

Appendix VIII

Aircraft Application Environmental Impact Assessment

Location on public conservation land	Special feature or value	Potential effects of your activity on the feature or value (positive or adverse)	Methods to remedy, mitigate or avoid any adverse effects identified
Motatapu Conservation Area, North Motatapu Conservation Area and Treble Cone Access Road Conservation Area	Cultural values of Tangata Whenua	<p>The main commentary with respect to Ngai Tahu cultural values relates mainly to Lake Wānaka. Nonetheless the mauri of Wānaka represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. Consequently, since Treble Cone Ski Field area is mostly in the catchment of the north branch of the Motatapu River which in turn flows into Matukituki River and then Lake Wānaka; In addition, the Matukituki River (Mātakitaki is the correct spelling), is also fed by streams from Treble Cone, which flows into the west side of Lake Wānaka. Hence activities on the Ski Field may have the potential to adversely affect the mauri of Lake Wānaka.</p> <p>During the 1879 Smith-Nairn Royal Commission of Inquiry into the Ngāi Tahu land claims, Ngāi Tahu kaumātua recorded Mātakitaki as a kāinga mahinga kai (food-gathering place) where tuna (eels), kāuru (cabbage tree root), and aruhe (bracken fernroot) were gathered. ¹ Accordingly, it is not only Lake Wānaka which is of significance to Ngāi Tahu it is the wider catchment.</p> <p>Of particular concern, is Treble Cone Ski Fields: wastewater management; oil, fuel, diesel; or hydraulic fluid spills.</p>	<p>Advise clients to utilise toilet facilities before being transported to remoter areas on the Ski Field.</p> <p>Ensure adequate toilet facilities are supplied on the ski field.</p> <p>Maintain wastewater treatment plant (including drains that feed into the plant) in optimum condition including regular maintenance and monitoring.</p> <p>Ensure appropriate spill kits are maintained on site (sullage and petrochemical).</p> <p>Mop up any spills which do occur by using best practice spill retrieval techniques and prevent any spillage into waterways. Remove any affected snow from the site to an appropriate site for disposal.</p>
	Cultural values of other members of the public	The value of the Treble Cone Ski Field and a recreational asset is generally recognised by the wider community. Helicopter	N/A

¹ <http://www.kahurumanu.co.nz/atlas>

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		<p>use makes more areas of the ski field accessible to more visitors. For instance some skiers would struggle to tramp to the Ski Fields higher peaks prior to skiing down the slopes.</p>	
	<p>Other users (tangata whenua, recreational users, and concessionaires) of the Land.</p>	<p>The ongoing use of the Treble Cone Ski Field will not change significantly with this proposal. Helicopter operators already offer Heliskiing on Treble Cone. Consequently, the displacement of other users of these Conservation Areas will likewise remain unchanged.</p> <p>The proposed drone use is new activity which will replace some of the activity which previously undertaken by helicopters. Drones are much less intrusive than helicopters accordingly this proposed drone use will have a positive benefit of improving amenity values compared to helicopter use.</p>	<p>N/A</p>
	<p>Recreational Values</p>	<p>Helicopter use potentially has positive and negative effects on recreational values. On the positive side it makes more areas of the Ski Field accessible potentially to more people. On the negative side the helicopter noise can impact on the visitor experience of Treble Cone by diminishing the 'natural quiet' experienced by visitors.</p>	<p>It is in CARL's best interests to maintain helicopter use of the ski field at low levels, so this aircraft activity does not impact on experience of Treble Cone skiers. That is, if Treble Cone skiers and snow boarders become annoyed with the level of aircraft activity at Treble Cone they will 'vote with their feet' and Treble Cone will lose repeat business.</p> <p>Actively manage helicopter activity to and from Treble Cone. For instance, implement a heliskiing booking system to ensure Helicopter movements on a given day are limited.</p>

