

In, Out and
Around



Queenstown



CIVIL AVIATION AUTHORITY
OF NEW ZEALAND
Te Mana Rerangi Tūmatanui o Aotearoa



Abbreviations and Terms

Note: Throughout this booklet all altitudes are above mean sea level (AMSL) unless otherwise stated.

AC	Advisory Circular	GAP	Good Aviation Practice (booklet)
AD	Aerodrome section of <i>AIP New Zealand</i>	GNSS	Global Navigation Satellite System
AFIS	Aerodrome flight information service	IFR	Instrument flight rules
AGL	Above ground level	MBZ	Mandatory broadcast zone
AIP	Aeronautical Information Publication	MHz	Megahertz
ALT	Altitude (setting on transponder)	NM	Nautical mile
AMSL	Above mean sea level	NORDO	Non radio-equipped
ATC	Air traffic control	PBN	Performance based navigation
CFZ	Common frequency zone	PLA	Parachute landing area
CTA	Control area	QNH	A sub-scale setting which causes an altimeter to read altitude above mean sea level
CTR	Control zone	RNAV	Area navigation
DME	Distance measuring equipment	RNP	Required navigation performance
ENR	En-route section of <i>AIP New Zealand</i>	SARTIME	The time nominated by a pilot for the initiation of alerting action
FISCOM	Flight information service communications	TM	Transponder mandatory
FL	Flight level (hundreds of feet)	VFR	Visual flight rules
FSO	Flight service officer	VHF	Very high frequency
GAA	General aviation area	VNC	Visual navigation chart
		VOR	VHF omnidirectional radio range
		VPC	Visual planning chart
		VRP	Visual reporting point (VRP names are this colour except over photos)

Radio Phraseology

Radio calls that are clear, concise, consistent, and correct are essential to good communication. We recommend that you study Advisory Circular AC91-9 *Radiotelephony Manual*. The AC contains examples of standard radiotelephony phraseology for use by pilots and air traffic services. See also the GAP booklet *Plane Talking*, and the AvKiwi *Plane Talking* online course, www.caa.govt.nz/avkiwi.

Cover: A busy day for internationals. Photo courtesy of Queenstown Airport.

Every effort is made to ensure that the information in this booklet is accurate and up to date at the time of publishing, but numerous changes can occur with time, especially in regard to airspace and legislation. Readers are reminded to obtain appropriate up-to-date information.



Contents

Abbreviations and Terms	2
Introduction	4
Airspace Overview	5
Control Zone	5
Control Areas	7
Common Frequency Zones	7
Pre-Flight Preparation	8
Communications	9
RTF Coverage	10
Arrival Procedures	11
From the Northeast and East.....	11
From the South.....	16
From the West and Southwest.....	18
From the Northwest and North	20
Queenstown Circuits	21
Runway 05/23	21
Runway 14/32	22
Surface Movement and Parking	23
Queenstown Traffic	24
Peak Periods	24
Departure Procedures	25
To the Northeast and East	26
To the South	26
To the West.....	27
To the Northwest.....	27
Helicopter Arrival and Departure Procedures	28
Aircraft Performance	29
Noise Abatement	29
Adjacent Areas	29
Wanaka	29
Te Anau/Manapouri	31
... and Beyond	31

CAA Web Site

See the CAA web site for Civil Aviation Rules, Advisory Circulars, Airworthiness Directives, forms, and more safety publications.

www.caa.govt.nz

Introduction

Queenstown serves as a gateway to some of New Zealand's most renowned scenery and tourist experiences. As you can imagine, flying into an aerodrome enveloped by nature presents specific challenges. The mountainous terrain, changeable weather, and high-density traffic make it one of the more demanding destinations to fly into.

Queenstown airspace accommodates a variety of flying activities, including: scheduled airline traffic, light aircraft on scenic flights, flight training, and helicopters on scenic flights or those ferrying tourists to adventure activities. There are also balloons, hang gliders, paragliders, and parachutes. Gliders also operate frequently in Queenstown airspace.

This booklet gives planning advice and pointers that pilots need to consider. It's not a definitive guide, and should be studied in conjunction with *AIP New Zealand*, including the Visual Navigation Charts (VNCs) – particularly VNC C10.

Too many pilots venture into mountainous areas without preparing themselves properly. Before flying into Queenstown, you should have a good understanding of basic mountain flying techniques and density-altitude considerations. Make sure you're aware of the nuances and pitfalls. For example, prior experience of the illusions caused by flying without a horizon could save your life. Also, be aware of wind flow patterns in mountainous terrain and rapidly changing weather conditions. (See the GAP booklets *Mountain Flying* and *VFR Met*)





Airspace Overview

Queenstown VNC C10 shows that the aerodrome is almost completely surrounded by high terrain. The most logical routes into Queenstown are via the lower terrain of river valleys, or along Lake Wakatipu. These natural low-level routes each have visual reporting points (VRPs) along them.

