Practice Note:
Replacement Groundwater Take and Use Applications

Otago Regional Council

This practice note outlines what to consider when you are applying for a replacement groundwater take and use permit

- For further guidance on what is required to be lodged with a groundwater take and use application, please refer to Form 5.
- This practice note **does not** apply to **new** groundwater takes or replacement groundwater takes that are increasing the rates and volumes of water proposed to be taken and used. For more information on what is required for these applications see practice note: New groundwater take and use applications
- This practice note **does not** apply to **groundwater takes allocated as surface water**. You will need to look at the rules in Chapter 10A of the Water Plan for those activities. For more information, refer to the practice note on Replacement surface water and connected groundwater take and use applications.

5-year duration automatic extensions

If your consent was granted between 18 March 2020 and 21 August 2025 for a term of 6 years or less, then a replacement consent for your water permit does not need to be applied for. You will receive an automatic **5-year extension to your consent term**. You should have received an updated water permit from Council reflecting this. If you think this applies to you and you have not received this update, please contact consent.enquiries@orc.govt.nz.

Groundwater takes that expire before 31 December 2027

If your consent is not covered by the 5-year extension above, **expires before 31 December 2027**, and was originally granted for **less than 35 years**, it has been **automatically extended to 31 December 2027** under the *Resource Management (Consent Duration) Amendment Act 2025*. You should have received an updated water permit from Council reflecting this. If you think this applies to you and you have not received this update, please contact consent.enquiries@orc.govt.nz.

More details on these extensions can be found on our website: Changes to resource consent durations.

If the above applies to your consent, you can still apply to replace your consent before the new expiry date. We would recommend that any applications for replacement consents are made at least **6 months before the expiry of the consent** (by 30 June 2027) to ensure that you can continue to operate under your current consent while a decision is made on the application (s124 of the RMA). The below practice note has advice on what to include in a replacement application.

Rules and consent term

A new or replacement groundwater permit that is **allocated as groundwater only** is considered under the Chapter 12 rules in the Water Plan. More details on groundwater rules can be found in: practice note: New groundwater take and use applications.

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All water take and use applications in the Otago Region are limited to a **maximum 6-year consent term**. This is in accordance with s127B of the Resource Management Act. This 6-year term typically applies from the issue date.

Requirements for 6-year replacement groundwater permit applications

The following outlines what Council expects to be lodged for replacement groundwater take and use applications when your proposed activity is the same as what is currently consented (i.e. same rates and volumes, location of bores).

Other activities that may require consent

The following situations may require additional consents. These activities will have their own consent requirements and may change the overall activity status of the application:

- **Bore construction consents for new bores:** to replace an existing bore. We recommend that the bore construction consent is lodged and granted and that the new bore is constructed prior to the groundwater replacement application being lodged. We will likely require the new bore to be pump tested to confirm it can deliver the water rates and volumes applied for and to enable an assessment of effects from taking at the new bore location. Where there is a new bore at a different location then currently consented, a more comprehensive effects assessment is required. See practice note: New groundwater take and use applications for details on what is required for these applications.
- **Natural inland wetlands**: Groundwater takes and/or uses (e.g. irrigation areas) located within 100 metres of or within a natural inland wetland – these may require consent under the National Environmental Standard for Freshwater 2020[1].

Description of the Activity

To assess your application, we need a clear understanding of the activity you are proposing, including **where it will occur** and **what it involves**. Please make sure your application includes details on the following:

- Bore/Wells Number and location
- Rates and volumes proposed to be taken
- Means and timing of the take, including seasonality
- Description of the infrastructure for taking, storing, distributing and using the water
- Details on the use of the water including the location of use
- Conditions of the current consent and whether these are proposed to be carried over to the replacement consent

1 Refer to Regulation 54 of the NES-FW 2020

- The aquifer that water is taken from, if named and known
- Any wetlands or Regionally Significant Wetlands in the locality
- Any nearby streams or surface watercourses
- Neighbouring bore locations and details
- Neighbouring consented water takes
- Climate and soils

Allocation

Groundwater Allocation

Groundwater allocation is based on the seasonal volume of water taken (million cubic metres per year). If there is no change or a reduction in the seasonal volume of water proposed to be taken, then the replacement application will be considered to have no additional impacts on groundwater allocation.

For more details on how groundwater allocation is determined see practice note: New groundwater take and use applications.

