

7 April 2022

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Dear Jacob

## **FOLLOWING UP ON PERFORMANCE AUDIT OF MONITORING HOW WATER IS USED FOR IRRIGATION**

Thank you for the letter of 11 March 2022 and the opportunity to report on the progress with the implementation of the recommendation to improve performance.

Environment Canterbury is pleased to have contributed to this initiative giving Parliament and the public confidence that improvements are being made by our organisation. Environment Canterbury implemented the following actions related to the two recommendations in the audit report:

### **Recommendation one - Councils continue to work with people and organisations holding water permits and intermediary data service providers to improve the timeliness and completeness of water-use data received**

Environment Canterbury has continued to work with consent holders and service providers to improve the timeliness and completeness of water use data. Environment Canterbury has achieved this through targeted projects and internal system improvements. This has been largely driven by the new regulations in the Essential Freshwater package. Service providers were advised of the upcoming regulation changes and invited along with representatives from Irrigation NZ and Federated Farmers to a workshop aimed at building an understanding of the regulations and the role each section plays in supporting consent holders meet their consent conditions.

During 2021 Environment Canterbury began a targeted campaign to work with consent holders who had not submitted water use data for the 2019/20 season. During this campaign we contacted and worked with customers and service providers. As a result, 92% of data sets targeted were received, and enforcement action was taken for those who did not comply. This targeted approach has been continued for the 2020/21 season.

The New Zealand Water Measurement Code of Practice was updated in 2021 by Irrigation New Zealand (INZ) with funding and support from the Ministry for the Environment and contributions from Consenting Authorities. Two Environment Canterbury staff contributed to the Code update during various workshops and correspondence with INZ.

Environment Canterbury is currently building a new water abstraction data ingestion tool to achieve the following outcomes:

- Improved transparency of data received, benefitting both Environment Canterbury and service providers
- Improved data transmission and communication via modern technology between service providers and Environment Canterbury
- Better association of water abstraction data to location of take, and permit (holder), ensuring accurate downstream measurement
- Automated quality control of water abstraction data either by refusing impossible data or by tagging improbable data.

The benefits of the new tool will provide better reporting, increased insight into data completeness, and escalation opportunities for missing data, data gaps and quality issues.

As part of the design process consultation was carried out with all data providers currently sending water metering abstraction data to Environment Canterbury. Several providers took up the option to have a workshop with Environment Canterbury technical staff and provide feedback on the design. Environment Canterbury is currently planning the release of a test version of the new tool for service providers and several consent holders to access. The expectation is that the tool will be available for testing in September 2022.

**Recommendation two: The Ministry for the Environment, councils that manage freshwater resources, and other interested groups work together to use water-use data to encourage compliance with water permits and the limits they impose, to enable effective and efficient use of freshwater resources**

Environment Canterbury enables effective and efficient use of freshwater resources by encouraging compliance with water permits. This is accomplished through three key mechanisms of our water use monitoring programme:

- segmentation
- water use alerts
- high priority consents.

Segmentation is a multi-criteria decision-making tool that determines which water use permits are to be allocated for inspection, based on each consent's risk score and each consent's need for an inspection. This means that in addition to water take characteristics, the tool applies other criteria, such as compliance history, infrastructure, and consent complexities.

The Water Use Alerts programme enables efficient in-season water use monitoring of telemetered water takes. Water Use Alerts is a tool that creates events for potential non-compliant behaviours, such as rates of takes in exceedance of second, daily, or annual volumes, or taking water on river low-flow restrictions. The tool also grades the events by the severity of the potential offense so monitoring officers can prioritise work.

Environment Canterbury has identified high priority consents to be monitored. These consents are a combination of large water takes, irrigation schemes, regionally significant consents and territorial authorities. Environment Canterbury is working closely with all the Local Territorial Authorities (TLA) across Canterbury on their water takes. A designated team

communicates regularly with the TLA for oversight and understanding of their takes. Environment Canterbury will continue to work together to ensure compliance and build relationship for future consent monitoring.

Environment Canterbury is also focused on the following identified improvement opportunities:

**Improvement opportunity one: As the quality of data from water meters improves, all councils have a role in ensuring they set realistic and needs-based water allocations using all relevant and current information.**

As part of the consent renewal process the actual water metering data is collected for the take and assessed against the consented allocation. Officers use a desktop tool that gives them access to both the consent allocation and water metering data. This assists them in determining efficiency and appropriate allocations.

Environment Canterbury is using a SQL standard cloud-based data storage solution that amongst many other data sets includes water abstraction data. The realisation of the Water Abstraction data ingestion tool as described above will also allow data quality control processes to be applied to the historic data. This will give scientists and planners more confidence using this data and understand its limitations when setting new limits and assessing current state.

**Improvement opportunity two: Councils need to share and promote more information with the public about how much freshwater is used**

Environment Canterbury has a daily automated process that compares river flow data to minimum flow limits to establish restrictions of water take. The restrictions for the next day are published on its website every afternoon. Both consent holders and members of the public can access this information to understand obligations relating to water takes.

Exploratory work was done on a water data viewer. The water abstraction data ingestion tool will provide opportunities for Environment Canterbury to share more information with the public about how much freshwater is being used.

I trust the above information provides an adequate response. If you wish to discuss the response, please contact [redacted].

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Stefanie Rixecker', written in a cursive style.

Dr Stefanie Rixecker  
Chief Executive