To avoid the possibility of becoming disorientated when using the charts, note the orientation of the main features and use the cardinal grid lines on the charts to confirm direction. For example, the Kawarau Gorge runs east-west, and the Remarkables Range runs north-south.

All controlled airspace is transponder mandatory (TM). Operations in TM airspace without an active transponder require a specific authorisation from ATC, for a valid

reason, such as a transponder failure in flight, or a flight to a maintenance facility to have a transponder repaired or installed.

Control Zone

The Queenstown control zone (CTR) is Class C airspace extending from the surface to 7500 feet. In Class C airspace, ATC will provide clearances and instructions to separate VFR traffic from IFR traffic. VFR traffic is not separated from other VFR traffic (outside the circuit area) and traffic information will be provided to VFR flights for traffic avoidance.

The upper limit of Queenstown's CTR is higher than most other control zones, as the aerodrome elevation is close to 1200 feet, with high terrain surrounding the immediate area. The control zone is an irregular shape covering the entire Wakatipu Basin.

It extends to 11 NM southwest of **Rat Point**, east to within 3 NM of Cromwell, and to about 4 NM south of **Wye Creek**.





The outer extremities of the CTR include three VFR transit lanes:

- » T753 Ridge Peak, (surface to 4000 feet); essentially that part of the CTR to the southwest of **Rat Point**.
- » T750 Kawarau, (surface to 4500 feet); the eastern 5 NM, on average, of the CTR.
- » T751 Kingston, (surface to 5000 feet); the southern 3.5 NM of the CTR.

The unusual shape is dictated by the terrain and the need to accommodate the close-tolerance, RNP approaches flown by airline jet traffic to the main runway, 05/23.

There are four general aviation areas (GAAs) within the CTR. When active, a GAA becomes Class G uncontrolled airspace during daylight hours.

G756 Skyline (surface to 4500 feet) can only be operated in with specific ATC approval. Flights must remain clear of G756, which has intensive paraglider activity, and some hang glider activity, from the peak above Queenstown (where the Skyline gondola operates) to the city below. There is also a busy helicopter landing area at the Skyline gondola terminal, with traffic to and from the airport.

G755 Coronet Peak (surface to 5500 feet) is permanently active during daylight hours. It has hang gliding, paragliding, light aircraft,

and intensive helicopter activity (the latter also to the northwest of **Coronet Peak**).

Caution: Part of the circuit for large aircraft is very close to the southern boundary of G755. It is absolutely imperative that traffic within the GAA does not cross Malaghans Road without an ATC clearance. Malaghans Road runs from Arthur's Point to Arrowtown, and forms part of the southern boundary. There have been problems with visiting paragliders straying out of G755.

G752 Crown Terrace (surface to 3000 feet) and G758 Arrow Junction (surface to 2100 feet) are active during daylight hours. These are used for hang gliding and paragliding operations.

When operating in any of these four GAAs, maintain a careful lookout. Remember that paragliders are unlikely to make radio calls. Most of the activities in these areas are adventure, dual, or tandem operations.

Caution is required when entering the CTR from the south, or leaving it to the south. There is an airstrip at **Jardines** that is used for parachuting operations up to 16,000 feet, which is within the Jardine's parachute landing area of the CTR. Flight training operations are often carried out in this general area, and in the southern arm of the lake. There is an aerodrome outside the CTR at Kingston where light aircraft may be operating.



Control Areas

All control areas (CTAs) surrounding Queenstown are Class C, with an upper limit of FL175. The lower limits vary from 6500 feet to 13,500 feet, the lowest being a sector to the northeast of the CTR boundary, in the Cardrona area. These are overlaid by three Class C CTAs extending from FL175 to FL600. In most areas, except to the southeast of Queenstown, the lower limit of the CTA is only 1000 to 1500 feet higher than the mountain ranges. It is possible to follow the valley systems to the edge of the CTR without a clearance, but if a direct-line track over the ranges is flown into Queenstown, a clearance into the CTAs is likely to be required. Study both VNC C10 and the South Island visual planning chart (VPC) A2 to see the full extent of the CTAs.

Common Frequency Zones

Common frequency zones (CFZs) have been established to encourage pilots to use a single VHF frequency within each CFZ. Pilots should transmit their position in relation to VRPs or prominent features, together with altitude and intentions, on entry, or at other times for traffic safety.

Procedures established in these areas are to enhance safety for all pilots, not just those involved in the busy tourist traffic.