Hint: Ensure your annual volume sought is the same or less than your current water permit

Surface water allocation

Your water take will be treated as groundwater allocation only and you do not need to worry about surface water allocation if it:

- Is not located in a Schedule 2C Aquifer
- Is more than 100 metres away from a connected water body and does not affect stream flow by 5 litres per second or more[2]

However, if **any** of the above conditions do apply and your take is a replacement of an existing one, your application will be assessed under Chapter 10A rules. For more details, please refer to the Practice Note: Replacement surface water and connected groundwater take and use applications

[2] Schedule 5A of the Water Plan outlines the accepted methodologies to determine this

Aquifer restriction levels

Aquifer restriction levels have been set for some aquifers in Otago. For these aquifers, if the restriction levels are reached all takes that are subject to that restriction level must cease taking. The restriction levels are detailed in Schedule 4B of the Water Plan.

The follow aquifers currently have restrictions on use of water from the aquifer:

- North Otago Volcanic
- Lower Taieri – West
- Lower Taieri – East
- Ettrick Basin
- Roxburgh Basin
- Cromwell Terrace Aquifer

Hint: you can find out if your take is in one of these aquifers by using the council maps: Consents in Otago Map[3]

If your take is located within an aquifer that has aquifer restriction levels, these will be applied to your replacement consent. These restrictions may already be on your current permit.

Note: if your take is located in an aquifer with aquifer restriction levels state in your application that you propose to operate in accordance with these

Historical Water Use

For groundwater takes replaced under the Chapter 12 rules, the need to consider historical water use is limited to those applications that:

- are located in aquifers that are fully or overallocated
- where there are new bores located closer than the nearest bore identified in the previous application assessment
- where you are seeking more water than what is recommended for irrigation as determined by Aqualinc. More details on efficiency of water use can be found below.

Note: You can find out whether your take is located in an aquifer that may be fully or over allocated by contacting consent.enquiries@orc.govt.nz

The Council will use the methodology in Chapter 10 of the Water Plan to determine what historic use of the water take has been. This is considered the most appropriate methodology for this assessment. The output from this analysis will be used to inform the maximum rates and volumes for the replacement permit.

3 Use the Water Allocation layer and turn on the Operative Water Allocation Aquifers – Over Allocated Status layer. You can zoom into your permit by using the search bar.

Registered community drinking water supplies may seek more than historic use in fully or over-allocated aquifers. This enables additional water to be sought for growth that is reasonably anticipated.

Requesting a historic use assessment

- Lodge a pre-application with Consent Enquiries: Pre-application form
- Include in the pre-application form that you are requesting a Schedule 10A.4 assessment for a groundwater take and you would like all water meter data analysed – make sure to include details on the water permits you are seeking this for
- We will send this to our Data Team and be in touch with the assessment once it is complete. Please allow at least 10 working days for this request to be completed.
- The assessment will include a report that shows the maximum rates and volumes of water taken under your permit based on the measuring data.
- The Schedule 10A.4 assessment should be lodged with your application and inform the rates and volumes applied for.
- If rates and volumes are sought that are greater than the analysis, evidence will need to be provided with the application that justifies the rates and volumes sought are representative of historic use.

Note: If you are located in a fully or overallocated aquifer, there are new bores since your original application was granted or you are seeking more than Aqualinc, you need to request a schedule 10A.4 analysis of historic use and include this with your application

Other Groundwater Users

Abstraction of groundwater can impact other groundwater users, and the Water Plan directs that we consider effects on them.

If the rates and volumes sought are equal or less than the current consent and there is no change to the bore location:

- A new aquifer test and assessment under Schedule 5B is not required. Provide any aquifer test or assessment made for the original application
- Review the recommending report for your current consent and any assessment made about effects on neighbouring bores and summarise this in the application
- Confirm the closest neighbouring bores from the original assessment – see the recommending report
- Use the Council maps to identify the closest neighbouring bores now. Confirm if there any bores that are closer than the original assessment
- If yes, confirm the maximum rates and volumes of water that have been taken under the current consent since the new neighbouring bores have been in operation. Note: rates and volumes may be limited to these maximum numbers to ensure ongoing effects are no greater than existing.

If the rates and/or volumes sought are more than the current consent:

- Treat the application as a new groundwater take and refer to practice note: New groundwater take and use applications

Note: where no changes to the rates and volumes are proposed and the bore location is not changing, provide Details on any previous assessments undertaken on effects to neighbouring bores and consider if there are any new bores in the locality since the current consent was granted

Efficiency of Water Use

The Water Plan directs that the quantity of water granted to take is no more than that required for the purpose of use. Rates and volumes that are efficient will be recommended to be imposed on the consent. You can undertake this assessment yourself or ask Council to undertake this when we process your application. Below is advice on how to assess efficiency for different uses of water:

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 guidelines

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. It is considered that a one in ten-year drought or 90th percentile is the most appropriate when considering efficient water use. This aligns with the approach used by other regional councils.

