

Topic Paper: Aircraft landings in Aoraki/Mount Cook National Park

1. Purpose

This paper:

- sets out the context for aircraft landings within Aoraki/Mount Cook National Park (the Park); and
- identifies specific considerations, including soundscape and tranquillity.

2. Context

“Aircraft” is defined in New Zealand legislation as ‘Any machine that can derive support in the atmosphere from the reactions of the air otherwise than by the reactions of the air against the surface of the earth’ (National Parks Act 1980 (NPA80) and the Civil Aviation Act 1990). The aircraft may be powered or non-powered; and includes aeroplanes, helicopters, gliders, micro-lights, hang gliders, manned balloons and remotely piloted aircraft (commonly known as drones).

The Department, acting under delegated authority from the Minister, manages aircraft landing concessions under section 49 of the NPA80, in accordance with Part 3B of the Conservation Act 1987 (CA87). Section 17ZF CA87 and section 10.6 General Policy for National Parks 2005 (GPNP05) govern aircraft landings (including hovering) and take offs in national parks.

All aircraft, regardless of whether they are used for commercial or private recreation purposes, require a concession to land, take-off from and hover over public conservation lands and waters. Exceptions include: search and rescue; departmental management purposes; emergency situations; maritime navigational-aid management; land survey work; aircraft operated by the New Zealand Defence Force or the Civil Aviation Authority; or any mining activity authorised under the Crown Minerals Act 1991.¹

Both recreational and commercial aircraft can facilitate visitors’ use and enjoyment of national parks by: enabling them to view the landscapes and values from a different perspective; providing access to difficult-to-reach places; and allowing quick access for people with limited time.

Conversely, aircraft activity – including scenic flights and remotely piloted aircraft that do not involve landings – can have adverse effects on wildlife, visitors and national park values such as amenity, natural quiet and remoteness. Effects most often relate to the presence, behaviour and frequency of the activity, and for powered aircraft, their noise. Aircraft landings can also cause conflicts between people and their activities where some have used aircraft for access and other have not.

The Department uses four, nationally consistent, aircraft access zones to manage the effects of aircraft landings in the national park. These zones reflect the different management methodologies required, and the likelihood of granting concessions, for aircraft landings:

Red Zone – areas where a concession application to land an aircraft would most likely be declined. However, concessions may be granted for aircraft landings: associated with the construction, operation and/or maintenance of equipment (e.g. meteorological, seismic) or utilities (e.g. communication systems, transmission lines) authorised by the Department; to

¹ The effects of aircraft use are assessed in accordance with section 61 of the Crown Minerals Act 1991.

support research authorised by the Department; in support of Kāi Tahu/kaitiaki rūnaka cultural purposes; or for non-powered aircraft (hang-gliders and paragliders).

Yellow Zone – areas where a concession application to land an aircraft is likely to be granted where it meets the nationally consistent limits for this zone. This zone may apply where there is a need to restrict aircraft use; either where visitors expect a low level of encounters with aircraft or where values of natural quiet predominate, particularly in backcountry and remote areas.

Green Zone – areas where a concession application to land an aircraft is likely to be granted, subject to any relevant outcome and/or criteria in the relevant policies. This zone may apply where conservation, including recreation, values are unlikely to be affected by landings, or there are natural limits on sites where landings can occur (e.g. forest cover, steep terrain), or there is likely to be little demand for aircraft access over the life of a national park management plan. Within national parks the use of green zones is limited.

Orange Zone – areas where there are complex issues to be managed, which require the use of limits and/or other criteria to guide whether concessions for aircraft landings can be granted. This zone may apply: in situations involving limited opportunities, areas of intensive aircraft activity or where a precautionary approach is required; where there are historic or legal reasons for an approach that does not fit within the other three zones; or to provide for a specific recreational activity (e.g. heli-skiing, heli-fishing, ground-based hunting), specific aircraft types (e.g. drones), variations in seasonal use and visitor experiences. This is the aircraft access zone most likely applied in national parks.

Red, Orange and Green aircraft access zones are proposed in the Park.

