originally identified, and recent research further validated its importance as an originally rare and threatened ecosystem. But during the application process, the values of the area were downplayed, owing to there being exotic species present, despite the presence of the same exotics at the time the RAP was identified, and their co-existent presence being widespread in the ecological district. Although there has been widespread loss of similar ecosystems over recent years in the ecological district and region, it was surmised that there were plenty of similar examples around to justify further loss. This application was withdrawn, which is probably just as well, as the RAP proposed for destruction was required to be protected as part of an Overseas Investment Office condition owing to the sale of the property to an overseas owner.

Some may find this article confronting, but if you have genuine concerns, then these challenges must be confronted. This is not a call to arms. If anything, it is a celebration of the individuals who have consistently defended our ecosystems and species; an acknowledgement of their legacy that is the protection of our natural heritage. There are many in Canterbury who have risen to the challenge. But some deserve specific mention, in addition to those already mentioned, for their longstanding contribution such as Colin Meurk, Mike Harding, Mark Davis, Philip Grove, Susan Walker, and Di Lucas (for landscape). Others, less long in the tooth, like Scott Hooson, need mention too for their contribution. Not least for their impeccable objectivity in applying contemporary assessment criteria that can otherwise challenge out-of-date and/or too conservative thinking. This is important, because modernising our appreciation of what constitutes the full extent of ecological values in modern day New Zealand is essential; essential if we are going to achieve our statutory obligations of halting the decline of indigenous biodiversity and restoring our ecosystems.

Reference

Mark AF, Johnson PN, Wilson JB 1977. Factors involved in the recent mortality of plants from the forest and scrub along the Lake Te Anau shoreline. Proceedings of the New Zealand Ecological Society 24, 34–42.