There are four main inputs to determine what are efficient volumes of water for irrigation purposes:

1. Geographical zone (Central and Lakes District, Maniototo, North Otago, Coastal & South Otago)
2. Mean annual rainfall (MAR)
3. Plant available water (PAW)
4. Crop type category (Pasture, Viticulture, Cherries and Apricots, Vegetables)

How do I find the geographical zone and MAR for my land?

The MAR is the mean annual rainfall class for your land. You can find this on the Council maps Consent Locations using the layer: *Aqualinc Mean Annual Rainfall Class*. When you click on this layer at the location where water is proposed to be used it will also show you which geographical zone you are located in.

How do I find the PAW for my land?

- **Log into S-Map online:** Maps | S-Map Online | Manaaki Whenua - Landcare Research. You may need to set up an account.
- **Find the property using the search function:** Make sure the Soils Box is checked on the left under Layers and also the NZSC Soil Order.

- **Click on the area where water is to be used for irrigation:** A feature report box will appear on the right hand side. Click the link to the soil description report and download the factsheet. Find the profile available water figures under the Soil Physical Properties. Example below:

Profile available water		
(0–30 cm or root barrier)	(0–60 cm or root barrier)	(0–100 cm or root barrier)
Moderate (31 mm)	Low (47 mm)	Moderate to low (62 mm)

- **Find the relevant PAW for your crop type:** Plants can only abstract water where their roots grow and different types of plants have different rooting depths:
    - Pasture: 60 cm
    - Viticulture: 90 cm
    - Horticulture: 100 cm
    - Vegetables: 50 cm

In the example above, for pasture the PAW would be *Low (47 mm)*

- **Find the Aqualinc PAW class:** Use Appendix C of the Aqualinc report to find the PAW class. For the example above, Table C.1 shows that for a PAW range of 20-50 mm a PAW class of 40 mm is used.

How do I use the table in Aqualinc to find the volumes?

- Go to Chapter 6 of the Aqualinc report and select the relevant table based on crop type
- Find the relevant Zone, MAR and PAW category and record the maximum monthly demand (mm/month) and 90% annual demand (mm/year). Add a zero to each of these numbers to convert them from mm/month to cubic metres per month/year.
- Multiply these numbers by the land area in hectares to be irrigated to calculate the efficient monthly and annual irrigation requirements.

What if I have site specific soil information?

If you have site specific soil information (i.e. from soil samples on the property), this is considered to be the best available information for soils at the site. You will need provide evidence that the samples represent the irrigation area that is being applied for. The PAW value of the soils will then need to be considered based on the crop type and rooting depth and Appendix C of Aqualinc consulted to determine the PAW class in Aqualinc.

What if the crop type is not in Aqualinc?

Aqualinc does not consider all crop types. You will need to consider the rooting depth of the crop and similarities with the key crop types modelled in Aqualinc. We recommend that the closest available crop type is used. Alternatively, research data regarding crop water usage could be used to support an application.

What if I have different crop types and/or PAWs on my site

You will need to undertake this assessment for each area of different crop type and/or soils on the site. We suggest you create a table/use a spreadsheet to show the workings.

Frost Fighting

The Council does not have published recommendations for water requirements for frost protection in the Otago region. The Council 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.

A condition will typically be imposed that requires the consent holder to record the duration and volume of water used during each frost event. This is to obtain a better understanding of frost fighting requirements at that specific location. This data will be helpful for future applications.

How do I calculate the total water volumes and consent conditions?

Irrigation is usually not occurring during periods when frost events are occurring. The irrigation and frost fighting volumes will be separated out on the consent so that the frost fighting water can only be used for that purpose.

Example: 10 frosts a year, over 10 hectares, 5-hour duration each frost, 3 mm/ha application, equals 1,500 m^3 per event, and if there are 10 events this equates to 15,000 m^3 required in total. This means that the frost fighting requirements are:

1,500 m^3 needed a day

15,000 m^3 needed in a month (all ten events could happen in a month)

15,000 m^3 a season.

