Environmental flows, levels and take limits

Ngā rerenga, ngā kōeke me ngā herenga tuari wai

Overview | Tirohanga whānui

Waikato Regional Council is carrying out a Freshwater Policy Review in response to central government's Essential Freshwater package, which is about stopping further degradation of New Zealand's fresh water and improving its quality and ecosystem health.

A key element of the package is an update to the *National Policy Statement for Freshwater Management 2020* (NPS-FM), which provides direction on how we manage fresh water under the Resource Management Act (RMA).

To give effect to the NPS-FM, we are required to include rules in our regional plan that set environmental flows and levels for the waterbodies in our rohe, as well as establish take limits to protect these flows and levels. It is important that we manage the flow and level of water in our freshwater bodies so that its health is maintained and improved.

What are environmental flows and levels?

Mō ngā rerenga, ngā kōeke o te wai

Environmental flows and levels are typically expressed as water levels or flow rates, for example:

- water levels (for lakes and aquifers): the height of water above mean sea level, or depth of water below ground level at a given point)
- flow rates (for rivers): the rate at which water flows (measured in litres per second, or cubic metres per second).

The NPS-FM requires the council to set environmental flows and levels in order to achieve the environmental outcomes and long-term visions identified by tangata whenua and communities. These flows and levels will be set at the amount of water that is needed to achieve the environmental outcomes for a waterbody, plus any connected waterbody and receiving environments.

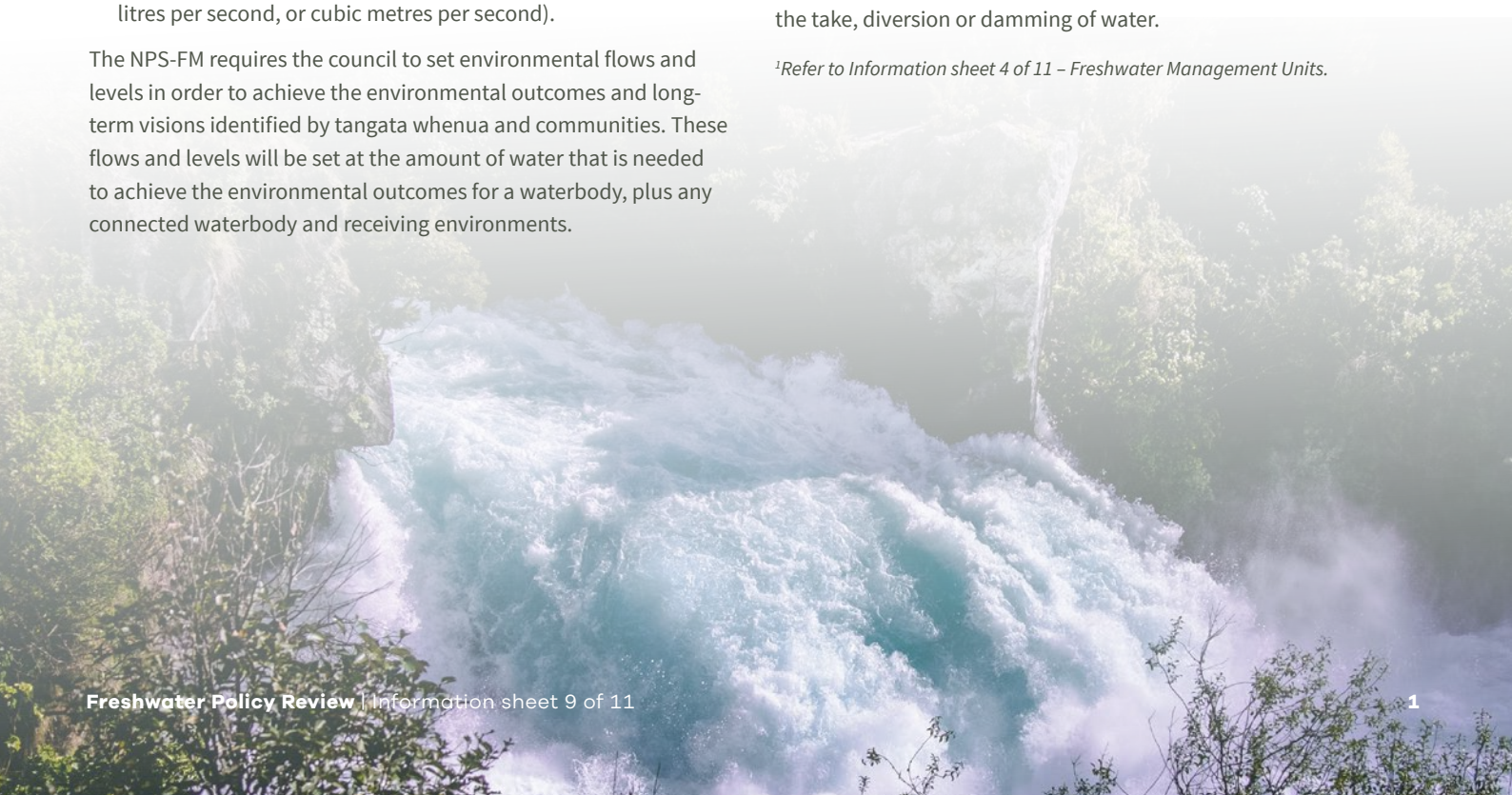
What are take limits?

