



Professional practice and implementation of EclA - issues for local authorities and biodiversity protection

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In this article we discuss some of the issues that consenting authorities (i.e. Councils) face in implementing their statutory functions around maintenance and protection of indigenous biodiversity. In particular we focus on the professional practice and implementation of Ecological Impact Assessment (EclA). The comments and views expressed here are based on our 25+ and 20+ year experience respectively as practicing ecologists in the public sector. In our roles over this time we have undertaken numerous assessments of ecological values or 'significance', and reviewed a great many EclA reports, generally undertaken by consultant ecologists as part of resource consent applications.

Background

New Zealand is failing to meet national objectives and international obligations to halt the decline of its indigenous biodiversity [\[1\]](#). While the acknowledged problems with pests on all land tenures (Crown and private) are key contributors to this decline, also critical are impacts of land use activities on biodiversity. Despite the Resource Management Act 1991 (RMA) and well-intentioned plans and strategies, the loss of habitats supporting indigenous ecosystems and species continues, mostly on private and crown owned leasehold land. In low altitude land of gentle relief in eastern New Zealand the loss is all but complete. In Canterbury, parts of the region which were until recently relatively undeveloped (such as hill country, inland basins and margins of braided rivers) are now the target for agricultural land use intensification. This is resulting in increasing numbers of threatened ecosystems and species, declining water quality, loss of amenity, growing public unrest etc.

Our concern is that some of this loss is caused through activities for which a resource consent was required, and an Ecological Impact Assessment was carried out; we question the content and quality of those EclAs.

Local authority plan issues

An EclA process and report must (among other things) identify ecological values and assess the extent of effects on those values. These values are often identified by Councils and listed in plans; if not, the ecologist preparing the EclA report must identify them.

The RMA requires councils to protect significant ecological values (Sec 6c), and to maintain indigenous biodiversity *per se* (Sec 31 (1)(b)(III)). However, a large number of regional and district plans fail to acknowledge the important link between maintaining existing habitats and biodiversity protection in terms of halting the decline, and consider only the rarer features to be significant. As a result, common-place native plant communities and habitats that may also be significant are often ignored or seen as expendable. These are typically the secondary plant communities that have regenerated after past clearance. Recognition and protection of the common-place is imperative as these features often comprise the majority of indigenous biodiversity remaining in a district. Also unappreciated is the value of mixed native-exotic and exotic-dominant vegetation types as habitat for indigenous species (as these are often the only remaining suitable habitat in a local area).

As well as inadequate significance assessments in district plans, permissive vegetation clearance rules are persistent problems leading to the ongoing decline of indigenous biodiversity in New Zealand. Even when the rarest, most threatened, or very best examples of New Zealand's ecosystems and species are considered in vegetation clearance rules, plans, policies and rules may still allow losses of these exceptional ecosystems, subject to some form of compensation that does not authentically replicate or replace what was lost.

The problem partly stems from application of the Protected Natural Areas Programme [\[2\]](#) (PNAP) objectives, developed under the Reserves Act 1977, as the default framework for assessing ecological values or significance under an RMA context. While the PNAP ecological assessment criteria remain relevant for assessments of ecological significance under the RMA, the aims of the PNAP were comparatively narrow. The programme was intended to identify only the best representative sites for protection in any one Ecological District (ED). The PNAP also used a pre-human benchmark, or at best 1840, as the context for assessment of representativeness. Given the state of ecosystem loss and ecological modification that has occurred throughout the 20th and 21st centuries, restricting the assessment process to historic baselines is inappropriate in modern day New Zealand. It is not fit for purpose in an RMA context that requires the maintenance of all indigenous biodiversity, not just the "best" [\[3\]](#).

Applying the PNAP process (as it was originally intended) in an EclA context inevitably results in discarding what should be significant ecological values because better examples exist, or because they are not representative of 'original' vegetation types. The losses associated with such an approach are often described as "less than minor" in consent applications, but these can still result in the permanent net loss of significant indigenous biodiversity.

DOC and some Councils have produced guidelines on how to assess significant ecological values. These guidelines provide an approach that largely takes account of the obligation to maintain indigenous biodiversity under the broader RMA context. Applying their criteria objectively should result in a greater extent and range of habitats being identified as significant than has often been the case, including the common-place, the modified, and the 'degraded' ecosystems that in their context are still significant and important for the maintenance of indigenous biodiversity.

Implementation of EclA - plans, policies and practice

The ecologist carrying out an EclA has to address ecological issues as well as the relevant plan policies and rules, and plans vary across the country. In her Overview article, Judith Roper-Lindsay outlines the role played by the Environment Institute of Australia and New Zealand in preparing a set of Guidelines [4] to assist in delivering a consistent approach to the ecological work.