Domestic Supply

The following is considered efficient for domestic water supply per household:

- 1,000 L/day for winter and later autumn/early spring
- 3,000 L/day for summer and the growing season. This provides for minor curtilage irrigation (gardens etc) around a house. It does not provide for irrigation of paddocks or orchards on a lifestyle block. Specific irrigation water needs to be sought for this.
- Equals an average of 2,000 L/day throughout the year.

Some local authorities may require through their subdivision consents a requirement to have access to greater daily rates than this. If extra water is required to meet local authority subdivision consents this will need to be obtained from other sources (e.g. rainwater tanks).

Stock Water Supply and Dairy Shed Supply

The following rates are considered to be reasonable and efficient for the stated animals.

Sheep	5 litres per day per head
Beef cattle	45 litres per day per head
Dairy cows	70 litres per day per head
Deer	15 litres per day per head
Dairy cow and Dairy shed use	95-140 litres per day per head

If you are seeking to take more water than this, you will need to provide evidence and explanations as to why this is necessary for the site and animals.

Do I need a water permit for conveying stock water?

In some cases, additional water may be required to transport water to the stock drinking end point (i.e. water to enable conveyance). This should not form part of a new stock water supply scheme.

If water is being taken for conveyance this is a separate 'use' of the water and Council will need to consider what happens to this additional water at the end of the conveyance system. If it is being used for irrigation or other consumptive purposes, then this needs to be factored into the efficient quantities for those purposes. If it is discharged into the same or a different water body, then discharge permit requirements will need to be considered as well as overall efficiency of this use of the water.

Will stock drinking water be included on the consent if it is a permitted activity or if I can meet s14(3) of the RMA?

In most cases if stock drinking water is being taken at the same point of take as water being taken for other consumptive purposes that require consent, then the stock drinking (and any domestic water) is considered and included on the consent. This ensures that measuring records are not complicated i.e. if the meter captured all the water taken and the stock water supply was not part of the consent rates and volumes the consent holder may end up with potential breaches of their consent and it would be challenging to prove/disentangle the stock and domestic portion from the consented portion.

Other Drinking Water Supplies

The Wastewater Guidelines (AS/NZS 1547:2012) provide an indication of wastewater volumes for a variety of drinking water supplies. These guidelines can be referred to for different sources. It may be appropriate in some situations to provide a small additional allowance for volumes that will not enter the wastewater system.

If you have actual use data, this should be provided and summarised. It is recommenced that details on any projected population growth over the proposed consent term are included and that volumes sought reflect this.

Source	Volume allowance (L/person/day)
Motels/Hotels	
Guests, resident staff	220
Reception rooms	30
Bar trade (per customer)	20
Restaurant (per diner)	30
Restaurant/Bar/Cafe	
Per dinner patron	30
Per lunch patron	25
Per bar patron	20
Lunch Bar	
Without restroom facilities	15
With restroom facilities	25
Community Halls	
Banqueting	30
Meetings	15
Marae	
Day only visitors	40
Day plus overnight visitors	150
Schools	
Pupils plus staff	50
Public toilets	
Including hand washing	20
Camping Grounds	
Fully serviced	130
Recreation areas	65
Care Facilities	
Rest homes	250
Hospitals	450
Retirement Home	
Per resident	220
Per day staff	50
Day staff	
High water use e.g. factories	60
Standard facilities	40
Facilities with full water fixtures Reduction	30

Other Uses

You will need to consider and reference any relevant industry standards, research or other information to support the efficiency of the volumes of water requested for these uses of the water. Other uses will be considered on a case-by-case basis.

Note: Use the relevant guidelines and direction above to assess the efficient use of the groundwater take

Groundwater Quality

A groundwater take may hasten migration or recharge of contamination through the aquifer. To assess this effect:

- Identify the location and distance of any potentially contaminated sites ('HAIL' sites) in the vicinity of the take – HAIL sites can be found on Consents in Otago Map.
- Identify the location and distance of any consented discharges or known discharges to land in the vicinity of the take – Consents in Otago Map shows consented discharges to land
- Consider the rate and volume of take and distance from these sites and whether the take could hasten contamination of the aquifer. Refer to any previous assessment in the recommending report for the current consent.

Note: consider nearby contaminant sources to the bore and assess whether there is a potential for the take to induce these contaminants into the aquifer

Stream/Surface Water Depletion

Groundwater takes that are hydraulically linked to nearby surface water can affect the values of a surface water body. Replacement groundwater takes that are processed under the Chapter 12 rules must be located greater than 100 metres from connected surface water and have stream depletion effects of 5 L/s or less.