Mō ngā herenga tuari wai

A take limit is the amount of water that can be taken from a water body. The NPS-FM requires that take limits are identified for each Freshwater Management Unit[1] and included as rules in a regional plan.

Take limits can be expressed as a total volume (e.g. as cubic metres per annum) and a total rate (e.g. litres per second), and applied to the take, diversion or damming of water.

[1]*Refer to Information sheet 4 of 11 – Freshwater Management Units.*



What are the current levels and take limits? | Mō ngā kōeke me ngā herenga tuari wai onāianei

The *Waikato Regional Plan* currently has measures that are equivalent to flows, levels and take limits. It includes limits on the taking of surface water with primary and secondary allocations and minimum flows.

These are calculated as a percentage of stream flow at the five year, seven-day low flow (Q_5)[2].

The percentage used varies per waterbody, with up to 30 per cent used as an allocation limit, and minimum flows varying from 70 per cent to 193 per cent of Q_5. The Q_5 values are not specified in the plan; instead, they are recorded by the council and updated as necessary.

The regional plan also includes limits on the total abstraction of groundwater from aquifers. It uses both a maximum rate of take (sustainable yield) and a maximum annual volume (management level)[3].

To date, no sustainable yields have been set for aquifers.

Management levels were determined using a water balance method that takes into account average annual recharge, area of land over the aquifer and distribution of groundwater.

As streams are fed by groundwater, the amount of water allocated from aquifers can be counted as part of the surface water allocation for each catchment.

We track the total amount of water allocated and where the takes are located. Large water users are required to supply water use records and the council monitors the flow in our rivers. This information is used to enforce limits intended to protect our taiao (environment). It also helps us understand how flows and levels are changing over time in response to water use and climate change.

[2]*Table 3-5 Allocable Flows for Surface Water in the Waikato Regional Plan.*

[3]*Table 3-6 Sustainable Yields from Aquifers in the Waikato Regional Plan.*

What are we wanting to do?
Mō ngā mahi ki tua

Set new environmental flows and levels

As part of the Freshwater Policy Review and to give effect to the NPS-FM, we will be reviewing the current flow and allocation regimes for the waterbodies in our rohe. In doing so, we will use science monitoring data and water metering data from the water users in our region, as well as draw from mātauranga Māori (traditional knowledge).

If a waterbody is modified through damming, diversions, discharges or abstractions, modelling may be needed alongside monitoring data to understand how the waterbody behaves in an unmodified environment. That enables us to manage the total effect of water use, rather than treating each additional activity in isolation.

In setting flows and levels, we also need to have regard to the foreseeable impacts of climate change. We have measured increasing frequency of drought for much of our rohe in the last decade. A warmer, drier region will mean there is greater demand for water for irrigation purposes. These key environmental changes will drive some of our policy responses to the management of water quantity in our rohe.

For revisions to the current flows and limits, we will use the best information available and share this information with you.

Determine take limits

We are required by the NPS-FM to set take limits that:

- provide for flow or level variability
- safeguard ecosystem health from the effect of takes on frequency and duration of lower flows or levels
- provide for the life cycle needs of aquatic life
- take into account environmental outcomes applying to relevant waterbodies and connected waterbodies. Connected waterbodies include aquifers and downstream surface waterbodies.

How will we do it?
Mō te whakatinana

Setting appropriate environmental flows and levels is a significant task, so we may use a phased approach to meet long-term visions[4] and environmental outcomes[5] over time, rather than require a single change to the status quo. This approach might be appropriate when significant change in the flow regime is required as it will have a large impact on the reliability and availability for water users. Gradual changes can provide ongoing certainty for resource users, alongside time to adapt to the new regime.

[4]*Refer to Information sheet 3 of 11 – Long-term vision.*

[5] *Refer to Information sheet 7 of 11 – Environmental outcomes.*

What about resource consents and reviews? | Mō ngā whakaaetanga rawa taiao me ngā arotake

Environmental flows and levels are protected by consent conditions that trigger reduced or ceased abstraction when the flow in the river reaches the limit set in a regional plan.

Under the NPS-FM, regional plans will need to state whether existing permits will be reviewed to comply with environmental flows and levels, and when the review will occur.

Where can I find more information?
Mō te puna kōrero

Check out **waikatoregion.govt.nz/freshwater-policy-review** to find:

- information sheets breaking down the Freshwater Policy Review
- how to share your views
- a summary of key milestones
- update on our progress.

You can also email us at policy@waikatoregion.govt.nz or call 0800 800 401 to speak to a member of our Freshwater Policy Review team.

Waikato Regional Council
Te Kaunihera ā Rohe o Waikato