

# Practice Note: Technical Advice for Applying for a Consent to Take and Use Water

## Introduction

This practice note provides a technical overview of some of terms and considerations for applications to take and use water. Some of the guidance will only be relevant for new or replacement water permits. This is outlined below.

The purpose of the guidance is to assist consultants and resource consent applicants in identifying the associated information and/or additional applications that may be required so that your application to for a water permit is complete.

Applications for water permits are assessed against the rules in the Regional Plan: Water for Otago (“**RPW**”). Activities associated with a water permit to take and use water may trigger the need for additional consents such as water permits for diversion and damming land use consents for dams and structures, discharge permits and/or consents under the NES-FW for activities near natural inland wetlands, fish passage etc. There may be additional information or consent requirements for non-consumptive takes (such as by-wash).

This guidance will assist with:

- Understanding primary and supplementary allocation;
- Determining the point of take for your water take;
- Assessing the rules and requirements when taking from water races, reservoirs and dams;
- Making sure you have surety of your water supply;
- Determining if your application may also require a water permit and/or a land use consent for storage and damming of water;
- Understanding how by-wash will be considered and the information required
- Assessing historic water use;
- Assessing efficiency of water use;
- Assessing of residual flows.
- Understanding what is the ‘existing/receiving’ environment

Guidance on what is required for a water permit application can be found within the application forms: [Form 4C](#) and [Form 4E](#).

You may wish to seek pre-application advice before lodging an application. Details on this process can be found here: [Before Applying for a Consent | Otago Regional Council \(orc.govt.nz\)](#)

If you have any questions ORC is here to help. You can call us on 0800 474 082 or email us at [public.enquiries@orc.govt.nz](mailto:public.enquiries@orc.govt.nz).

## Replacement surface water takes

Chapter 10A of the RPW was added by Plan Change 7. It outlines a framework for processing replacement surface water takes and groundwater takes that have a hydraulic connection to surface water (see [practice note: groundwater](#) for more details on these). Consents are to be granted for no more than 6 years and there are a limited number of considerations that the Council can have when assessing these applications. This means that the information requirements for these applications is not substantial.

The focus is on only granting water rates and volumes that have been historically taken, limiting irrigation areas to those maximum areas historically irrigated and ensuring that the take is appropriately measured for the consent term. Completing application Form 4C will assist with lodging a complete application with Council for these activities.

More details on Plan Change 7 and Chapter 10A can be found here: [FAQs for PC7](#)

You will need to be aware if you require any additional consents for your activities and the guidance below will be of help.

## Primary and Supplementary Allocation

Primary and supplementary allocation is only a relevant consideration for new surface water take applications. For replacement surface water takes, if allocation is currently stated on the permit being replaced, it will be carried over to the new consent document. However, no assessment of allocation will be made for replacement applications under Chapter 10A.

**Primary allocation** is the first amount of water in the water body that can be allocated for taking and using by resource consents (in litres per second). For new takes, the relevant rules depend on whether the take is in a [Schedule 2A](#) catchment area<sup>1</sup> or not<sup>2</sup>

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<sup>1</sup> Rule 12.1.4.2 of the RPW

<sup>2</sup> Rule 12.1.4.6 of the RPW

and whether there is primary allocation available<sup>3</sup>. The availability of allocation can be found on Otago Maps using the *water allocation* layers: [LocalMaps \(orc.govt.nz\) Policy 6.4.2](#) and the associated explanation in the RPW describe primary allocation and how it is calculated.

**Non-consumptive takes** and **takes from the big lakes and Clutha River/Mata-Au**<sup>4</sup> do not meet the definition for primary allocation and any new takes are **discretionary activities** under Rule 12.1.5.1.

For takes from Regionally Significant Wetlands, the Waitaki catchment and Welcome Creek, reference should be made to rules in 12.1.1A, 12.1.4.2, 12.1.4.6 or 12.1.4.7.

**Wetlands:** Refer to: [Wetlands and NES-FW](#) for extra considerations and consent requirements for takes from or near wetlands.

**Supplementary allocation** enables water to be taken when flows are higher. Policies 6.4.9 and 6.4.10 in the RPW describe supplementary allocation. Methods 15.8.1A.1 explains how supplementary allocation is determined. More information on supplementary allocation can be found here: [Practice Note - Supplementary Allocation](#)

**Augmented takes** under the RPW is where stored water is released and taken downstream of the storage facility (i.e. water is released from a dam for subsequent taking) or water taken is delivered to a river which forms part of the conveyance network and re-abstracted from the river at a downstream location. These takes are not considered as part of primary allocation. Augmented takes are provided for by Rule 12.1.4.1 of the RPW as a **restricted discretionary** activity.

