Otago Regional Council

Appendix 3: Water take technical expert advice

Fast-track Approvals Act 2024 (FTAA) Technical Advice

NZSki Fast-track Application

s.53 Specialist Response – Substantive Application

1. Application Summary

Project Name	**Remarkables Ski Area Upgrade and Doolans Expansion Project**
Applicant	NZSki Limited
Site Address	Remarkables Ski Field Access Road, Queenstown
Fast-track Reference Number	FTAA- 2605-1236
Council reference numbers	RMFT26.004
Description of Proposal	The Remarkables Ski Area Upgrade and Doolans Expansion Project, proposed by NZSki, involves upgrading the existing Remarkables Ski Area and expanding into the adjacent Doolans Basin to provide approximately 262 hectares of additional skiable terrain. The project includes a new gondola connecting the two valleys, new ski trails and access roads, expansion of the existing base building, a new base building and learner facilities in Doolans Basin, and associated infrastructure including snowmaking, water supply, wastewater treatment and disposal, power and stormwater management. A new water take from Doolans Creek and a 19,000 m^3 snowmaking reservoir are also proposed.

2. Specialist Response Details

To	
From	Charlotte Lockyer, SLR Consulting
Specialist Area	Surface water hydrology
Qualifications & Relevant Experience	I hold the qualification of Bachelor of Commerce and Bachelor of Science with Honours in Physical Geography from Victoria University of Wellington, and have 17 years of experience in the area of hydrology. I am a member of the New Zealand Hydrological Society and Water New Zealand. I have prepared expert evidence and technical assessments for numerous resource consent applications, plan changes and related regulatory processes. I have appeared as an expert witness before consent authorities. I have recently provided expert evidence on behalf

	of Auckland Council, Kāpiti Coast District Council and Otago Regional Council to consent applications including fast track applications on matters relating to water abstraction, water diversion, stormwater management and flooding.
Documents referred to	e3 Scientific, 2026. *Remarkables Ski Area Upgrade and Doolans Expansion – Doolans Creek Water Take Assessment of Effects. Prepared for NZSki Limited, August 2026.* e3 Scientific, 2026. *Doolans Creek Water Take: Response to key issues and information gaps identified in ORC reviews. Memo prepared for NZSki, dated 25 August 2026.* Stantec, 2026. *Remarkables Ski Area Expansion Project – Water Intake Concept Report*. Prepared for NZSki, 29 April 2026.
Preparation in Accordance with the Code of Conduct	I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses (Code), and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing, directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.
Conflict of Interest Declaration	A potential perceived conflict of interest has been identified in relation to the technical peer review of the application submitted by NZSki Limited. SLR has previously undertaken environmental compliance monitoring for NZSki in relation to its existing wastewater discharge. This work was completed by SLR's Ecology team based in Dunedin. We understand that NZSki intends to rely on data collected through this monitoring programme as part of its application. Tim Baker (wastewater) and Charlotte Lockyer (hydrology) have been engaged by Otago Regional Council (ORC) to undertake a technical peer review of the Fast-track Approvals application. Any potential perceived conflict is appropriately managed as follows: • SLR's previous work for NZSki was disclosed to ORC prior to the engagement. • The compliance monitoring undertaken by SLR's Ecology team was limited to monitoring the receiving environment associated with the existing wastewater discharge and did not involve assessment or design of the proposed discharge. • The technical peer review is being undertaken by staff who have had no prior involvement in the compliance monitoring work. These staff members are part of separate technical teams within SLR and are geographically separate, being based in Wellington and Dunedin respectively. • SLR's involvement in the technical peer review is limited to the assessment of wastewater discharge to land and hydrological effects on the neighbouring basin and a separate waterway.

	• Assessment of ecological effects and receiving water quality is undertaken independently by Michael Greer. • Based on the above, SLR considers that the potential perceived conflict of interest is adequately managed and will not compromise the independence or objectivity of the technical peer review
Signature	
Date	13/10/2026

3. Specialist Assessment

Executive summary/overview

The proposed water take from Doolans Creek is intended to provide snowmaking, potable water supply, and limited firefighting storage for the planned Doolans expansion of the Remarkables Ski Area. The proposal seeks consent to abstract water from the Doolans Creek Right Branch storing it within a 19,000 m^3 reservoir for use as required.