3. Current aircraft use in Aoraki/Mount Cook National Park

Aircraft access into the Park has been well established for many years and at times much busier than it is today. A fleet of ski-planes provided tourist flights over the Park and landings on the Haupapa/Tasman Glacier and other glaciers. Today, both ski-planes and helicopters are used for landings such as scenic, snow (including facilitating skiing and positioning recreationists) and servicing utilities.

The current Plan allows 7000 ski plane scenic landings, however the plan notes only approximately 5000 landings occurred in 2004. The current Plan also provides for aircraft landings associated with: heli-skiing; the positioning of self-contained recreationists; filming; in support of approved watercraft concessionaire operations at Tasman Lake; wild animal control operations; and private, recreational pilots. In 2004 the level of these activities was low and therefore there was no limit on the landings that can occur. However, use is restricted to the locations and provisions in Tables 1 - 5 (pg 118-120) in the Operative Plan.

The total landings currently allocated for Aoraki/Mt Cook are 9910 per year. The return data indicates that approximately 4670 landings actually occurred in the Park last year (2017/18). The Aoraki/Mt Cook Airport has unlimited landings as provided for in their current lease.

4. Considerations

Tourism growth and increased demand for aircraft landings, balanced against the expectations of other Park users, requires complex management considerations and decisions. To address aircraft access in the Park the following matters have been considered:

- a) Noise – see soundscape and tranquillity (section 4.9) below.
- b) Access – the need to maintain access to hard-to-reach locations, including the glaciers. Historically, access onto the lower glaciers was via walking, however due to glacial retreat this is no longer possible and aircraft landings are the only safe means of easy access.
- c) Overflights – the Department only controls aircraft landings in the Park, not the airspace² and flight paths over the Park, but it works closely with the aircraft industry to mitigate the effects of overflights. It is important to note: while an area may have no, or limited, landings, this does not mean no overflights occur; and in some instances, overly limited landings can result in the adverse effects of increased overflight noise e.g. where scenic flights are the only means of viewing the Park.
- d) Safety – the glaciers are changing rapidly and at times some areas become very crevassed, limiting the number of safe landing sites. A zone approach allows the pilot to choose the safest landing site within a defined area.
- e) Aircraft access and landing zones – provide for recreation and commercial needs by enabling access for recreationists, such as climbers and hunters, and for concessionaires and the tourist industry. The proposed aircraft access zones and landing zones are (see Map 7):

Haupapa Place

Aircraft access zones: Orange Zone for the following landing zones, remainder of Place Red Zone.

- **Lendenfeld Saddle Landing Zone**
200m radius from the saddle.
- **Haupapa/Tasman Glacier Landing Zone**
Incorporates the existing Haupapa/Tasman Glacier landing zone, with extensions south to the end of the white ice, including the western moraine areas, and along the western side of Malte Brun Range to the 1800m contour. A high level of aircraft activity is proposed in this zone.
- **Tasman Lake Landing Zone**
A new landing zone (100m radius) providing for a multi experience (flight/boat/walk) opportunity, at the south-western edge of Tasman Lake near Tasman Lake Track. A low level of aircraft activity is proposed in this zone.
- **Haupapa/Tasman Heli-ski Landing Zone**
Covers the northern part of the current Tasman heli-ski area. A low to moderate level of aircraft activity is likely in this zone.
- **Upper Haupapa/Tasman Heli-ski Landing Zone**
Covers the northern-most part of the current Tasman heli-ski area. A low to moderate level of aircraft activity is likely in this zone.

² Other than land owner permission for remotely piloted aircraft overflying under Civil Aviation rules.

Aroarokaehe Place

Aircraft access zones: Orange Zone for the following landing zones, remainder of Place Red Zone.

- **Grand Plateau Landing Zone**

The existing landing zone with a northern extension to 2300 m for ski planes and incorporating Plateau Hut. A low level of aircraft activity is proposed in this zone.

- **Pudding Rock Landing Zone**

A new landing zone at the old Gardiner Hut site (100 m radius) providing seasonal access only (Nov – Feb). A low level of aircraft activity is proposed in this zone.

- **Barron Saddle Hut Landing Zone**

An existing landing zone enabling access to this location and viewing of Aoraki/Mount Cook without affecting visitors in Aoraki/Mount Cook village or the Hooker valley. A low level of aircraft activity is proposed in this zone.

