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15 June 2023

RE: Stats NZ retirement of interactive data visualisations

Tēnā koe Mark

I have recently become aware of Stats NZ's plans to retire interactive data visualisations currently used on its website to display environmental indicators.¹ The underlying application used to construct these visualisations is well-suited to visualising complex datasets and this proposal disproportionately impacts the presentation of environmental indicators. Of the approximately 172 visualisations that Stats NZ is proposing to retire, about 80% are related to environmental reporting or environmental-economic accounting programmes.

I am particularly concerned about this proposal in the context of environmental indicators for several reasons.

Firstly, this is a step backwards, with significant implications beyond simple data visualisation. The current suite of data visualisations enables users to toggle between different measurement variables and statistical graphics across different temporal and geographic scales. This functionality imparts a significant degree of data and analytical flexibility and transparency to what are highly complex and detailed environmental datasets.

Accessible and timely information presented in an interactive way is an essential input into decision making. Forgoing interactivity and instead presenting data in a static format with links to raw datasets, will result in decreased data transparency and will almost certainly result in a loss of user confidence in the data. Restricting the ability of users to drill down into a location of interest and easily interrogate and disaggregate data by measurement variable and temporal and geographic scales, will lead them to question the robustness and rigour behind environmental indicators and underlying data analysis.

I note that the proposal is inconsistent with several key data quality dimensions listed in *Principles and protocols for producers of Tier 1 statistics*.² These data quality dimensions are used to guide the quality assurance of environmental statistics with two quality dimensions being of particular relevance to this proposal:

- Accessibility, defined as "the ease with which users are able to access and understand the statistical data and its supporting information".
- Interpretability, defined as "the availability of supplementary information and metadata necessary to interpret and use the statistics effectively."³

¹ <https://stats.govt.nz/consultations/retiring-our-interactive-data-visualisations>

² <https://www.stats.govt.nz/assets/Uploads/Principles-and-protocols-for-producers-of-tier-1-stats/principles-and-protocols-for-producers-of-tier-1-stats.pdf>

³ <https://www.stats.govt.nz/assets/Reports/Good-practice-guide-for-environmental-reporting/good->

While I understand the *Principles and protocols for producers of Tier 1 statistics* document is currently under review, the quality dimensions provide a sound and enduring basis for evaluating the quality of statistical outputs. It is somewhat alarming that this proposal is likely to undermine both the accessibility and interpretability of the environmental indicators. These are two key data quality dimensions that Stats NZ has identified as being integral to the production of quality environmental statistics.

Let me remind you that environmental data and indicators are not as mature as economic or social indicators. In what has been referred to as a current cost-of-living crisis, very few question the validity of the consumers price index and the robustness of its methodological compilation and resulting statistics. However, many continue to question environmental indicators, including the methodological rigour of the underlying data analysis.⁴ Removing the ability for users to drill down into locations of interest will leave them with more questions than answers and with an increased potential to misuse the data. As a result, the robustness and independence of the environmental reporting programme as a whole, as well as the role of Stats NZ, are likely to come under increased scrutiny.

Secondly, the proposal to retire visualisations used to display environmental indicators is at odds with the recommendations of my 2019 review of Aotearoa's environmental reporting system.⁵ In that review I recommended that Stats NZ should be responsible for implementing procedures for automated data handling and analysis and further development and maintenance of the online environmental reporting platform to host environmental indicators.

The proposal to retire interactive visualisations represents a step back from further development of the online platform, with increased accessibility, interactivity and ease of use. Given that the visualisation software is well-suited for displaying complex datasets (allowing for semi-automatic data handling), stepping back from its use will be at odds with global trends and recommended and desired improvements to Aotearoa's reporting on the state of its environment.

Further, this proposal also appears to be at odds with current work led by the Ministry for the Environment in conjunction with other organisations, including Stats NZ, to improve the foundations of the environmental reporting system. This includes developing core indicators for monitoring our environment, designing a national monitoring network and the analytical architecture required to assess and interpret the data.

Thirdly, I sense that the proposal to retire interactive data visualisations may be part of a broader organisational shift towards becoming a data warehouse (i.e. a data repository) rather than an agency that provides interpretation and visualisation. While some may see this as a return to core business by Stats NZ, this is at odds with global trends towards easier and more accessible information visualisation. Further, this shift may be at odds with your (and Stats NZ's) role as the Government Chief Data Steward, in supporting better use of data as a resource to help deliver better services to New Zealanders.

[practice-guide-for-environmental-reporting.pdf](#) and <https://www.stats.govt.nz/methods-and-standards/about-new-zealands-environmental-reporting-series-environmental-indicators-te-taiao-aotearoa#data-quality>

⁴ The groundwater quality indicator provides one current example. <https://www.stats.govt.nz/indicators/groundwater-quality/>

⁵ Parliamentary Commissioner for the Environment, 2019. Focusing Aotearoa New Zealand's environmental reporting system. <https://pce.parliament.nz/publications/focusing-aotearoa-new-zealand-s-environmental-reporting-system>

I note that the rationale cited for the retirement of the suite of data visualisations is due to low user engagement as determined through Google Analytics. It would be useful if Stats NZ could provide more substantive detail and evidence regarding the rationale for this proposal in addition to information regarding the higher value offerings that will replace these visualisations.

To conclude, I urge you to reconsider the Stats NZ's plans to retire interactive data visualisations used to display environmental indicators. This is a backwards step, with wider implications for your role as the Government's Chief Data Steward and the joint Ministry for the Environment and Stats NZ environmental reporting programme. Responses to my work on environmental information and reporting leave me in no doubt that there is a widespread consensus that our current investment in this area is seriously deficient. The proposals to retire these visualisations will only further entrench this deficit.

I would be happy to discuss this further.

Your sincerely

A handwritten signature in black ink, consisting of a series of connected loops and a vertical line extending downwards.

Rt Hon Simon Upton

Parliamentary Commissioner for the Environment
Te Kaitiaki Taiao a Te Whare Pāremata

Cc: James Palmer, Secretary for the Environment and Chief Executive, Ministry for the Environment