We are not members of EIANZ. We agree with Dr Marie Brown's recommendation, in the EDS publication *Pathways to Prosperity. Safeguarding biodiversity in development* [5], that the preparation of best practice standards linked to environmental legislation should be led by central Government, not by consenting agencies or private sector practitioners, because of the potential for capture. Consistent with Dr Brown's inference, we think that the use of the "matrix approach" in the 1st Edition meant that the EIANZ guidelines were too accommodating of development interests at the expense of the environment [6]. Nonetheless, we commend their intent for seeking a more consistent and objective approach to EclA, because unreliable approaches have been, and remain, a major contributor to ongoing losses [7]. We note that the 2nd Edition [8] responds to feedback from the ecological community in relation to the matrix approach.

Many of the EclAs that we review offer a reductionist and static approach to significance and impact assessment and fail to address critical ecological matters. For example, some focus only on 'intact' or unmodified native vegetation types or nationally rare / threatened species. Key elements of biodiversity, such as non-vascular flora and invertebrates, are routinely ignored in assessments, as are the generally accepted significance criteria of 'representativeness' and 'ecological context'. Wider ecological functions and processes, and the role of natural ecosystems dynamics and temporal changes are not well considered in many EclAs. The presence of exotic species is also often used to diminish or downgrade the value of a site. All these factors mean that an EclA may downplay the ecological values present.

Banks Peninsula, Canterbury is a case in point. There, native vegetation comprises many scattered sites of almost entirely second growth forest following widespread forest removal in the 19th century and ongoing land development (~1.5% remains in original forest cover). The total combined area of existing native forest is less than the minimum threshold considered by ecologists to be necessary to ensure the maintenance of remaining indigenous biodiversity. To sustain the full extent of existing indigenous biodiversity on Banks Peninsula, including meta-populations of mobile bird species like kereru, the entire habitat network is more important than any one remnant; this includes exotic vegetation (such as willows or eucalyptus) utilised as surrogate habitats by some species. For Banks Peninsula, as for most of lowland New Zealand, preventing further loss of what remains will not be sufficient to halt the decline. It will also require assistance through habitat restoration: retiring 'unimproved' land from 'productive' use, allowing space for natural ecosystem processes to operate and for (preferably) natural regeneration to occur. Despite this ecological context, the loss of indigenous biodiversity in Banks Peninsula is still occurring.

Effects should be assessed in ecological terms by the ecologist, but they must also address relevant plan policies and rules. If these policies and rules are not scientifically rigorous then effects may also be downplayed in the EclA.

Vegetation clearance rules in district plans do not equate to protection. They are at best a mechanism to help 'maintain' indigenous biodiversity. Protection in its true sense requires a higher level of effort and resourcing to manage threats (such as fencing or pest control). In contrast, maintenance is about stopping the loss. It is the *status quo* at best, although for some small remnants this is arguably fanciful thinking. Even when sites are captured by clearance rules, which usually take the form of set height or area thresholds, the health of the ecosystem or its quality as a habitat is not considered. Existing use rights often allow the continuation of unsympathetic management that ensures ongoing ecological loss and degradation, albeit more slowly than stark clearance.

Nonetheless, ecologically sound vegetation clearance rules are a critical bottom line that at least retain habitat extent, and therefore opportunities for better protection in the future.

Biodiversity issues

Ecological impact assessments that do not adequately assess ecological value, combined with the middle between protection and maintenance, result in multiple failures for indigenous biodiversity. Councils, concerned at the financial and political cost, are often averse to undertaking comprehensive surveys to describe vegetation and habitats and to identify ecologically significant sites in their regions or districts. Furthermore, owing to pressure from affected landowners, district plans rarely have vegetation clearance rules that adequately capture the full extent of indigenous biodiversity remaining in the district. Consequently, other than for the very best and most obvious examples, habitats supporting indigenous biodiversity are often left vulnerable to clearance as a permitted activity or at best as a discretionary activity. And when breaches of rules do occur, Councils often lack the resources or will to pursue enforcement.

Ambiguous definitions in district and regional plans are another problem for maintenance and protection of indigenous biodiversity and may result from a gap in communication between ecologist and planner. Whether a clearance exemption applies or not is often determined by the presence or absence of small, otherwise insubstantial, words such as 'and' or 'or', in a definition's wording. Definitions of improved pasture, as well as those for indigenous vegetation, have proven particularly problematic in a number of district plans, where ambiguous wording has undermined their intended purpose. There are examples, such as in the Mackenzie Basin and at Kaitorete Spit, near Christchurch, where plan definitions have been shown to have glaring loopholes, which have been exploited, resulting in losses of high ecological values.

Professional practice

Clearly, ecological training and experience, accurate definitions and consistent ecological impact assessment approaches are all important to halt the decline. But the professionalism and objectivity of the ecological consultant undertaking the assessments also matters. Although professional standards and guidelines can help, there is no requirement to adhere to them. Local authorities do not require ECIAs to be prepared by, or reviewed by, "suitably qualified ecologists" or those having recognised professional certification (for example, Certified Environmental Practitioner). A professional ecologist providing ecological advice through an ECIa must also be confident that their advice is not ignored, misrepresented or misused by clients or decision-makers.

