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ENVIRONMENTAL

RESEARCH • STRATEGY • REGULATION

Environmental information held by local government

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Survey

August 2024

Background information

This survey is concerned with land, water, biodiversity and biosecurity **data and information** collected by local government agencies. We are interested in understanding more about environmental data and information across the data value chain from collection through to usage and impact. The survey is being undertaken by several regional, unitary, city and district councils including yours. Examples of the types of data and information is included as **Appendix 1**.

A subset of the councils asked to complete the survey will also be the subject of a stocktake of their data and information. The purpose is to collate a spreadsheet of sources of data and information and the collation of key attributes about those sources.

Navigating this survey

It is expected that the answers to this survey will be found in various parts of council organisations and the survey may need to be distributed through different teams and groups to be completed. It is understood that the arrangement of work programmes and responsibilities will look different for each organisation.

> **Part 1** is concerned with an overview and the sufficiency of the data and information sources council holds (or relies upon) across **the key topic areas**.
>
> **Part 2** focuses on the sufficiency of different types of data and information across **different functional areas** (however they are arranged in your council)
>
> **Part 3** is concerned with the sufficiency, drivers and barriers of **data and information management** (including collection, storage, analysis and sharing/usage).
>
> **Part 4** addresses the **linkages and relationships** in the management of data and information
>
> **Part 5** looks to **the future**, inquiring about innovations underway and possible, including support needs for improvement.

Your council's answers to these questions will be aggregated and compared so please do not modify the wording of questions and please answer all of them succinctly and clearly.

Ranking scale

All questions in this survey relate to a single ranking scale below (Table 1). Please refer to this when asked to provide rankings.

Rank	Explanation of sufficiency (based on meeting day to day needs)
0	Does not exist.
1	Poor or very limited
2	Below par – lots of gaps but a few areas where it is fit for purpose
3	Adequate – has some gaps but is mostly fit for purpose
4	Good – some highlights and other areas that need more work
5	Comprehensive – consistent and effective

Table 1 Ranking scale

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Topic areas

The survey concerns the **four topic areas**, appreciating that there will be overlap between them and with other data and information sources. The table below provides a brief description and some examples. Data and information not in these topic areas is outside the scope of the survey.

Topic area	Explanation and examples
Land	Environmental data and information related to terrestrial areas such as land use, erosion susceptibility etc. including assessments of the effectiveness of management interventions including policy and planning approaches and compliance data.
Water	Environmental data and information related to water including infrastructure, quality and quantity, assessments of the effectiveness of management interventions including policy and planning approaches and compliance data.
Biodiversity	Environmental data and information related to state and trend data for indigenous species and ecosystems, including assessments of the effectiveness of management interventions including policy and planning approaches and compliance data.
Biosecurity	Environmental data and information related to state and trend data for invasive species, including assessments of the effectiveness of management interventions including policy and planning approaches and compliance data.

Table 2 Topic areas of interest (land, water, biodiversity and biosecurity)

Part 1 Sufficiency of data and information across topic areas

Question 1 Overview

Please provide a very brief description of the data and information you hold relating to the following areas, including a couple of key examples

1A Land

1B Water: Routine WQ Compliance data in accordance with DWQA Rules, Recent Report on Recreational use Investigations Pahiatua & Eketahuna & Compliance data detailing effects of discharges on water quality rivers, streams in region, Annual Compliance Reports. Source Water Risk Management plans for drinking water sources, Demand Management Water Conservation Plans

1C Biodiversity

1D Biosecurity

Question 2 Common types of data and information and rankings for your council

For the common types of data and information noted below, please rank the adequacy of your data (as per Table 1). If you do not hold any data and information that is relevant, please put zero. You are also welcome to add any top-of-mind information (that is not captured in the table) in the dedicated blank rows below.