## Determining the Point of Take

Water permits can have complex intake set-ups. These may include the source waterbody (the river the water is taken from) being diverted or channelled within or outside of the natural bed. Also common are by-wash overflows and/or weir/dam structures within or outside the bed.

The ability to control the water into a channel is used to determine where the point of take is.

**The point of take is where water is taken out of the source waterbody by a control mechanism such as a gate, control structure or pump.**

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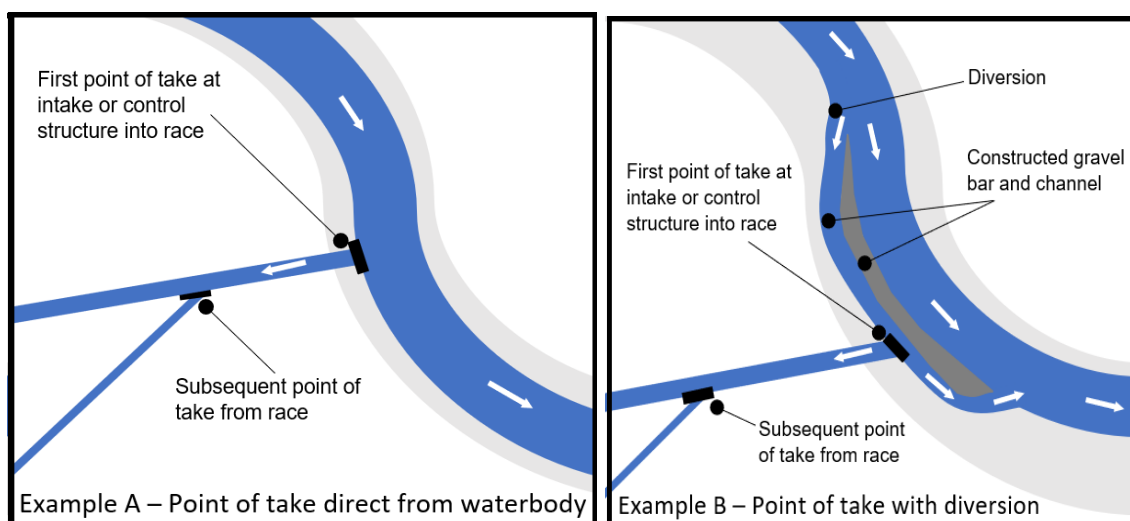
<sup>3</sup> If there is no primary allocation available, then the activity is prohibited by Rule 12.0.1.1 of the RPW. Water may be able to be taken under s14(3) of the RMA, the permitted activity rules of the RPW or as a supplementary take.

<sup>4</sup> [Policy 6.4.1](#)

Where there is no control structure at the point where water is taken from the source waterbody, you will need to review the diversion rules in [Section 12.3](#) of the RPW.

Consent may be required for a permanent or temporary diversion. The take point would then be from the diversion channel where control of the take is held.

The diagram below will assist in determining the point of take:



The Resource Management (Measuring and Reporting of Water Takes) Regulations 2010 and Amendment Regulations 2020 require measuring devices to be located at the point of take<sup>5</sup>. If your water measuring device will not be at the point of take, you will need to apply for a Water Metering Exemption ("**WEX**").

More information about applying for a WEX is available here:

<https://www.orc.govt.nz/consents/water-metering-and-measuring>

<sup>5</sup> ORC considers that the measuring device needs to be within 100 metres of the point of take to be considered to be located at the point of take.

## Takes from Water Races, Reservoirs and Dams

The taking of water, whether within a water body or a race or reservoir, requires resource consent under the RMA unless permitted by a regional rule<sup>6</sup>. If your take is conveyed or stored in open races or reservoirs your application should identify each of these retake locations.

Takes from races, reservoirs or dams that relate to a take from a water body are required to be considered as part of the take and use application and assessed in the application unless the activity is permitted by Rule 12.1.2.3 (takes from artificial lakes). Applications need to include and assess the 'parent' take from the water body (e.g. river), and any subsequent takes from a water race, reservoir, or dam in the one application. These retakes will be considered within the envelope of the rule(s) that apply to the 'parent' take(s) and any retakes will be included on the same consent as the 'parent' take.

Ideally the locations of any retakes from dams/water races are identified by a map reference and plan. However, for large scheme applications a scheme map that shows the location of all the distribution and storage infrastructure and identifies the general location of the retakes will satisfy information requirements.

