Submission on the discussion document on a proposed national policy statement for highly productive land

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General comments only.

First must applaud the attempt to develop a NPS for land. Well overdue. Cannot congratulate the team enough on the effort.

Limiting the proposal to only highly productive land (HPL), only one service (provisioning), only one HPL category across the 3 LUC Classes, and only areal extent and not condition (quality) constraints the ability to develop a comprehensive policy position.

- The HPL definition needs to go beyond just one service (provisioning) and include all services or benefits, (e.g. regulating, social and cultural) we humans obtain from our landscapes
- There is merit in separating out the elite and versatile land units (LUC Class 1, 2 and some of 3). LUC Class 1 is more versatile than 2, LUC Class 2 is more versatile than 3. The LUC Class 3 is a very broad Class ranging from what would be viewed as versatile land through to land with significant limitations to use.
- Limiting the draft to areal extend and not condition (quality) does not recognise that some of our versatile land is degraded and or contaminated (e.g. Cd, F, Zn, DDE) and hence limited value for primary industries.

`The authors seem to struggle a little with the LUC Classification system. The definition of HPL as used in this discussion document is at some distance from the definition in the LUC survey hand book. For example

- The size of a parcel of land or the distance from a road does not influence productive capacity of land.
- Water availability is captured in the LUC Classification system. If water is available (consented water-take, irrigation scheme) it is easy to reclassify the LUC unit. Removing water as a limitation will change the LUC unit, but is highly unlikely to change the LUC Class. A sand is still a sand even under irrigation.
- Climate (page 82 LUC Survey Handbook (https://www.landcareresearch.co.nz/__data/assets/pdf_file/0017/50048/luc_handbook.pdf) and new technologies (page 86 of the LUC Survey Manual) are both captured within the LUC Classification system, so the authors are creating issues (section 2.4) that do not exist.
- Viticulture is commonly used to indicate that the LUC classification systems does not capture productive use. What needs to be understood is viticulture is a **high value use**, rather than a highly productive use. Rather than stretch the HPL definition include is as a special case, as is the case in some District Plans.

The authors are incorrect when they state the LUC Classification systems is based on the best science back in the 1970s. The 3rd edition of the LUC Survey Handbook was published in 2009 after nearly three years of work by a very large number of scientists and practitioner. I suggest the authors read the Preface to the LUC Survey Handbook (I have added it as Appendix 1). Please address this mistake in the next iteration.

Limitations to use of LUC (Page 16 of the draft proposal)

- **Scale.** The national inventory is at 1;50,000. It is the basis for the NES Plantation forestry It is important to remember it is easily to map LUC at finer scales. A major strength of the LUC
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- Classification systems is it is scale-less, so you can map at the scales required to answer the question asked. In the last 10 years Horizons Regional Council has completed LUC mapping of 600,000 ha (half the hill country in the region) at 1;5,000-10,000. There would be other Region Councils (Wellington, Taranaki, Bay of Plenty) that would also have mapped large areas.
- **Discrepancies** is a red herring. There is little debate about what constitutes an elite and versatile land unit. The authors need to go back to the LUC Survey handbook and read the section on regional and national correlations.
- **Static nature**. One of the strengths of the LUC Classification system is the ability to improve the classification systems with new knowledge (Updates with the 3rd edition) and update the inventories (continuous mapping) at any time.

National policy statement (page 33)

The objective of the NPS must be to ***protect*** what is a **scarce, finite, non-renewable** resource. As it reads the policy is more about "improve the way we manage highly productive land"

What might be helpful to the authors is to break the highly productive land (LUC Class 1-3) down into two categories:

- Category I: LUC Class 1, 2 and some of 3 (Elite and Versatile land units) where the focus is on protection
- Category II The balance of the Class 3 land where the focus is on improving the way it is managed. This opens the door to all land

Extending the criteria to include the condition of the land (e.g. physical condition, level of contaminants) offers another option for including or excluding an area of highly productive land from subdivision?

As written the proposed NPS is likely to only slow the ongoing loss of our elite and versatile land units to urban and peri-urban spread. It needs to be more aggressive in the protect of the elite and versatile land units

The paper "Land: Competition for future use" (Mackay et al., 2009) highlights the limitations of a cost benefit analysis as mechanism for protecting of high-class land.

References

Lynn, I.H., Manderson, A.K., Page, M.J., Harmsworth, G.R., Eyles, G.O., Douglas, G.B., Mackay, A.D., Newsome, P.J.F. 2009. Land use capability survey hand-book—A New Zealand handbook for the classification of land. 3rd ed., Hamilton; AgResearch, Lincoln Landcare Research, Lincoln; and Lower Hutt GNS Science. 163P.

Mackay, A.D., Stokes, S., Penrose, M., Clothier, B., Goldson, S.L., Rowarth, J.S. 2011 Land: Competition for future use. New Zealand Science Review 68 67-71

Appendix 1

Preface

Land Use Capability Survey Handbook 3rd Edition

The renewed interest by land managers in developing sustainable management systems for our productive land has led to the reviewed and updated Land Use Capability Survey Handbook. This handbook replaces the second edition printed in 1971 and reprinted in 1974. It is a welcome addition to the professional training capability available for land managers as the second edition has long been out of print.

This edition of the handbook remains faithful to the concepts documented in the second edition. However, a systematic review of each component of the classification has been undertaken by a team of scientists, some involved with the preparation of the New Zealand Land Resource Inventory, a country-wide database prepared between 1975 and 1998. This database provided national land use capability assessment standards. A panel of Regional Council land management advisors experienced in land use capability assessments has participated in the process through workshops and reviews. The combination of science and application has ensured the classification system remains operationally based, contains more quantitative rigor, and as a consequence has ensured the system will remain relevant well into the future.

The first edition published in 1969 was prepared to provide national standards, as these were the basis for central government's financial assistance to farmers for erosion control works. Currently many Regional and Unitary Councils provide financial assistance to farmers to protect their soil resource and biodiversity. Central government is renewing its interest in protecting the national soil resource from the effects of flood and drought. Both these initiatives benefit from a nationally consistent land classification system based on physical sustainability and applied by land managers.

It is gratifying to see the result of a rigorous review of the land use capability system in this third edition of the handbook. The challenge remains to ensure it is used consistently throughout New Zealand as the basis for planning, and advancing sustainable land use.

Garth Eyles