Pae Tata Place

Aircraft access zones: Orange Zone for the following landing zones, remainder of Place Red Zone.

- **Murchison Glacier Landing Zone**

Incorporates the existing landing sites, with extensions up to the 2100m contour on the west, through to 1700m at Aida Glacier, and south along the glacier to the end of the white ice. A moderate level of aircraft activity is proposed in this zone.

- **Onslow and Liebig Huts Landing Zone**

A 100 m radius around each hut, with a low number of landings.

- **Liebig Dome Landing Zone**

The 2300m contour around Liebig Dome on the Liebig Range, to the Park boundary. A low to moderate level of aircraft activity is proposed in this zone.

- **Murchison Heli-ski Landing Zone**

Covers the current Murchison heli-ski area and includes the south-eastern face of Mt Cooper. A low to moderate level of aircraft activity is likely in this zone.

- **Haupapa/Tasman Heli-ski Landing Zone**

Covers the southern part of the current Tasman heli-ski area. A low to moderate level of aircraft activity is likely in this zone.

Nohoaka Place

Aircraft access zones: majority Red Zone, Green Zone for the following landing zone.

- **Aoraki/Mount Cook Airport Landing Zone**

Provides for the landings at the airport. A high level of aircraft activity occurs in this zone.

Pae Tawhiti Place

Aircraft access zone: Red Zone for the whole Place — no aircraft landings, other than the exceptions and criteria detailed in the proposed policies. No landing zones.

Further considerations:

Limiting aircraft landings is often used to address matters such as safety, impacts on others, noise and landing zone capacity. Aircraft landings in the Park are a limited opportunity and will require authorisation using an allocation process. The draft Plan includes policies for dealing with the limited supply aircraft landings using an allocation process. The allocation process is not detailed in the Plan as the mechanism is developed on a case by case basis to include all relevant considerations. However, the Plan can contain criteria to address operator experiences, compliance, visitor experience, adverse effects, improved technology etc.

The current landing numbers in the draft plan have been calculated on current concession allocation, safety and desired tranquillity outcomes within that place. The numbers are represented as daily limits.

The aircraft provisions in the current Plan provide for scenic landings and landings associated with the positioning of recreationists. In some instances, the aircraft landings can only be associated with a certain activity on the ground, e.g. for positioning hunters. The effects of a landing are the same regardless of what those on board do once they get out of the aircraft.

The draft Plan removes the link between an aircraft landing and a certain activity occurring on the ground once the aircraft has landed. Instead, landing zones with a maximum number of aircraft landings per day accommodate all landings. Once the aircraft landings are allocated, by way of allocation process, the aircraft operator can determine how they use their allocated aircraft landings i.e. they are not restricted to clients undertaking a certain activity.

There could be interest in private, recreational powered aircraft landings in the Park from time to time. Due to safety concerns, these are provided for in the Onslow and Liebig Huts Landing Zone only, and Aoraki/Mount Cook Airport Landing Zone with the permission of the airport lessee.

Remotely piloted aircraft, including drones, are an aircraft. However, their use creates several issues, including:

- impacts on other visitors;
- noise;
- safety issues with other aircraft (e.g. 4km separation distance from the Aoraki/Mount Cook airport required under the CAA Safety Guidelines); and
- potential adverse effects on native animals.

Due to these issues, the draft Plan only allows remotely powered aircraft in the Park for authorised research, filming and sporting events. If authorisation is provided, the Aircraft User Group needs to be notified of the location, time and date the activity is to occur, if it is within the Southern Alps Mandatory Broadcast Zone.

Non-powered aircraft, such as hang-gliders and parachutes, also require a concession to take-off from or land in the Park. Hang-gliders and para-gliders are allowed anywhere in the Park, except within the Haupapa/Tasman Glacier Landing Zone and within 3 km of the Aoraki/ Mount Cook Airport Landing Zone, subject to safety requirements.

Aircraft landings associated with wild animal recovery operations³ (WARO) are not restricted, to enable wild animal control. A separate, national process determines where and when WARO can occur.