Like many other undertakings, ecological impact assessment is influenced by the ethics (or values) of those undertaking the work. We consider that poor ecological assessments and interpretations of plan rules and definitions that reflect an 'advocate' rather than an impartial 'expert witness' role have played a large role in permanent losses of indigenous biodiversity in New Zealand. We regularly see EclA reports that undervalue ecological features (species, habitats, vegetation types and ecological function) thus minimising the seriousness of impacts, and giving inadequate advice to decision-makers.

In her overview article, Judith Roper-Lindsay notes that the vast majority of professional ecologists in New Zealand are not members of a professional body nor recognised by an independent accreditation organisation. We believe this means that there is considerable scope for inadequate technical work and poor ethical judgement. Consequently, some 'black sheep' of the ecological community have made a disproportionate and disgraceful contribution to the loss of our indigenous biodiversity that damages the reputation of the profession.

Solutions?

We have given some thought to improving the situation. As noted earlier, a set of guidelines developed by central government would have greater acceptability; although we recognise that this would probably be a lengthy process to allow for wide consultation.

Councils need to decline more applications that threaten indigenous biodiversity, or at least set rigorous conditions – and monitor compliance! Where ecological information is inadequate, further information and reassessment should be required. Given that there is a national certification programme for ecologists, Councils should consider whether EclAs submitted with consent applications must be prepared by CEnvPs. This however would suggest that Councils would need to ensure that their staff reviewing reports were also certified – a move that has not been taken up by Councils to date.

Conclusion

Halting the decline of indigenous biodiversity is a matter of national importance and a statutory obligation. Ongoing losses continue owing largely to a lack of understanding of what constitutes significant ecological values in a contemporary RMA context and/or ignorance of policy frameworks requiring the maintenance of indigenous biodiversity *per se*. These shortfalls are compounded by weak and/or ambiguous planning provisions.

Overlying this problem are the vagaries of human nature and the potential for ecologists undertaking EclAs to be influenced by their clients or councils to be unduly influenced by political considerations. There is no peer review nor accountability for incompetent or unethical behaviour among those who are not members of a professional body.

Aspirational objectives are important, but without the support of clear national guidance and standards, they have remained unachievable. The National Policy Statement on Indigenous Biodiversity will hopefully provide more substance to broad goals. Otherwise it falls to the professionalism and ethics of the environmental consultant, being often the only line of defence against further biodiversity loss.

REFERENCES & NOTES

[1] Taylor R and Smith I 1997. The State of New Zealand's Environment 1997. Ministry for the Environment and GP Publications, Wellington.

Ministry for the Environment 1997. The State of New Zealand's Environment, 1997. Ministry for the Environment Wellington.

Ministerial Advisory Committee 2000a. Bio-What? Preliminary report of the Ministerial Advisory Committee. Addressing the effects of private land management on indigenous biodiversity. Ministry for the Environment, Wellington.

Ministerial Advisory Committee 2000b. Biodiversity and private land: final report of the Ministerial Advisory Committee. Ministry for the Environment, Wellington.

Green, W.; Clarkson, B. 2005. Turing the Tide? A review of the first five years of the New Zealand Biodiversity Strategy. The synthesis report was submitted to the Biodiversity Chief Executives in November 2005.

World Wildlife Fund. 2012. Beyond Rio, New Zealand's Environmental Record Since the Original Earth Summit. WWF New Zealand.

Brown, M. A.; Stephens, R, T.; Peart,R.; Fedder, B. 2015. Vanishing Nature: Facing New Zealand's Biodiversity Crisis. Environmental Defence Society, Auckland New Zealand.

[2] Kelly, G. C.; Park, G. N. eds 1986. The New Zealand protected natural areas programme: a scientific focus. Biological Resources Centre Publication No 4. Wellington, Department of Lands and Survey. Pp. 63-87.

McEwen, W. Mary (editor), 1987. Ecological regions and districts of New Zealand. Third revised edition. New Zealand Biological Resources Centre Publication No. 5 (in four parts). Department of Conservation, Wellington.

[3] If used properly and applied in the correct contemporary context, the PNAP provides a robust set of criteria to determine significant ecological values.

[4] Ecological impact Assessment (EclA). EIANZ Guidelines for use in New Zealand terrestrial and freshwater ecosystems. Version 1. EIANZ March 2015

[5] Brown, M. 2016. Pathways to Prosperity. Safeguarding biodiversity in development. Environmental Defence Society. Auckland New Zealand.

[6] They enable loss through restricting 'no go' thresholds to rarity and threat in the matrix ('allowable loss') table.

[7] The most recent EIANZ guidelines are better, improved considerably by removing the matrix ('allowable loss') tables.

[8] Ecological impact Assessment (EclA). EIANZ Guidelines for use in New Zealand terrestrial and freshwater ecosystems. 2nd Ed EIANZ. May 2018