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To: Indigenousbiodiversity
Subject: Submission
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To whom it may concern,

I am a professional ecologist with 26 years' experience and have assessed ecological significance for a range of activities including identifying significant natural areas and resource management act consent applications. I am an author of a national ecosystem classification system (Singers and Rogers 2014) and have mapped this over the entire North Island and the upper South Island.

My submission on the Draft National Policy Statement for Indigenous Biodiversity principally relates to Section 38 and Appendix 1 and the methodology for determining significance.

I agree that all territorial authorities should undertake a district wide assessment processes to determine if an area is significant indigenous vegetation and /or significant habitat of indigenous fauna. However, I do not consider that this process needs to involve surveying every piece of land containing a natural area (see below). Much of this can be undertaken now using spatial conservation planning processes.

I support the criteria used; a.) representativeness: b) diversity and pattern: c) rarity and distinctiveness: d) ecological context for determination. For Appendix 2 however I consider however that this process should be further developed more to consider the concept of ecological integrity as a methodology to scale ecological value.

I do not consider that every single natural area needs to be surveyed in order for its significance to be determined. My principle reasons for this are based on my experience;

1. These assessments are typically as rapidly (and cheaply) as possible typically by junior ecologists who regularly make errors of judgement so the results are not consistently reliable. The older and more experienced I have become, the less confident I have become with these SNA identification processes which often are carried out within a few hours.
2. I have first-hand experience of working with landowners who have cleared wetlands and frost-flat habitat (which were nationally threatened habitat) because they hadn't been recognised on TA maps (in SNA survey processes) because the ecologists who did this process made fundamental mistakes.
3. Pragmatically I have witnessed significant opposition by some of the community with these processes, which is often entirely counter-productive to protecting natural areas. Such as first hand seeing the purposeful destruction of important habitat as owners have chosen to clear something before the government stops them! If the ultimate goal is to preserve the most important natural areas remaining then the social science component of this process must be considered along-side the ecological science methodology. Protection and preservation of natural habitat is a choice that societies and individuals make!
4. Lastly, I have found using a habitat or an ecosystem approach such as Horizons One Plan Schedule F to be a more encompassing and pertinent framework for identifying which habitats and ecosystems are At risk, rare and threatened in the parts of the country I work in. Having a defined list and categorisation of what ecosystems are or aren't threatened provides clarity to ecologists, landowners, authorities and developers. It is my opinion that as a country we would achieve better protection if we applied an ecosystem framework as the primary component for context for determining significance where this is possible. (This does not preclude the TA 'region' or 'district' or land environments as other useful components as in some parts of NZ that may be the best approach available).

What is the most appropriate context for determining significance?

This policy statement proposes using the 'ecological district' and the land environment in which it is located as the most appropriate context. In my opinion especially, as mapping of New Zealand's environment and ecosystems has developed, the 'ecological district' concept has less and less relevance as this concept becomes less meaningful. Including it in this policy statement is a backward step. Nature is not defined by human constructs. It is better to either use ecosystems, habitats or land environments and use the TA District, Region or all of New Zealand as the geographic construct. This policy statement should be forward looking. In future we will have systems and ecological models that much better define spatial ecological pattern with respect to the environment and landscape history so we should create policy that recognises this view.

The RMA 1991 takes a very broad and encompassing perspective of what is significant. Context is a crucial component for determining significance. Context varies from region to region and so the land environment approach may be the best framework available for some parts of NZ but is not necessarily the best approach for all of NZ.

New Zealand has a development history spanning over 800+ years — by 1840 approximately 30% of forests had been lost from Maori fires, principally in eastern semi-arid and sub-humid regions. European colonisation has resulted in a further loss of approximately 1/3 of our forests along with many other ecosystems such as wetland, dunes etc. Context differs with respect to the development history of a particular place.

Throughout most of New Zealand, especially in the North Island there are examples of ecosystems which are of high ecological integrity and representative. This reality has enabled me to have mapped potential ecosystems across the entire North Island and upper South Island. However, I also recognise that in parts of NZ, the most extreme being Canterbury and Otago, habitat that is representative of the original or potential, especially in the lowlands was destroyed hundreds of years ago. This means that what remains with a native component is successional and often highly modified. But because that is what is left, the best context for determining significance in these areas is the land environment framework within the TA district.

In the parts of New Zealand where habitat remains that is representative of the original or potential, using the habitat or ecosystem type frameworks such as Horizons Schedule F is a much more useful and meaningful construct.

I will use an actual example to illustrate this point. The Mt Messenger road project which I contributed to with respect to vegetation within the Assessment of Effects process and at the environment court.

I used the ecosystem framework of Singers and Rogers (2014) for context because

i.) It was relevant to the site as most of the land affected was representative of the original or potential state,
ii.) I had completed the potential ecosystem mapping for the Taranaki Region and in later stages of the Project when appearing in the Environment Court for the entire national extent for several ecosystems concerned.

This meant I could frame vegetation communities proposed to be lost within a broader ecosystem type and also assess this loss with respect to the Taranaki Region, ecological district/region (because that is what the TA plans asked) or Nationally for some entire ecosystem types.

For example:

- WF 8 Kahikatea, pukatea forest. 2.45% remains in Taranaki Region with 7.6% in the North Taranaki Ecological District.
- WF13: Tawa, kohekohe, rewarewa, hinau podocarp forest. 11.6% remains in the Taranaki Region and 19% remaining nationally.
- WF14: Kamahi, tawa, podocarp, hard beech forest. 76.9% remains in the Taranaki Region and 38.4% remaining nationally.

This analysis resulted in design changes to avoid effects to the most threatened ecosystem type (WF8) and also influenced the focus and amount of offset for this ecosystem. If this project proceeds a net benefit in the extent of WF8 will occur because of this understanding.

While not nationally complete the potential ecosystem mapping provides the basis for giving each ecosystem a national threat rank using a process such as Keith et al. (2013). Having completed all of the North Island and upper South this could be undertaken now for all warm forests and most mild forests. Ultimately, like the Horizons Schedule F this could be used for significance assessment and also to target TA regulation to protect the most vulnerable ecosystem types. Importantly it provides further clarity for other purposes such as land acquisition for conservation and prioritisation of conservation management.

In summary,
I advocate that:

1. the policy statement does not insist TA's survey all natural areas within their jurisdiction
2. Appendix 1; 3 includes the word 'ecosystem' to allow for these contextual frameworks.

Lastly it is my experience that biodiversity is often being lost because of inadequate enforcement by territorial authorities rather than policy deficiencies. I have first-hand experience of reporting drained wetlands, cleared habitat which the TA's did not follow up on despite the areas meeting significance criteria and being identified as SNA's. For this to change, more frequent auditing and reporting processes are required to identify which councils are performing badly. Innovative financial incentives are also likely needed such as enabling carbon credits from wetlands, and rates relief and tax rebates for example.

References

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