In addition, the application will need to include consents for any 'augmented takes'. Augmented takes are takes from a river or lake where water has been delivered to that lake or river for the purpose of subsequent taking. This is where a river, most commonly, is used as part of the conveyance system. Augmented takes are provided for by Rule 12.1.4.1 of the RPW as a restricted discretionary activity. These are separate to retakes from races or reservoirs, which are not specifically provided for by this rule.

## Damming and Storage of Water

A water permit is required where the damming of water does not comply with Permitted Activity [Rule 12.3.2.1](#) of the RPW. This applies to the damming of water both in a natural water body and outside of a natural water body (i.e. on land).

Damming includes holding water in storage/detention ponds and reservoirs and other structures - both within and outside water bodies and races. You will need to consider new damming activities and any existing damming activities.

There are many different resource consents that may be required for damming. Helpful guidance can be found on [Form 2](#).

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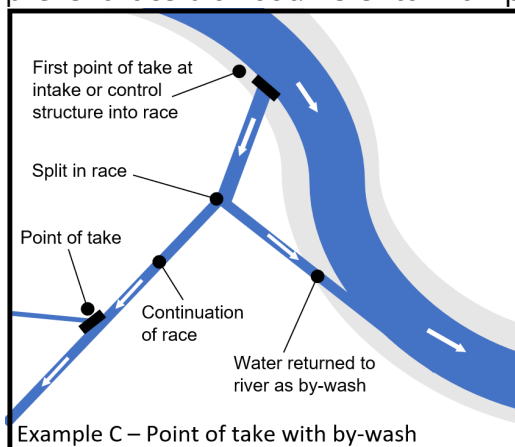
<sup>6</sup> The term "water" is very broadly defined in the RMA. While water in a pipe, tank or cistern is excluded, this exclusion will not apply to water in water races and other un-piped artificial watercourses including dam reservoirs.

The expected level of detail required to support your damming and diversion activity will vary depending on the scale of the activity, age, consent duration sought and other factors. A matrix providing some guidance on the level of assessment required for different types of damming and diversion activity [can be found here](#).

All resource consent applications associated with the damming of water and the establishment of any dam structures that relate to the take and use of the water will need to be applied for with your application. Form 2 can be used to make this application.

## By-Wash and Discharges

By-wash is excess water that is taken at the point of take, normally to enable the point of take and conveyance infrastructure (such as a race) to operate. By-wash is typically discharged back into a water body downstream of the point of take. This may or may not be the same water body that water was taken from. By-wash may also be discharged to other water bodies to manage high flows/relieve pressure on the race system and prevent race blowout. Refer to Example C below.



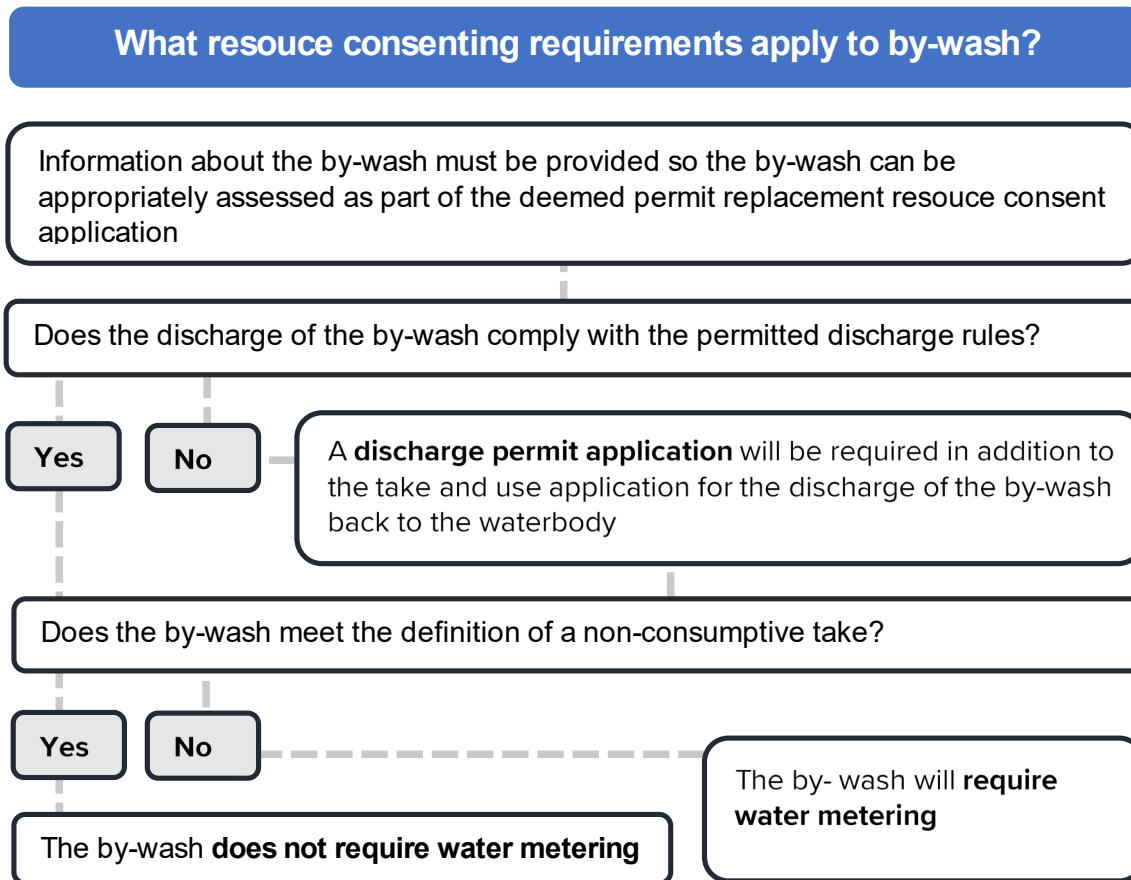
It is expected that applications for new takes will NOT have a by-wash component. It is encouraged that the water intake system is designed to prevent the need for water taken to be by-washed.