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	<p>Historic sites or objects including Wāhi Tapu</p>	<p>QLDC, DOC and Heritage New Zealand do not identify any historic sites in the vicinity of Treble Cone Ski Field. Moreover, the use of aircraft will not result in any activities which would uncover Historic sites or objects.</p>	<p>N/A</p>
	<p>Flora habitat / vegetation</p> <p>The Treble Cone ski area is a coherent ecosystem comprising relatively intact expanse of snow tussock and <i>Dracophyllum</i> shrubland.</p>	<p>Habitat modification and damage</p>	<p>This proposed aircraft activity will not adversely affect the flora habitat of the Treble Cone ski field as it will involve short term landings by aircraft and drone use which is unlikely to involve much contact with the ground.</p> <p>The proposed Helicopter use for deer or tahr cull has the potential to reduce habitat modification and maintain biodiversity.</p>
	<p>Fauna / wildlife habitat</p>	<p>Habitat modification and damage</p>	<p>This proposed aircraft activity will not adversely affect wildlife habitat of the Treble Cone ski field as it will involve short term landings by aircraft and drone use which is unlikely to involve much contact with the ground and therefore will not affect habitats.</p> <p>The predominate proposed helicopter activity is for Heliskiing; that is when snow is on the ground. During these periods / altitudes, birds are not nesting; consequently, this proposed activity will not impact on nesting birds. Also when snow is on the ground much of the avifauna that inhabits Treble Cone is forced down to lower altitudes because the snow cover means birds are unable to forage. That is during the winter months little wildlife is present on the mountain to be affected by aircraft use.</p>

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	<p>Increase threats (pests, weeds, pathogens, and fire) to public conservation land.</p>	<p>Introduction and establishment of invasive weeds species and mammalian pests resulting in loss of biodiversity.</p>	<p>Helicopters are kept clean hence it is unlikely helicopter skids will transfer weeds on to site. Nevertheless, CARL will continue weed control programmes and where appropriate, with the approval of the Department of Conservation, implement further weed control programmes as required.</p> <p>Continue with predator and mammalian pest trapping programmes and with the approval of the Department of Conservation, implement further pest control programmes. Also the proposed Helicopter use for deer or tahr cull has the potential to remove more mammalian pests from the site.</p> <p>There will be no outdoor fires lit as part of this proposal, nonetheless Helicopter use would be pivotal in fighting any fires in these conservation areas.</p>
	<p>Rubbish, toilet waste or debris left on public conservation land</p>	<p>Littering and pollution of the Motatapu Conservation Area and North Motatapu Conservation Area effectively degrading the quality of the mountain environment.</p>	<p>Provision of adequate outdoor rubbish bins (that are emptied regularly) especially around the cafés on the mountain. Also we have removed as much food packaging as possible from Treble Cone’s food and beverage outlets to reduce the amount of rubbish generated on the ski field.²</p>
	<p>Landscape and scenic values</p>	<p>Being Outstanding Natural Landscape (ONL) Treble Cone Ski Field generally has high landscape character sensitivity.</p>	<p>Aircraft activity which is associated with this aspect of our application is temporary in nature and does not result in any lasting effects on the areas landscapes values.</p>

² <https://www.cardrona.com/content-hub/news/2021-sustainability-update-no-landfill-bins-and-free-shuttles/>

