14 July 2016

Chair
Local Government and Environment Select Committee
Parliament Buildings
WELLINGTON

Attention: To whom it may concern

Dear Sir/Madam

SUBMISSION – PROPOSED NATIONAL POLICY STATEMENT ON URBAN DEVELOPMENT CAPACITY

The Submitter

The New Zealand Society of Soil Science ("NZSSS") represents the professional and technical interests of professionals engaged in all aspects of the study, management and use of soils in New Zealand. NZSSS provides a forum for the exchange of ideas and information within the profession, and is thus normally engaged more internally in the science of the soil, rather than externally in the politics of its use.

However, an exception to its internal focus is a need to ensure that factual information in relation to our country's soil resources is given due recognition in the context of land use planning and decision making at district, regional and national level.

The Application

This submission is made by the NZSSS in respect of the proposed **National Policy Statement on Urban Development Capacity** (NPS-UDC).

This NPS-UDC proposal is supported, but with a request that the matters for consideration should be expanded and relevant detail incorporated to form a more comprehensive and coherent national guidance document.

We wish to be heard in respect of our submission, and we are willing to attend any convened meeting to orally present and talk to our submission.

www.nzsss.science.org.nz – Phone: +64 7 855 7163 – PO Box 7067, Hamilton 3247, New Zealand

SpecificpParts of proposal on which submission is made

The aspects of the proposal which we wish to have noted and amended are as follows:

- The development of the NPS-UDC is timely and arguably long overdue;
- The NPS-UDC fails to mention soils - not only are soils not mentioned, but the impact of the loss of high class/value[1] soils is not addressed, noting that class I-III soils represents 14 % of the NZ land area (Rutledge et al. 2010);
- Urbanisation and sprawling developments have the consequence of pushing a community's food resource further away from the community – an issue not addressed in the NPS-UDC, especially in light of the economic efficiencies of additional supporting infrastructure, transport and the need to generate soil fertility elsewhere. This is an issue that should be addressed at a national and regional level;
- An opportunity to consider the integration and trade-off of critical infrastructure resources, soil being one, in developing a master plan for urban development has been missed. In particular lateral urban spread will incur roading, water and sewer costs while consuming productive land; which in turn will result in further costs associated with having to transport food from further away and the need to spend considerable financial resources to generate the fertility of the land being lost at another location; and
- The NPS-UDC falls short, in that it does not provide for master planning whereby development is considered in light of its impact on the community as a whole, the region and the national economy.

Reasons for making this submission

Infrastructure	The proposed NPS-UDC provides the benefit of enabling a master planning exercise that has the scope to match urban development and expansion pressures against the availability of the resources required and their interconnectivity. These resources necessarily include the infrastructural requirements of water supply, sewer, transport connections and proximity to community services. When considered locally, regionally and nationally, **soils are also a vital infrastructure resource and need to be considered in parallel with other critical infrastructure**.
Previous Protection	The soils that occupy areas of land that have high productive versatility, and that may be considered to have comparatively high value for the production of food, are a finite and diminishing resource (Rutledge et al., 2010). This fact was recognised in the former Town and Country Planning Act, which made the protection of such soils a matter of national significance. The repeal of that Act, and its replacement with the Resource Management Act in 1991, removed the national significance of the protection of such soils; it did not, however, change the fact of the value of the resource, nor its finite and diminishing nature.

[1] High Class/Value Soils – those soils in Land Use Capability Classes I and II (excluding peat soils) and soils in Land Use Capability Class IIIe1 and IIIe5, classified as Allophanic Soils, using the New Zealand Soil Classification (Waikato Regional Council, May 2016). Soil Classes are defined in Lynn et al., (2009), with Class I to III soils typically associated with easy topography, high fertility and production of high value horticultural, vegetable and arable crops, along with historic high value dairy farms.