If the rates and volumes sought are equal or less than the current consent:

- Identify the nearest surface water bodies and distance to them
- Provide any information from the recommending report for the current consent on surface water interaction and stream depletion
- Comment on any potential changes in effects

If the rates and/or volumes sought are more than the current consent:

- Treat the application as a new take and refer to practice note: New groundwater take and use applications

Note: where there are no changes to the rates and volumes proposed, provide Details on any previous assessments undertaken on effects to surface water

Wetlands

If the rates and volumes sought are equal or less than the current consent:

- Identify the nearest Regionally Significant Wetlands and natural inland wetlands. You can find more information on Regionally Significant Wetlands and wetlands here: Regionally Significant Wetlands.
- Provide any information from the recommending report for the current consent on effects to wetlands
- Comment on any potential changes in effects

If the rates and/or volumes sought are more than the current consent:

- Treat the application as a new take and refer to practice note: New groundwater take and use applications

Natural Inland Wetlands

For **discretionary and non-complying** groundwater take applications, the identification of natural inland wetlands within the vicinity of the site is required. If there are natural inland wetlands that could potentially be impacted by the proposed take, effects on these wetlands will need to be assessed and considered in the application.

Cultural Values

Effects on cultural values is **not** a matter of control or discretion for activities processed under the **controlled or restricted discretionary rules** and **does not need to be assessed** for these activities.

If the application is **discretionary or non-complying**, then the application will need to identify cultural values that could be affected by the replacement groundwater take and use and assess the effects on them. Where there is connection to surface water, there is a greater potential for effects. It is suggested that consultation be undertaken with iwi prior to lodging an application in that instance.

In the Otago region there are two iwi organisations that liaise with runaka: Aukaha and Te Ao Marama Incorporated (TAMI).

More information about documents that can be considered to determine values and lodging an application for review with these iwi organisations can be found on their websites:

- Mana Taiao - Aukaha – Kia kaha, aukaha
- Services — Te Ao Marama
- Resources — Te Ao Marama

For activities in the Waitaki catchment, there is the Waitaki-iwi-management-plan to consider.

Measuring of the Take

The Water Plan requires water takes to be measured unless it is 'impractical or unnecessary to do so'. The Water Measuring and Reporting Regulations 2010 and amendments 2020 prescribe the minimum requirements for measuring consumptive takes of 5 L/s and above.

The Council requires all consented groundwater takes are required to have a **water meter**, a **datalogger** to record the information and for the data to be sent daily to Council via **telemetry**. Standard measuring conditions aligned with the Regulations are imposed on groundwater permits.

Telemetry exemptions

Telemetry exemptions can be applied for when it is not possible to get cell service at the point of take. These exemptions are issued on an annual basis. They must be applied for between July and December each year for the following water year.

Types of measuring devices

Council is currently phasing out the use of mechanical or clamp on water meters as they are less reliable and prone to measuring errors.

More information on measuring requirements

More information about water measuring and water measuring exemptions can be found here: Water metering and measuring.

Statutory Assessment

The application forms have details of the relevant objectives and policies in the national instruments and regional plans that apply to replacement groundwater takes. You can consider these provisions individually and provide a summary of how your activity is consistent with each.

Alternatively, you can provide a summary statement for each document e.g. The proposed groundwater take replacement is considered to be generally consistent with the Regional Plan: Water for Otago because....

Note: A summary of consistency with each relevant document is acceptable for a replacement application

Policy direction for groundwater takes

In addition to the above, the application should provide an assessment on:

- Alternative water sources – what are these and why they are not suitable
- If the water is used for irrigation – avoiding irreversible or long-term degradation of soils arising from the use of water for irrigation
- Water management groups/rationing regimes – do any of these exist in the aquifer and will the consent be operated in accordance with them
- Positive effects of the activity

Anything else?

Council planners will seek advice from the Council's Compliance team on previous compliance history. If there have been any compliance challenges, you may wish to address these in the application.

Ready to Apply?

To be able to continue operating under your current permit while a decision is made on your replacement permit, we recommend that you lodge your replacement application with Council **at least 6 months** before your current permit expires. We suggest you commence preparing your application at least a year before it expires.

Details on application forms, fees and changes and how to lodge an application can be found here: Apply for a Consent – Resource Consent Applications & Support

Form 1 and Form 5 can be used to lodge a groundwater take application.

What if I have other questions?

If you would like clarification on the above or have any additional questions, please get in touch with us via consent.enquiries@orc.govt.nz