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	<p>Amenity Values</p> <p>(Are those natural or physical qualities and characteristics of an area that contribute to people’s appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes)³</p>	<p>Because aircraft activity is temporary in nature, the main impact aircraft activity has on amenity values is related to noise, and in this instance helicopter noise. That is visual effects of helicopter use are temporary nature and are not significant in impacting on ‘pleasantness’ in comparison to noise.</p> <p>Researchers have studied the effects of aircraft noise on visitor recreational experiences at a variety of DOC managed locations. Yet there does not seem to have been any research done regarding the effects of aircraft on ski field users.</p> <p>One of most comprehensive and longer-term studies is MONITORING THE EFFECTS OF AIRCRAFT OVER-FLIGHTS ON VISITORS TO THE FOX AND FRANZ JOSEF GLACIER VALLEYS, WESTLAND TAI POUTINI NATIONAL PARK, NEW ZEALAND⁴ which found that there is a wide variation in visitors expectations and tolerance of aircraft noise.</p> <p>However, we do not believe this study is directly applicable to the developed and highly used areas of Treble Cone as both Fox and Franz Joseph Glaciers are undeveloped, and visitors are more likely to expect ‘natural quiet’ at these glaciers compared to Treble Cone. Treble Cone ski field is a developed</p>	<p>AS350, AS350B2, AS350B3 (Squirrel) Airbus Helicopters are commonly used in Central Otago; European Aviation Safety Agency TYPE-CERTIFICATE DATA SHEET FOR NOISE for Model AS350 to EC130 Helicopters ⁵ indicating compliance with International Civil Aviation Organization Annex 16 Chapter 8 [Helicopter] noise limits of 90dB (take off/ departure), 91 dB overflight and 93 dB (landing / approach) measured at ~152 metres from aircraft. ⁶</p> <p>Many of the helicopter operators that fly to and from Treble Cone participate in an international programme known as ‘Fly Neighbour Friendly’ which aims to minimise helicopter noise and the effects of helicopter noise. This programme advocates for use of flight paths away from residential areas and areas where people are congregating for recreation such as Treble Cone’s main ski field trails.</p> <p>The main method for avoiding noise impacts is to fly at minimum safe heights at all times, en route to and from the landing site as per Legal information bulletin number 1, interpretation of CAR 91.311.⁷ Noise effects can be further controlled by using prescribed rates of ascent and decent when operating to and from a landing area. Steep turns and sharp manoeuvres should be avoided in the vicinity of the landing area also approaching the landing site with a long</p>

³ <https://www.mfe.govt.nz/publications/rma/urban-amenity-and-rma>

⁴ <https://www.doc.govt.nz/globalassets/documents/about-doc/role/visitor-research/glaciers-aircraft-monitoring-report.pdf>

⁴ https://www.easa.europa.eu/sites/default/files/dfu/EASA-TCDS-R.008_Airbus_Helicopters_AS350--EC130-08-07012014_0.pdf

⁵ <https://www.icao.int/environmental-protection/pages/reduction-of-noise-at-source.aspx>

⁷ <https://www.aviation.govt.nz/assets/about-us/legal-information-bulletin-001.pdf>

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		<p>site and visitors expect a certain amount of busyness and noise relating to vehicle and infrastructure use especially in and around the Home Basin.</p> <p>In the more remote areas of the Ski Field, visitors are more likely to expect ‘natural quiet’ and these are some of the areas where Helicopters are likely to land and take off to transfer Heli-skiers. Yet as Treble Cone is a commercial ski-field we contend that skiers are more likely to expect Helicopter use compared to visitors to Fox and Franz Joseph Glaciers. That is, we believe visitors to Treble Cone are likely to be more tolerant of helicopter noise.</p>	<p>glide slope should be avoided as it results in unnecessary noise on the ground near the landing area.⁸</p> <p>It is in CARL’s best interests to maintain helicopter use of the ski field at low levels, so this aircraft activity does not impact on experience of Treble Cone skiers. That is, if Treble Cone skiers and snow boarders become annoyed with the level of aircraft activity at Treble Cone they will ‘vote with their feet’ and Treble Cone will lose repeat business.</p> <p>Implement a heliskiing booking system to ensure Helicopter movements on a given day are limited.</p>
	<p>Cumulative effects</p>	<p>Cumulative effect of this proposal is mostly considered in terms of the impacts on the acoustic environment as helicopter noise is the most intrusive impact. However cumulative impacts in this instance need to be assessed through a different lens compared to the normal assessment as people are irregular visitors to Treble Cone and are not present continuously. That is, the same people are not present continuously. Typically, when the cumulative effects of aircraft noise are being assessed it is in the context of effects on neighbours who are resident adjacent the site permanently.</p>	<p>It is in CARL’s best interests to maintain helicopter use of the ski field at low levels, so this aircraft activity does not impact on experience of Treble Cone skiers. That is, if Treble Cone skiers and snow boarders become annoyed with the level of aircraft activity at Treble Cone they will ‘vote with their feet’ and Treble Cone will lose repeat business.</p> <p>Actively manage helicopter activity to and from Treble Cone. For instance, implement a heliskiing booking system to ensure Helicopter movements on a given day are limited.</p>

⁸ <https://www.doc.govt.nz/contentassets/9196fd362afe4382a82b6d7f24bbf008/hokitika-airport-ltd-assessment-noise-effects.pdf>