Doolans Creek is predominantly snowmelt-fed, with the highest flows typically occurring during spring and early summer and lower flow conditions generally occurring from late summer through to early winter. The proposed abstraction would occur primarily during the winter snowmaking season (May to early October) when demand for snowmaking water is greatest. It is understood that snowmaking demand comprises an initial period at the start of the season to establish a snow base, followed by supplementary snowmaking throughout the season to maintain condition of the ski trail. Only one trail will benefit from snowmaking to provide a safe access route from the ridge to the Doolans base area, in addition to the learner ski area.

At the proposed intake location, the catchment area is approximately 568 ha. The applicant seeks consent to abstract up to 30 L/s, subject to a maximum volume of 38,872 m^3/month and 41,240 m^3/year. Hydrological investigations indicate a modelled Mean Annual Low Flow (MALF) of approximately 67 L/s at the intake site. The proposed maximum abstraction rate therefore represents approximately 45% of the estimated MALF. However, the annual volume sought is equivalent to only 16 days of continuous abstraction at the maximum consented rate, and approximately two fills of the proposed reservoir. In practice, abstraction would be expected to occur intermittently over the ski season in response to operational requirements.

The intention is for the reservoir to remain full for much of the year, with abstraction only occurring as storage is depleted through use. At the end of each season, a portion of the annual allocation must remain available to refill the reservoir to capacity to remain full over the summer season. Consequently, the actual effect of the take on the hydrological regime of Doolans Creek is expected to be less than would be implied by consideration of the maximum abstraction rate alone.

The assessment of effects has been based on available hydrometric data, hydrological statistics, a 12-month+ continuous water level record within Doolans Creek, and low-flow gauging data used to develop a stage-discharge relationship and characterise the flow regime of Doolans Creek. A

minimum residual flow of 33.5 L/s is proposed, ensuring that approximately 50% of the estimated MALF remains within the stream at all times.

Under Otago Regional Council's Regional Water Plan, a new primary allocation water take for a catchment area not listed in Schedule 2A is a restricted discretionary activity. Doolans Creek falls into this category. The minimum flow is set on a case-by-case basis while providing for the aquatic ecosystems and natural character of the catchment water bodies. The Nevis River has a maximum primary allocation take. The requested take is only 1% of the available allocation.

Based on the available hydrological information, the proposed residual flow and the requested abstraction volume, the effects of the proposal on the hydrology and natural character of the stream are expected to be low.

Agreement with the Applicant

I generally agree with the applicant's assessment. The volume of water sought is reasonable for the intended purpose. The primary demand for water is associated with snowmaking to establish an initial snow base along the main access trail, together with additional water required for trail conditioning throughout the ski season.

I requested that consideration be given to whether a lower maximum instantaneous abstraction rate could achieve the same outcome while reducing potential adverse effects on stream hydrology and ecology. However, the applicant's stance is that the higher abstraction rate is necessary to quickly replenish reservoir storage when needed so that water is available for snowmaking when weather conditions are suitable.

Rather than adopting a lower take rate, the applicant has proposed increasing the minimum residual flow from 20 L/s to 33.5 L/s. I support this approach. The higher residual flow will maintain greater baseflow within Doolans Creek and provide additional protection during periods of low flow, which are most likely to occur during the early part of the snowmaking season in May and June. This slightly higher residual flow balances in-stream values with water demand requirements.

Overall, I agree with the applicant's conclusion that the hydrological effects of the proposed take will be low and that the requested allocation represents a reasonable and efficient use of water for the purposes proposed.

Benefits of the Project

The proposed water take will support the development and operation of expansion into the Doolan's Creek area by: providing a water supply source for the base building; and reliable access to water for snowmaking to improve the consistency and resilience of ski operations enabling the establishment of an early-season snow base. More broadly, the project will support the ongoing viability of a significant regional recreational and tourism asset.

From a hydrological perspective, these benefits maintain the hydrological regime of Doolans Creek and limit annual abstraction volumes to a relatively small component of the creek's overall flow regime.

Outstanding matters and significance of their effects
There are no outstanding matters in relation to the requested water take.

Solutions and/or Conditions Sought
There are no additional conditions being sought.

Conditions have been proposed for:

- monitoring of the water take to ensure the rate and quantity do not exceed the requested amount;
- the intake structure will be designed to maintain the minimum flow within Doolans Creek. When the reservoir is full, the low-head pump will not be pumping so abstraction will flow back to the creek via the flushing line; and
- the water level in Doolans Creek will be monitored on a continual basis to ensure compliance with the minimum flow requirements.