Topic	Question	Ranking
Land	Data on land use including proportions of jurisdictions under different types	3
	Impervious surface data to measure extent of built environment	2
	Data and information on erosion susceptibility	2
	Data and information on land use change over time	3
Water	Data and information on water quality for recreation purposes	2
	Data and information on water quality for drinking purposes	3
	Data and information on water usage	2
	Data and information on sea level rise (including forecast)	0
	Data and information on effectiveness of water policy	2
Biodiversity	Data and information to inform the state and trends associated with species and ecosystems (collected for or by the council)	N/A
	Data and information on the effectiveness of conservation interventions for indigenous species and ecosystems	N/A
	Spatial prioritisation basis or system for directing conservation management interventions	N/A
	Data and information on significant natural areas (potential or identified)	N/A
	Data and information on consented land clearing	N/A
	Data and information on biodiversity policy effectiveness	N/A
Biosecurity	Data and information on the extent of invasive plant species	N/A
	Data and information on the extent and impact of invasive mammals	N/A
	Data and information on the extent and impact of ungulates	N/A
	Data and information on the extent and impact of invasive species not already mentioned	N/A

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	Data and information on the effectiveness of management interventions for invasive species	N/A

Question 3 Are there other data and information sources not owned by council that you consider to be particularly important in these areas - describe some examples.

[Home | Toitū Te Whenua - Land Information New Zealand (linz.govt.nz)](#)

[Manaaki Whenua – Landcare Research is the Crown Research Institute for our land. » Manaaki Whenua](#)

[District Advice - Horizons Regional Council](#)

[Retrolens - Historical Imagery Resource](#)

[Taumata Arowai Website](#)

[Hinekorako portal – Drinking Water / Wastewater Supply Registration-Taumata Arowai](#)

[Fluoride Policy and Guidelines -Ministry of Health](#)

Drinking Water Source Regulations and Standards – Ministry for the Environment

Environmental data website-Horizons Regional Council

Question 4 Please provide a general overview of the extent to which Mātauranga Māori data and information are collected, stored, analysed or shared/used by your council across land, water, biodiversity and biosecurity topics supporting a range of council activities?

Where required we receive Cultural Impact Assessments, for example Eketahuna Wetland development – Cultural Impact Assessment from Iwi (December 2023) and potential Cultural Impact Assessments coming for Eketahuna, Pahiatua and Woodville Water Abstraction. Involvement with Iwi in the TDC Wastewater Programmes Stakeholder Meetings and The Advisory Group which has been set up to review Water and Waste consents to get the best outcomes for the community. Meeting minutes record Iwi comments or concerns. This is emailed out and saved in Council filing system.. Cultural Impact Assessments – upon completion are emailed by Iwi and this is sored in council files / Trim filing system.

Question 5 In respect of the data and information your council presently holds across the topic areas, what level of confidence do you have in its sufficiency for long-term decision making? Please use ranking as per Table 1 in the below.

Topic area	Ranking	Explanation
Land	**4**	

Water	2	There have been issues with the accuracy of abstraction data for consents in the past - thru flowmeters unable to be calibrated & Telemetric systems requiring maintenance & sorting out. So - not good abstraction records from the past to understand water abstraction. Information from our SWRMP's indicate we have areas in the district that are over allocated 2023 consents. Investigation of new water sources in the region for the future have not been successful which is a concern. RAM asset management database has been evolving for sometime now - has records available but likely incomplete for all 7 zones in the district. This likely presents some challenges for decision making if information is not availale. Again there has traditionally been limited resources in the area of collating information in the asset management area and conducting assessments - inputting data. Backflow prevention another area where information data and records & systems are required but are lacking - because of under resourcing over the years Information on asset management, age, condition, and materials of pipes in the reticulation. Information on the assessment or status of assets, backflow prevention. Lots of work required here.
Biodiversity	2	NPS IB – I think this will be developed in the future but currently this is relatively low and we are relying on external parties – DoC RAP area etc. Predominantly this is a Regional not TA function.
Biosecurity	1	Not TA function – this is a Regional function.

Table 4 Question 5 table to complete

Question 6 Any additional comments about sufficiency of data and information across topic areas

Part 2 Sufficiency of data and information to support functional areas

Question 7 Data and information in functional areas

Councils require data and information for a range of purposes. We consider there are at least four key functional areas that are important:

- Science and monitoring (understanding ecological state and trend and the health of the environment)
- Strategy and policy (understanding policy effectiveness and what interventions are changing on the ground)
- Consenting (understanding nature and extent of resource use)
- Compliance (including bylaws) (understanding risk, compliance rates and feedback loops)

Please put a ranking of 1–5 (as per Table 1) in each box in accordance with the question in the left-hand column related to the topic area along the top row focused on the extent to which the data and information is sufficient to meet day to day needs.