Recent Focus	In recent debates, the loss of high class soils has typically been considered in development by development discussions, with decisions made about individual land use proposals. Over the years, considerable effort has been made by many soil conservators and land use proponents to realise the value of soil and the social and economic consequence of losing soils in close to proximity urban environments. An opportunity with the NPS-UDC is the ability to develop a master planning approach whereby community, regional and national consequences can be considered, rather than the impacts of small areas where there are development opportunities, with gains solely measured by housing availability.
Loss of High Class Soils	The loss of high class soils has occurred nationally and internationally for many years as communities develop and grow. The rapid growth of communities has seen the rate of loss increase, with 29 % of the 25,000 ha of new urban areas in New Zealand developed between 1990 and 2008 occurring on high class land. Rutledge et al., (2010) indicated that "To date, LUC classes I and II (highest class land) have experienced the highest urbanisation rates as a percentage of original area (5.6% and 3.9% respectively) over the period 1985 to 2002. In addition, based on historical census data, housing density has increased across almost all areas of New Zealand, indicating that the extent of urbanisation may be broader than currently assessed." Between 1990-2008, 29% of new urban land occurred on high class land (Andrew and Dymond, 2013). In Auckland the rate of urban expansion onto high class land (LUC class I-III) has accelerated since 1996, with the majority of land allocated to urban expansion since 1996 has been high class land. Pukekohe has been identified as a potential satellite town with up to 50,000 new dwellings, but is the area where the majority of Aucklands LUC class I or elite land is located (Curran-Cournane et al. 2014). Lifestyle blocks occupy 10% of NZ high-class land, with 35% of the high class land in the Auckland region already occupied by lifestyle blocks. In Hawke's Bay and Marlborough a high proportion of urbanisation has occurred on high-class land (49 % and 50 % respectively).
Economic Future	By general consensus, New Zealand's long-term economic future will continue in large measure to rely on the production, and export, of high quality, high value food products for consumption by discerning purchasers. Such produce cannot be produced at will on just any old land; New Zealand has large areas of land that are suited only to pastoral or forestry uses at best, and only relatively limited areas of "high value soils". To illustrate this point, the Horticulture industry currently utilises approximately 130,000 ha of land and is aiming to be a $20 billion business by 2020. To double this return they need another 130,000 ha, but also they need the better landscape units, the very units which are nationally limited and could be consumed by urban development. Further, in the case of Auckland, but certainly other towns and cities as well, there is also the ongoing logistical issue of food supply for domestic consumption; local communities need to be fed as well.

Historic Investment	High value soils, incorporating unique combinations of geology, landform, climate, and comparatively short histories of productive use must be regarded as the foundation of any comparative market advantage enjoyed by our country. Further, the historic investment into the critical soil infrastructure should be recognised, which in many cases has seen millions of dollars used to create and maintain fertility that provides for financially viable production systems, which to a significant extent our national economy is already based on. The re-investment in developing fertility 'elsewhere' comes at a cost to the community and the nation, and should be considered as an opportunity cost (loss) when considering alternative land uses.
Site vs Community	Urban use can safely and sustainably be established on a wide variety of soils and sites. Provided flooding and landslide hazards are avoided as may be appropriate, a wide variety of topographies, soil types, and locations may be equally suitable for urban development. Therefore, while there is limited choice of whether to develop or not when considered in one area, a wider look at opportunities surrounding the larger community, and in some cases region, may identify scope that had not previously been considered.
Ecosystem & Biodiversity	Urban development has the scope to utilise landscapes that have maintained and developed unique ecosystems, some of which have inherent biodiversity characteristics not seen elsewhere. While not limited to high class soils, urban development can, and will likely, result in ecosystem changes through direct effects and loss of habitat; and also as a result of pressures on the ecosystem and habitat from cumulative effects beyond the development footprint.
Life Style Developments	Accompanying high density urban development is the peripheral development of 'life style' units, where large sections for land and buildings are preferred. These land development units consume large areas of land for limited residential occupancy. Landcare Research (Andrew and Dymond, 2012) estimated that in 2011 there were 175,000 lifestyle blocks, up from 100,000 just 13 years ago. This meant that 10 % of the country's high-class land is now occupied by these blocks of land. Rutledge et al., (2010) also noted "Several recent studies have also documented trends in land fragmentation. Northland Regional Council reported 10% of its LUC Class I–III land has been subdivided into lifestyle blocks between 2001 and 2007 (NRC 2010). If that rate was to continue (1.67 % per year), all of Northland's LUC 1-3 land will be subdivided in 60 years." Between 1990 and 2008, urban areas occupied an additional 0.5 % of high-class soils, with Canterbury (4,800ha) and Auckland (2,600ha) regions having the most high-class land (soils) converted to urban areas. The occupation of high class soils by lifestyle blocks greater. In Auckland region more than a third (35 %) of high class soils have been converted to residential lifestyle blocks.
Overhang	Outward development and not inward development generates an 'overhang factor', whereby further outward development provides for an even greater exposure to land, disproportionately increasing the "zone of influence" on land use beyond the urban boundary. This means there is scope for a rapid consumption of high class soils.

