

# Topic Paper: Aircraft landings in Westland Tai Poutini National Park

## 1. Purpose

This paper:

- sets out the context for aircraft landings within Westland Tai Poutini 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.<sup>1</sup>

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

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<sup>1</sup> 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 mana whenua 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 and Orange aircraft access zones are proposed in the Park.

### **3. Current aircraft use in Westland Tai Poutini National Park**

Aircraft access to enable recreation activities, and enjoyment of the Park has been well established for many years. Under the current Plan most landings occur at designated scenic snow landing sites in the upper neves and at guided glacier hiking sites on the lower Franz Josef Glacier/Kā Roimata o Hine Hukatere and Fox Glacier/Te Moeka o Tuawe.

Approximately 10% of people who visit Westland Tai Poutini National Park undertake a scenic snow landing or guided glacier heli-hike. The demand for aircraft landings is expected to remain high.

The adverse effects of aircraft were noted when the current Plan was developed, particularly the potential for impacts on walkers on tracks along the valley floors and on the glaciers. The Department placed limits on the number of aircraft that could operate (land) in the park at any one time (9 rotary wing and 4 fixed wing ski-planes) as well as the total number of landings to ensure no more than 25% of visitors to the glacier valleys registered annoyance by aircraft. Monitoring indicates this annoyance level has not been exceeded.

Other aircraft landings may occur for positioning recreationists (such as hunters, climbers and skiers), wild animal control operations, filming, and private, recreational pilots. Use is restricted to the locations and provisions in Tables 5 – 8 (pgs 119 – 121) in the Operative Plan 2001-2011).

The following is the total allocation of landings in the park from current concessions. Please note: approximately 1/3 of landings allocated actually occurs in the Park.

Luncheon Rock – 85/per day and 31,025 per year

Baumann Neve - 5,400 per year  
Upper Geikie - 10/day and 150 per year  
Mackay Rocks/Geikie - 5,400 per year  
Almer Hut - 60 per year  
Davis Snow Field - 110 per year  
Explorer Neve - 160 per year  
Cleves Neve - 130 per year  
Big Mac Neve - 3,300 per year  
Albert Neve - 170 per year  
Gem and Jewel Neve - 3,320 per year  
Chancellor Shelf - 5,400 per year  
Chancellor Hut - 150 per year  
Victoria Flat - 101 per day and 31, 196 per year  
Horace Walker Hut - 70 per year  
Horace Walker Glacier - 70 per year  
Christmas Flat Hut - 90 per year

#### **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 airspace<sup>2</sup> 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, 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

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

and the tourist industry. The proposed aircraft access zones and landing zones are (see Map 6):

### **He Tiritiri o Te Moana Place**

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

- **Fox Glacier Landing Zone**

Aircraft landings between 600 m and 1500 m predominately provide access for guided opportunities.

- **Franz Josef Glacier Landing Zone**

Aircraft landings between 600 m and 1500 m predominately provide access for guided opportunities.

- **Scenic Snow Landing Zone**

This zone is an important area for the tourist industry offering scenic snow landings on the glaciers between 1500 and 2300 m. The only exception is at the southern end of this zone, where the boundary goes from the 1500 m contour in Gulch Glacier up to Cuttance Col. This prevents the landing zone from extending along the northern faces of Mt Copland and Lyttle Peak, and potentially affecting visitor experiences in Ōhinetamatea Place. Almer Hut is within this landing zone. A high level of aircraft landings is proposed in this zone.

- **High Alpine Landing Zone**

The high alpine section of the Park is an important area for both recreational and guided mountaineering. This aircraft zone is between 2300 m and 2500 m (including Bismarck Peaks) with a moderate to low level of landings. Centennial and Pioneer huts are within this landing zone.

- **Castle Rocks Hut Landing Zone and Chancellor Hut Landing Zone**

A 100 m radius around each hut, with limited landings.

### **Ōhinetamatea/Karangarua Place**

Aircraft landings in this Place predominately provide access for recreation, including hunting and walking, at selected hut sites, and will remain low. Aircraft access zones: mostly Red Zone, with Orange Zone for the following landing zones.

- **Christmas Flat Hut Landing Zone, Horace Walker Hut Landing Zone, and Lame Duck Hut Landing Zone**

A 100 m radius around each hut, with limited landings.

- **Horace Walker Glacier Landing Zone**

Reflects the current landing site, extending from the 2100 m to the 2300 m contour, with a low level of landings.

### **Ngā Puna Ora Place**

There are currently no aircraft landings in this Place as it is accessible by several legal roads. 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.

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 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 proposed landings in the draft plan has been calculated on current concession allocation, safety and desired tranquillity outcomes within that place. The proposed landings are based on a daily allocation limit (rather than annual).

The draft Plan includes policies for dealing with the limited supply aircraft landings using an allocation process.

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. The exception being for landings associated with the glacier guiding activity in the Franz Josef Glacier Landing Zone and the Fox Glacier Landing Zone.

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 Ōhinetamatea/Karangarua Place only, subject to an annual limit and safety requirements to avoid conflicts with commercial operators.

Remotely piloted aircraft, including drones, are an aircraft. However, due to safety concerns, the draft Plan only allows remotely piloted aircraft in the Park for authorised research, filming and sporting events. If authorisation is provided, the Aircraft User Group should 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 Fox Glacier Landing Zone and the Franz Josef Glacier Landing Zone, subject to safety requirements.

Aircraft landings associated with wild animal recovery operations<sup>3</sup> (WARO) are not restricted, to enable wild animal control. A separate, national process determines where and when WARO can occur.

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

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<sup>3</sup> Includes aerially assisted trophy hunting (AATH) under the Wild Animal Control Act 1977.

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.

## 5. 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 quiet<sup>4</sup>. 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 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<sup>5</sup> 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 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**

<b>Tranquillity Rating (TR) scale</b>	TR 0 - 2	TR 2 - 4	TR 4 - 6	TR 6 - 8	TR 8 - 10
<b>Word used in outcomes to describe the desired tranquillity level</b>	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.

<sup>4</sup> Referred to as natural quiet in General Policy for National Parks.

<sup>5</sup> 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 certain areas of 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. The desired tranquillity outcomes along SH6 is low with a 50m buffer on either side of the road, and this also reflects the noise from the heliports located outside of the park. For the lower glacier valleys the desired tranquillity in the Franz Josef/Kā Roimata o Hinehukatere valley is Medium and the desired tranquillity outcome in the Fox/ Te Moeka o Tuawe valley is Low. This difference reflects the uncertainty around the long term foot access within the Fox valley.