³ Includes aurally assisted trophy hunting (AATH) under the Wild Animal Control Act 1977.

Bylaw 10 in the current Park bylaws prohibits aircraft landings, take-offs and hovering in the Park except: in an emergency; where a licence or permit has been issued under the Wild Animal Control Act 1977; or where express authorisation has been granted under sections 49-51 NPA80. The Park bylaws were promulgated in 1981, well before the CA87 and the subsequent inclusion of Part 3B and section 17ZF (added in 1996). In addition, bylaw 10 refers to the original sections of the NPA80, not the current sections (amended in 1996). However, due to a legislative oversight related to section 17ZF CA87 the bylaw still has relevance, until this gap is addressed by the proposed Conservation (Aircraft Landings) Amendment Bill. Therefore, bylaw 10 may be amended or repealed following the passing of this Bill.

Soundscape and tranquillity

One of the Park's purposes is to enable the public to receive inspiration, enjoyment, recreation and other benefits from the mountains, forests, sounds, seacoasts, lakes, rivers and other natural features. One of the most valued benefits is the ability to experience tranquil places. Tranquillity is a function of both the visible setting and the audible setting. This is reflected in the need to preserve not only the natural landscapes of the Park, but also its natural soundscapes – also known as natural quiet⁴. The introduction of 'unnatural' anthropogenic (human-caused) sounds from powered aircraft – including overflights, watercraft, vehicles and other human activities, affects the naturalness of the Park's soundscape. These unwanted affects constitute noise and can reduce the tranquillity benefits the public receives from the Park.

A major effect of aircraft is noise. To manage and monitor the natural soundscapes of New Zealand's national parks and other public conservation lands and waters, the Department has developed a Tranquillity Mapping Tool (TMT) in collaboration with Canterbury University. The TMT enables the Department and stakeholders to work co-operatively in the conservation of New Zealand's treasured soundscapes and tranquil places.

One mechanism for monitoring and measuring the integrity of the natural soundscape is by applying tranquillity levels across the Park. Tranquillity levels are expressed as a Tranquillity Rating (TR) on a scale of 0-10. The presence of both fully natural landscapes and fully natural soundscapes result in the highest level of tranquillity possible (TR 10).

Table 2: Tranquillity Rating outcomes at Place

Tranquillity Rating (TR) scale	TR 0 - 2	TR 2 - 4	TR 4 - 6	TR 6 - 8	TR 8 - 10
Word used in outcomes to describe the desired tranquillity level	Very Low	Low	Medium	High	Very high

Most people tend to increasingly benefit from tranquillity above 5 on the TR scale: Note: TR 10 requires a fully natural soundscape – ie, 'natural quiet'.

Tranquillity maps graphically represent the level of tranquillity present within a given area over a given timeframe. The area's tranquillity is a function of the visual and acoustic environments, where the presence of fully natural landscapes and soundscapes result in the highest level of tranquillity possible.

⁴ Referred to as natural quiet in General Policy for National Parks.

Tranquillity maps can also represent or 'model' the degree to which natural soundscapes are being modified by 'unnatural' human-caused or anthropogenic noise.

Within the Park most anthropogenic noise comes from commercial aircraft operations. Modelling the distribution of aircraft sound over periods of time and space requires an understanding of the movement of the sound source. To do this the Department developed tracking devices, which were temporarily installed in some aircraft on a voluntary basis by commercial aircraft operators to collect their flight path information, including Park landings and overflights.

Data collected from commercial aircraft operators accessing the Park during the 2016/17 summer tourist season were used to generate maps showing the level of tranquillity on the ground during that time.

The desired tranquillity outcome map in the draft Plan (see Map 5) represents the desired future state of natural soundscapes in the Park, achieved through the Department working with aircraft operators to address noise levels and find noise reducing solutions. It is important to remember the Department does not have any statutory control over flight paths, so changes to flight paths by operators is voluntary. The Department is seeking high tranquillity outcomes for the Hooker Valley to improve visitor experience for walkers on the tracks within the valley floor. A no fly zone of 1 nautical mile radius around Aoraki/Mt Cook identifies the cultural significance of the mountain.