



# Ōtaika Catchment Water Allocation Assessment - Summary

## Background

The Ōtaika catchment (59.1 km<sup>2</sup>) located southwest of Whangārei was identified as fully allocated for surface water under the Proposed Regional Plan for Northland (PRPN), in 2017 due to the current allocation (consented plus permitted activity water takes) exceeding the regional default allocation limit. Consequently, the existing allocation (at the time) became the allocation limit for the catchment in accordance with the PRPN.

## Current allocation overview

The catchment is categorised as coastal and is subject to a regional default allocation limit of 30% of the 7-day Mean Annual Low Flow (7d-MALF). It currently has 19 active consumptive water take consents: 8 for stream takes, 1 for a dam, and 10 for groundwater takes. A survey conducted between 2010 and 2011 resulted in 38 registered permitted activity (PA) takes. Most of the consented takes are exercised in the upper reaches of the catchment. About 78% of surface water take consents are for irrigation whilst by volume, 76% of surface water is allocated for public drinking water supply.

## Water use analysis

- Actual water use over a period of 8 water years ranged from 0 to 69% of the consented annual volumes for the six biggest individual consent holders (by volume and water take rate). Smaller water take consent holders abstracted approximately less than 30% of their annual consented take volumes. Overall, actual water use is therefore significantly lower than the consented allocation.
- At catchment level, the current water allocation exceeds the regional default allocation limit based on statistics from the flow recorder site in the catchment, Ōtaika at Kay. The actual annual water use exceeded the regional default allocation by smaller margins suggesting that while the current allocation is significantly higher, the actual annual water use was significantly lower than the current allocation over the 8-year period as shown in Figure 1.
- The current allocation is approximately 95% of the 7d-MALF, posing potential ecological risks to the stream. Overall, the current allocation level in the catchment is high, although a

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significant portion of this comprises consented yet unused water, a pattern that is consistent with trends in other regions in New Zealand.

