

Louis Wilks
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Dear Mr Wilks

Official information request for evidence relating to pressures on natural resources reaching critical boundaries referred to in the Briefing to Incoming Minister

I refer to your official information request dated 11 December 2017 for:

1. a) All of the evidence that has led MfE to conclude that: "Pressures on natural resources are reaching critical boundaries"; and
b) All correspondence between MfE and other stakeholders relating to 'critical boundaries'.
2. How MfE:
 - a) Defines 'critical boundaries'; and
 - b) What or which are the critical boundaries that have been identified in New Zealand; and
 - c) Which natural resources have been identified as, or are near, "reaching critical boundaries"?
3. And, relating to the statement:

"The evidence indicates that environmental constraints and pressure points are being reached. Current trends (eg, population growth, greenhouse gas emissions, biodiversity loss, and demand for access to natural resources) suggest those pressure points will continue to be tested".

I request:

- a) All of the evidence behind this statement (i.e., all of the evidence referred to by the statement "evidence indicates"); and
- b) How 'pressure points' are defined;
- c) Which pressure points have been identified as nearing being reached, or reached, in New Zealand; and
- d) How environmental constraints are defined; and
- e) Which environmental constraints have been identified as, or nearing, being reached in New Zealand?

We have interpreted your request as relating to evidence used in the development of the *Briefing for Incoming Ministers – Environment and Climate (BIM)*.

Critical Boundaries - Questions 2(a)-(c)

The purpose of the BIM is to provide a succinct summary of key issues for the attention of incoming Ministers. In this context, the sub-title “Pressures on natural resources are reaching critical boundaries” is a general statement about the pressures that humans are placing on natural resources as discussed in the subsequent paragraphs (8 and 9).

Critical boundaries are different for each environmental domain and ecosystem, but a general understanding of the statement is that some natural resources are reaching states beyond which resilience and/or recovery will be difficult. The BIM does not provide specific examples, but one example of a critical boundary in relation to climate change is the two degree limit (see [Two degrees: this history of climate change's speed limit](#)). The concept of critical planetary boundaries is another example (see [A safe operating space for humanity](#)).

The other information covered by your request is provided below.

Correspondence - Question 1(b)

We have not identified any correspondence with stakeholders about critical boundaries in relation to the drafting of the BIM.

Evidence of pressures and environmental constraints - Questions 1(a), 3(a)-(e)

A range of publically available evidence supports the statements in paragraphs 8 and 9 of the BIM because there is not one single report that defines critical boundaries and pressure points for all the various ecosystems in New Zealand. However, a key source of evidence underpinning the BIM, and highlighting the pressures on New Zealand's natural resources, is the *Environmental Reporting Series* published by the Ministry for the Environment (MfE) and Statistics New Zealand (see <http://www.mfe.govt.nz/more/environmental-reporting>).

Pressures noted in reports from this series include:

- Greenhouse gas emissions from human activities are changing the atmosphere and climate, and New Zealand's gross greenhouse gas emissions rose 24 percent from 1990 to 2015 (see [Our Atmosphere and Climate 2017](#))
- Freshwater nitrate-nitrogen concentration in urban areas was 18 times higher than in native forest areas, and freshwater nitrate-nitrogen concentration in pastoral areas was 10 times higher than native forest areas for the period 2009 to 2013 (see [Our Freshwater 2017](#))
- Biodiversity loss: Of the 39 native freshwater fish species reported on in [Our Freshwater 2017](#), 72 percent were either threatened with (12 species) or at risk of (16 species) extinction in 2013
- Global greenhouse gas emissions are causing ocean acidification and warming. In addition, our coasts are under pressure from excess sediments, nutrients and other pollution running off the land. Degraded coastlines compromise Māori values, recreation, and wildlife habitats (see [Our Marine Environment 2016](#)).

The Ministry also publishes other reports and guidance that identify pressures on the natural and built environments. An example is [Preparing for coastal change: a summary of coastal hazards and climate change guidance for local government](#), which notes that coastal hazard impacts are occurring more frequently as sea levels rise and sea level is expected to keep rising for at least several centuries.

The BIM also refers to international reports about New Zealand. Two recent reports that comment on pressures on our natural resources are:

- the OECD's *Environmental Performance Reviews: New Zealand 2017* (<http://www.oecd.org/newzealand/oecd-environmental-performance-reviews-new-zealand-2017-9789264268203-en.htm>), and
- Vivid Economics (March 2017) *Net zero in New Zealand: Scenarios to achieve domestic emissions neutrality in the second half of the century* (<http://www.vivideconomics.com/wp-content/uploads/2017/05/Net-Zero-in-New-Zealand-Summary-Report-Vivid-Economics.pdf>).

Among other facts about pressures on our natural and built environment, the OECD *Environmental Performance Review* notes that all major New Zealand cities are growing. In many cities, however, housing supply has not kept up with demand. In Auckland, lack of supply contributed to house prices rising by more than 50% in 2013-2016.

More generally, the OECD Review states:

*"New Zealand's growth model is approaching its environmental limits. Greenhouse gas (GHG) emissions are increasing. Pollution of freshwater is spreading over a wider area. And the country's biodiversity is under threat."*¹

We are pleased that you have expressed an interest in the pressures facing our natural and built environments and we hope that you will continue your investigation and study of the information available in the *Environmental Reporting Series* and other evidence the Ministry makes available on its website (mfe.govt.nz), as well as that published by other agencies and organisations. We welcome feedback on our publications at info@mfe.govt.nz.

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

If you wish to discuss this decision with us, please feel free to contact Justin Strang, Manager Strategy and Evaluation, Stewardship Directorate.

Sincerely



Natasha Lewis
Director Stewardship,
Ministry for the Environment

¹ OECD, *Environmental Performance Reviews: New Zealand 2017 Highlights*, <http://oe.cd/epr>, p3.