For replacement applications, the taking of water for by-wash requires resource consent and will be considered as part of the take and use application processed under Chapter 10A. We will be assessing that there are no changes to the existing intake infrastructure and consenting this to ensure that there are no changes to water taken.

Where the by-wash is discharged back to a waterbody, this needs to be assessed against the permitted activity rules in [Section 12.C](#) of the RPW to confirm if the discharge is permitted or if a discharge permit will need to be applied for with your application.

If the by-wash is '**non-consumptive**', metering will not be required under the Resource Management (Measurement and Reporting of Water Takes Regulations) 2010 and Amendment Regulations 2020. The next section below on non-consumptive takes will

help you in determining if the by-wash is 'non-consumptive'. If the by-wash is consumptive it will need to be measured.



## Non-Consumptive Takes

In order for a take to be non-consumptive (such as by-wash or for electricity generation), the take needs to meet the following definition:

*A take is non-consumptive when:*

- (a) The same amount of water is returned to the same water body at or near the location from which it was taken; and*
- (b) There is no significant delay between the taking and the returning of the water<sup>7</sup>.*

When considering *the same amount of water is returned to the same water body at or near the location from which it was taken*, consider:

- Is the water being taken from and returned to the same water body?

<sup>7</sup> Definition is from the Resource Management (Measurement and Reporting of Water Takes Regulations) 2010 and the RPW.

- Is there potential for any losses of water between the take and the return of the water (i.e. is the water piped to the discharge point, is it via a race, is the pond lined, is there potential for evaporative losses, leaching losses, overflow losses, etc)?
- What is the measured distance between the take and return of the water? Is this location considered to be near the point of take?

When considering *whether there is no significant delay between the taking and the returning of the water*, consider:

- Can the time between the taking and return of water be quantified (is this minutes, hours, days or weeks)?
- Is the delay significant?

Your application should demonstrate how the non-consumptive elements of the application meets the non-consumptive take definition. ORC will make the final determination on whether a take is non-consumptive or not.

## Historic Water Use

Historic water use is **only** relevant for replacement water take applications.

Method 10A.4 prescribes how historic use is to be determined for surface water takes and groundwater takes that are hydraulically connected to surface water. This methodology was adopted by the Environment Court and is referenced in Chapter 10A.

We can provide you a copy of your 10A.4 data analysis. Please email [watermetering@orc.govt.nz](mailto:watermetering@orc.govt.nz) with your resource consent numbers.

## Efficient Water Use

For replacement applications under Chapter 10A there is **no** requirement to assess or consider the efficiency of the water use.

For new applications and replacement groundwater takes (with no surface water hydraulic connection or a surface water hydraulic connection of less than 5 L/s), Policy 6.4.0A requires that the quantity of water granted is no more than that required for the purpose of use.