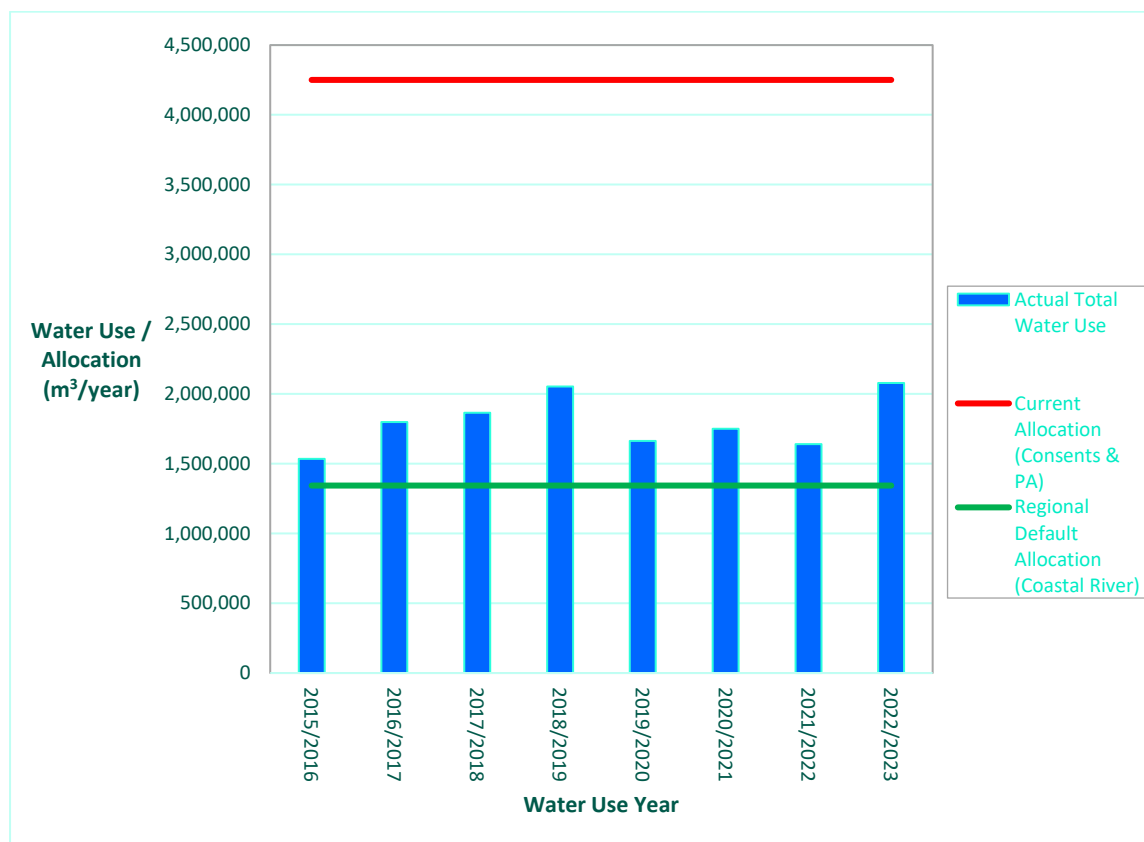


Figure 1: Ōtaika catchment actual water use, current allocation and regional default allocation levels

## Catchment pressures

- Most of the consented surface water takes and all groundwater takes occur in the headwaters of the catchment. This places significant allocation pressure on the upper reaches of the streams in the catchment.
- Groundwater takes in the catchment may reduce stream flows because most of them are hydraulically connected to the streams.
- Several historic consents lack minimum flow and water take limits. This poses the risks of altering the natural hydrological conditions in the streams and affecting the security of supply of other water users.
- Stream flow and water quality monitoring are conducted near the outlet of the catchment, with no monitoring occurring in areas where most water takes occur. As a result, the monitoring network does not accurately reflect the localised impacts and pressures of the current water allocation regime on stream flows and water quality.
- Permitted Activity (PA) takes are likely underestimated as there is no mandatory regime for registration of PA takes.

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## Key conclusions

### Water allocation

- The Ōtaika catchment is confirmed as fully allocated with current allocation at 95% of the 7d-MALF.
- Actual water use is significantly lower than the current allocation signifying high amounts of consented but unused surface water.
- PA takes may be underestimated as they are based on estimates.

### Ecological and hydrological risks

- High instantaneous take rates during periods of extreme low flows and droughts pose risks to instream values.
- The headwaters of the catchment are under allocation pressure, with most of the surface water and all groundwater takes being exercised in this part of the catchment.
- The current stream flow and water quality monitoring network limits the accurate assessment of ecological impacts of water takes, as such monitoring is conducted near the catchment outlet and takes are exercised in the headwaters of the catchment.
- Inconsistent maintenance flow conditions are applied, with some consent conditions tied to the point of take, others to a flow station and some consents lack such conditions entirely.

## Recommendations

### Water allocation management

- There is need to reduce the catchment water allocation levels during consent renewals or via plan changes in fully allocated catchments, such as the Ōtaika. The mechanisms should be fair and based on historical water use records.
- We should fully implement efficient allocation policy.
- PA take estimates should be improved, especially for highly and fully allocated catchments.
- Consistent minimum flow conditions should be applied for all water take consents.
- We should consent high flow takes as a strategic alternative in fully allocated catchments to support water security.
- Naturalised or reasonably naturalised streamflows should be reassessed at catchment levels.

### Monitoring and compliance

- Minimum flow requirements should be enforced during droughts.
- There is need to strengthen compliance with water use reporting.
- We should explore targeted flow and water quality monitoring in the headwaters of the catchment to accurately reflect localised impacts and pressures of water takes.

### Cultural and community engagement

- We need to engage Tangāta Whenua to assess the impacts of water takes on their freshwater values.

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