Area	Question	Land	Water	Biodiv	Biosec
Science and monitoring	How sufficient is the science and monitoring data and information your council has about the following areas	N/A	Quantity 2 Quality 3	NA	NA
Strategy and policy	How sufficient is the data and information your council has, to develop policy or understand the effectiveness of policies related to the following areas	4	Quantity 2 Quality 3	2	NA
Planning and consenting	How sufficient is the data and information your council has about the planning and consenting information related to the following areas (including permitted activity monitoring)	3	2-3	2	NA
Compliance	How sufficient is the data and information your council has about the compliance and enforcement outcomes related to the following areas (including permitted activity monitoring)	3	2-3	1	NA

Table 5 Sufficiency of data and information across functional areas

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Part 3 Data and information management stages: sufficiency, drivers and barriers

Data management stage	Explanation
Collection	The gathering of information passively or actively by internal or external parties
Storage	The way data and information are stored for later analysis and use (e.g., notebooks, hard copy files, databases, spreadsheets)
Analysis	The way data and information are treated to understand what they mean
Sharing and usage (including providing access)	The creation of access to the data, active distribution to enable usage or direct usage by the council

Table 6 Data management stages

Question 8 Sufficiency of data and information management for present and future needs.

This question is split over the four key stages of data and information management and ask questions about the current sufficiency of approaches to these stages and whether long term decision making will be supported. Please use ranking as per Table 1 in the below.

Area	Question	Present needs	Long term needs
Collection	How sufficient is the collection of data and information in your council for:	3	3
Storage	How sufficient is the storage of data and information in your council for:	4	4
Analysis	How sufficient is the analysis of data and information in your council for:	3	3
Sharing/usage	How sufficient is the sharing/usage of data and information in your council for:	3	3

Table 7 Sufficiency across data management stages

Question 9 What are the key drivers of data and information management?
Our key drivers of data and information management are compliance with legislation, protection of privacy, meeting business needs and safeguarding our history as public records.

Question 9A Do the drivers differ between collection, storage, analysis and sharing/usage and if so, how?
Not markedly. We use the ALGIM Retention and Disposal Authority as a guide across the whole organisation for collection and disposal purposes, along with the guidance of the Privacy and Local Government Official Information and Meetings Acts (among others). Analysis is carried out on the records currently held, as required.

Question 10 What are the key barriers to the effective management of data and information?
Staff failure to comply with organisational processes, alongside a proliferation of tools in which our records and data can be stored, making it invisible to the wider organisation and difficult to manage.

Question 10A Do the barriers differ between collection, storage, analysis and sharing/usage and if so, how?

No, the same issues can arise at every stage.

Part 4 Linkages and relationships

Linkages and relationships between the different functional areas of councils and other organisations helps ensure best use is made of environmental data and information.

Question 11: Use the ranking scale (as per Table 1) to rank the quality of the linkages or relationships between these different types of data and information for your council.

Using these V To inform this >	Science and monitoring	Policy implementation and effectiveness	Planning and consenting	Compliance and enforcement
Science and monitoring		N/A	N/A	N/A
Policy implementation and effectiveness	3		4	3
Planning and consenting	4	4		3
Compliance and enforcement	3	3	3	

Table 8 Linkages between functional areas

Question 12 What would improve or maintain the efforts made currently to link data and information **within your council,** *from one area of council to another?*

If Tararua Alliance/Downer and TDC all worked off the same Data management system – this would increase sharing/linking data between different areas within Council. Each Department needs to understand the work that the other Departments are doing. Discourage silo thinking and encourage across department working groups.

Question 13 What are the most important linkages and relationships for environmental data and information **outside your council** *(external relationships) and why?*

Taituara – Local Government NZ, MfE, NZPI, Regional Planners Forum – sharing environmental data and information

Part 5 Innovation and opportunities

The local government sector has a range of initiatives recently completed or already underway. Please consider this section as an opportunity to highlight them from your council's perspective and feel free to link them to the previous questions if in your view they will resolve significant gaps in practice or availability of information once completed.

Question 14 What innovations is your council most proud of in terms of the collection, storage, analysis and sharing/usage of environmental data and information across the topic areas?

14A Land – From a land management perspective I think our Council is most proud of our Urban Growth Strategy 2054 and creating spatial plans for the growth and combining the infrastructure response to growth to support our proposed district plan review.