The application will need to consider what the water will be used for and whether the quantities of water applied for are no more than that required for those purposes of use. Guidance is provided in Form 4E for what Council considers to be efficient water quantities for stock water and domestic purposes.



For irrigation, the Council uses guidelines prepared by Aqualinc to assess efficiency for different crops. This takes into consideration the local climate and soils within the irrigation area. A copy of the guidelines can be found [here](#):

Aqualinc provides recommended seasonal volumes based on an average year; a one and two-year drought (80th percentile); a one in ten-year drought (90th percentile); and a maximum situation. For Otago it is considered that a one in ten-year drought or 90<sup>th</sup> percentile is the most appropriate when considering efficient water use. This aligns with the approach used by other regional councils. The efficiency of the application method also needs to be considered and proposals for upgrade outlined where conversion to more efficient application methods are proposed during the term of the consent.

For frost fighting, the Council does not have published recommendations for water requirements for frost protection in the Otago region and uses the recommendations by Environment Bay of Plenty (EBOP) of 2.5 to 3.0 mm of water per hour per hectare (usually applied for up to 10 hours), up to a maximum of 30 days per year. The number of frost fighting events will depend on the location and frost climate data. It is recognised that up to 4 mm per hour may be appropriate in Central Otago due to the severity of frosts. If site specific information and data can be provided that suggests that the above recommendations need to be reduced or increased at a specific location, then this evidence needs to be provided with the application.

The application also needs to consider the efficiency of the distribution and storage infrastructure and whether these are in accordance with best practice. The potential for leakage and losses will need to be assessed and any proposals for upgrades to this infrastructure outlined in the application.

### Residual Flows and Minimum Flows

Residual flows are the flows left in a water body below the point of take to maintain the natural character and ecosystem values of the water body. The instream values, flow hydrology and natural character of the water body are taken into consideration when determining whether a residual flow is necessary and the quantum of the residual flow.

Minimum flows are the flows in the main stem of the catchment below which the taking of water by resource consent holders must cease.

For replacement water takes under Chapter 10A only residual and minimum flow conditions that are on the consent being replaced can be imposed on the new consent. You will need to identify if these conditions are on the consent being replaced and include them as part of the application.

For new surface water takes and hydraulically connected groundwater takes, the need for a residual flow will be considered taking into consideration the nature of the activity (rates and volumes of take) and the sensitivity of the water body. The Council' uses matrix approaches (example below) to determine the risk of adverse effects caused by water takes. An application for a new surface water permit should give due consideration

as to whether a residual flow is required and provide reasons for the residual flow that is proposed including details on how the residual flow is proposed to be monitored.

Council's technical advisors will provide advice on the appropriateness of a residual flow proposed based on the degree of hydrological alteration and significance of instream values. Consideration when assessing a residual flow will be given to the NPS-FM 2020.

**Table 1: Example of a matrix approach for residual flows**

Degree of hydrological alteration	Significance of instream values		
	Low	Moderate	High
Low	Maintain connectivity Minimum water depth*	Maintain connectivity Minimum water depth*	60-80% of MALF
Moderate	Maintain connectivity Minimum water depth*	60-80% of MALF	70-90% of MALF
High	60-80% of MALF	70-90% of MALF	70-90% of MALF

Specific conditions imposed will be dependent on the size of the residual flow recommended and the ability for the residual flow to be monitored.

- For smaller residual flows, typically where a residual flow would be less than 20 L/s, a continuous connected residual flow may be required to be maintained from the point of take to a defined point downstream. It is noted that such residual flows are not supported by mana whenua and the appropriateness of this is considered on a case-by-case basis ensuring that the health and well-being of the waterbodies are provided for.
- For residual flows which require more than just connectivity that require a specific flow in litres per second to be maintained in the watercourse below the point of take, but do not require regular reporting via a temperature logger, the installation and maintenance of a flow gauge is likely to be appropriate.
- For larger residual flows that require a specific flow in litres per second to be maintained in the watercourse below the point of take, the installation and maintenance of a temperature logger at a critical riffle location may be recommended with data provided to Council on a regular basis.

In some specific cases, a residual flow may also be able to be measured by measuring the relationship with a flow recorder downstream or outside the catchment and using a flow level on that recorder to trigger the suspension, or a telemetered flow recorder may be used where a larger water user group is established.

### Need more information?

If you have questions about applying to replace your water permit you can call us on 0800 474 082 or email us at [public.enquiries@orc.govt.nz](mailto:public.enquiries@orc.govt.nz) or refer to the Council's website [www.orc.govt.nz](http://www.orc.govt.nz)