One Chance	Urban encroachment onto adjacent rural land has been seen to be an almost entirely one-way process. Once land has been used for the establishment of housing, commercial and industrial use, with the associated provision of communication and other public infrastructure, it is not cheap, not easy, and mostly not practical to reverse the process, remove the urban development, and return the land involved to its former actual or potential productive use.
The Value of Soil	A blanket ban on urban encroachment onto high value soils is not appropriate, and is not the position of the NZSSS. It is acknowledged by the NZSSS that a balancing of costs and values will be required to arrive at sound decisions on which land should, and should not, be made available for housing and associated developments. There will be circumstances in which it will be appropriate to decide to proceed with an urban development despite its consumption of valuable soils. However, in its present form the proposed NPS makes **no reference** to the need to include consideration of the value of the soils involved in reaching a decision on new urban development, and we consider that this omission needs to be corrected in the long term national interest.
Efficient Communities	The recent lateral spread of our communities shows a clear under-valuation of the natural resources they consume. In an attempt to provide for greater sustainability there is the need to think about where our local produce is grown and transported from. Greater transport adds greater cost to produce. Research by Richardson et al. (2016) has shown that 1-4 % of produce can be produced within an urban environment, with the remaining production coming from beyond the urban boundary. This cost of transport and sourcing produce from outside the urban boundaries needs to be added to the other costs of the spatial sprawl; with consideration given to avoiding cumulative costs by adopting land intensification within existing urban footprints. More roads to transport produce from further away to service a consuming wave of houses may not be as efficient as high value productive hubs that are centred close to the consumer in a more densely developed community.
Big Picture Resource	Looking after soils is important. Providing for growth is important. Dovetailing into existing hard infrastructure is important. Because many facets of development are important not all the objectives will necessarily be satisfied, and hence compromises will be needed. The most logical solution need not be the cheapest or the quickest; and there may be a time where a combination of factors, such as water reticulation limitations, roading limitations and loss of high value soils means that **less favourable and potentially more expensive building sites are best for the community**. These decisions cannot be made on a development by development basis; but require big picture national, regional and community perspectives to direct and influence what is right for New Zealand Inc, and not only for the benefit of expedient progress and the prosperity of developers.

Concluding comment

New Zealand needs an over-riding planning guidance document that provides direction for managing future urban growth, while balancing the needs of both new and existing infrastructural resources; **soils included**. The NPS-UDC could be that document.

The Ministry for the Environment should be commended for developing this national planning document; however, NZSSS believe it should be diligently developed to allow for the balancing of growth and resource use efficiency, and in a controlled and holistic manner that is not simply a kneejerk reaction to urbanisation, and in particular housing pressures.

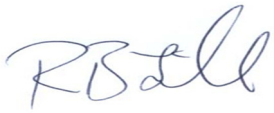
The balance should consider economic, social, cultural and environmental factors. Not one factor should be the sole contributor to growth, with both positive and negative factors integrated and considered across the larger community, and not on an ad-hoc development by development basis at the whim of political and/or developer pressure. Soil, and particularly the loss and consequence of loss, of high class soils should be an integral part of the decision making matrix.

Decision requested

NZSSS requests that the need to protect and sustain the availability and versatility of New Zealand's high value soil resources is included in the matrix of matters for consideration when evaluating land use changes. Ideally this consideration should occur at a master planning stage and not when evaluating a local development proposal.

Yours faithfully

New Zealand Society of Soil Science



Reece Hill
NZSSS President

References:

ANDREW, R., AND DYMOND, J. 2013. Expansion of lifestyle blocks and urban areas onto high-class land: an update for planning and policy. Journal of the Royal Society of New Zealand Vol. 43 (3), 128-140. http://dx.doi.org/10.1080/03036758.2012.736392

CURRAN-COURNANE, F., VAUGHAN, M., MEMON, A., FREDRICKSON, C. 2014. Trade-offs between high class land and development: Recent and future pressures on Aucklands valuable soil resources. Land Use Policy (2014). http://dx.doi.org/10.1016/j.landusepol.2014.02.020

LYNN IH, MANDERSON AK, PAGE MJ, HARMSWORTH GR, EYLES GO, DOUGLAS GB, MACKAY AD, NEWSOME PJF. 2009. Land Use Capability Survey Handbook – a New Zealand handbook for the classification of land 3rd ed. Hamilton, Ag Research; Lincoln, Landcare Research; Lower Hutt, GNS Science. 163p

RICHARDSON, J. J. & MOSKAL, M. L. 2016. Urban food crop production capacity and competition with the urban forest. Urban Forestry & Urban Greening, 15, 58-64.

RUTLEDGE, D. T., PRICE, R., ROSS, C., HEWITT, A., WEBB, T. & BRIGGS, C. 2010. Thought for food: impacts of urbanisation trends on soil resource availability in New Zealand. Proceedings of the New Zealand Grassland Association 72, 241-246.

WAIKATO REGIONAL COUNCIL. May 2016: Regional Policy Statement for the Waikato Region.