14B Water- We have recently had Source Water Risk Management Plans done for all our Water Supplies in accordance with the Water Services Act 2021. These plans will be reviewed and updated iteratively to inform council about any risks that have been identified in our catchments and need to be mitigated to protect the quality of our Drinking Water

The Demand Management Water Conservation Plan for our large water supplies have been developed for Regional Council in response to set conditions for Eketahuna and Dannevirke supplies, but due the over allocation status of Resource consents indicated in the SWRMP from Regional Council. We have decided to also included Woodville and Pahiatua and intend to eventually include the small supplies The DMWC Plan will be presented to Council at ICCEM meeting. Iwi and Council are very interested in this plan going forward.

14C Biodiversity N/A

14D Biosecurity N/A

Question 15 What current innovations (in the planning stage, in progress or complete) have been most effective at improving the management of environmental data and information by local government (either by your council or at a sector level)?
The only real innovation that I can think of is the TDC data warehouse that enables high level analytics with the option to drill through into the details. This is currently in use and can be added to over time.

Question 16 What are the key opportunities to improve the collection, storage, analysis and sharing/usage of environmental information by local government (either by your council or at a sector level)?
TDC has been warehousing consent data for a number of years with analysis able to be performed via PowerBI and shared internally. TDC has recently moved to using ESRI products as its primary GIS platform – and via the use of ArcGIS Online Council now has a greater ability to share information to the public and to also other adjacent Agencies via that service.

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Question 17 What support or change is needed to improve the collection, storage, analysis and sharing/usage of environmental information by local government? Feel free to include ideas that relate to the role of other agencies and organisations.

In accordance with the Water services Act more data sharing between TA and Regional Councils. For example -Regional Council were said to be developing catchment management plans and database to enable ongoing evaluation of the contamination risk to water supplies to facilitate improvements to water supplies

Question 18 How important are the <u>Open Data Principles</u> *to your council in managing data and information?*

These are quite important to our organisation, and we are working towards making our records and information more readily available through the adoption of e-services which will enable customers to access information from anywhere, any time. At the same time, we need always to strike a balance between access and security/privacy concerns, for commercial-in-confidence reasons, and to protect the private information of our customers and staff from improper access and use.

Geospatial information very important for the council in terms of developing asset management systems with location of assets, conducting repairs, sampling plans, water contamination events

Question 19 Any other general comments related to the purpose of this survey?

N/A

Question 20 Please provide contact details for key people to follow up on any aspect of this survey if required (such as clarifications or further detail). Feel free to divide across topic area or functional area

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Appendix 1: Types of data and information in scope

What environmental data and information should be considered in a broad way. Data about the environment (i.e. water quality) is in scope, but so too is what we know about the effectiveness of policies designed to protect water quality, consenting that affects or could affect water quality, and compliance data on levels of compliance with obligations that relate to water quality.

Type of data/information	Examples
State of the environment monitoring	Includes council's regular monitoring of land (e.g. soil indicators), water (water quality and water quantity indicators); species and ecosystem data and pests/weeds occurrence
Ecological surveys	Surveys of species and ecosystems that may or may not be linked to SOE monitoring and may be one off (e.g. SNA surveys)

Information on resource use	Information on the 'stocks' of resources and their use. This includes information to inform planning and policy, setting objectives, limits and targets, determining resources use conditions and any other information
Spatial and cadastral data	Large scale datasets of spatial/cadastral data (e.g. flood modelling, vegetation cover) and environmental aspects of property/lot data
Property information data	Environmental information related to a property unit, including that related to rates
Conservation funding data	Output and outcome monitoring of funding for community groups and other non-regulatory initiatives
Administrative information	Any other information relevant to environmental matters (e.g., registers of FSC certified forests)
Plan/policy effectiveness monitoring	Data intended to capture the outcomes/results of policy interventions at a project or jurisdiction scale – includes regulatory and non-regulatory interventions (including s35 monitoring)
Mātauranga Māori	Any embedded or separate programmes of analysis and collection of data and information for cultural purposes, including regional or district level operationalisation of Mātauranga frameworks etc
Consent information	Information related to consents applied for and issued, individual and aggregated
Consent information – post granting	Data and information relating to the exercise of consents including that collected by the council, provided by the applicant or any consultant in their employ
Compliance data about regulated community collected by council staff	Information on the behaviour of the regulated community (individual and aggregated) from the regulator's perspective
Compliance data (self-monitoring by regulated parties)	Data and information submitted by regulated parties for compliance reasons
Regulator performance monitoring	Data and information on the performance of the regulator in compliance monitoring and enforcement