The Fiordland CFZ (119.2 MHz) extends north, west, and southwest of the Queenstown CTR through to seaward of Milford Sound. Vertical limits are from the surface to 11,000 feet, or to the lower limit of controlled airspace, whichever is the lower.

Wanaka CFZ (120.1 MHz) shares a common boundary with the Fiordland CFZ, from **Coronet Peak** to the Minaret Burn Mouth (Lake Wanaka), and extends to the northeast of the Queenstown CTR as far as Lindis Pass. Its vertical limits are the surface to the lower limit of controlled airspace.

Itinerant pilots should be aware that if they are planning a flight to Milford Sound, they will be entering the Milford Sound CFZ (118.2 MHz). There is an AFIS at Milford Sound aerodrome, and it also operates on 118.2 MHz. See AC91-9 *Radiotelephony manual* or the GAP booklet *Plane Talking* for specific phraseology associated with an aerodrome flight information service. See also the GAP booklet *In, Out and Around Milford*.

Pre-Flight Preparation

Thorough pre-flight planning is advised. Before the trip, study all relevant charts and other information (even if you’ve made the trip before – a refresher every time is good airmanship). The South Island VPC (A2) is useful for cross-country flight planning.

Carefully study the Queenstown pages in the Aerodrome (AD) section of *AIP New Zealand*.

Study the “Legend” panel on the VNCs, to be sure you understand the depictions of various types of airspace. Become familiar with airspace boundaries and VRPs before needing to refer to them in a busy cockpit.

Study the terrain and likely routes. A useful pre-flight tool for getting a general feel for the terrain is a virtual flight in *Google Earth*, in the 3D mode.

Closely studying all the VRPs will help your situational awareness when entering the busy area around Queenstown. It is often difficult to build an accurate mental picture of where other aircraft are when their position reports give names and places unfamiliar to you. The terrain means that you will also be kept busy navigating, maintaining terrain clearance, and keeping a good lookout for other traffic.





Communications

The Queenstown flight information service frequency is noted on the VNCs.

The expected coverage is shown on the South Island FISCO chart in *AIP New Zealand*, Vols 1, 2 and 4. Within this area below 9500 feet, outside controlled airspace, communicate with Queenstown Information on 128.9 MHz.

Aerodrome information (runway in use, weather conditions and QNH) can be obtained from the ATIS (126.4 MHz).

When in the Fiordland CFZ you should be monitoring 119.2 MHz. If you have two radios you can monitor both 119.2 MHz and 128.9 MHz, otherwise change briefly if you need to talk to Queenstown Information.

When Queenstown is off watch, the Queenstown flight information sector on the FISCO chart is covered by Christchurch Information on 122.2 MHz, and coverage extends to ground level at Queenstown. Refer to the latest AIP Supplements for the hours of service – be aware that airline night operations mean the tower is often staffed at night. The unattended aerodrome frequency is 118.1 MHz.

Contact Queenstown Information on 128.9 MHz on flight information sector entry and report your position, intentions (for example, if joining Queenstown, what entry point you intend to use), and receipt of the ATIS. It will provide any additional information and known traffic information.

Early contact with Queenstown Information helps facilitate an efficient traffic flow, as the tower controller will be forewarned of your arrival. This will mean less likelihood of delay, or holding, in your joining clearance when you contact the tower.

Before entering the Queenstown CTR, call Queenstown Tower on 118.1 MHz and give an abbreviated position report of aircraft call sign, position relative to a VRP, and altitude. Before entering Queenstown CTA, request a clearance from Queenstown Approach on 125.75 MHz.

Always have your transponder set to ALT. Not only will this assist ACAS-equipped aircraft, but also Queenstown ATC.

In the event of a communications failure outside the CTR, remain clear and proceed to an alternate aerodrome, then report your arrival to Queenstown Tower. Inside the CTR, follow the assigned arrival procedure and carry out a standard overhead join and expect light signals. If departing, vacate the zone via the assigned departure procedure. Refer to *AIP New Zealand* ENR 1.15 for a full description of communication failure procedures.

Departing aircraft should listen to the ATIS and then call Queenstown Delivery on 121.9 MHz for departure instructions. These will normally be in accordance with the procedures listed on AIP NZQN AD 2 – 64.2, VFR Departures. If you require



a specific departure, or one that includes something other than published, make that request on first contact with Queenstown Delivery. If you do not understand a clearance, or feel that you will be unable to comply (eg, because of inadequate climb performance), do not be afraid to speak up, so that an alternative can be arranged. When ready to taxi, call Queenstown Tower for taxi clearance.

RTF Coverage

VHF communication is dependent on line of sight. Tower frequency (118.1 MHz) repeaters are located on Queenstown Tower, Coronet Peak, Mount Nicholas, and Mount Difficulty; 128.9 MHz repeaters on Mount Maude (near Wanaka), Obelisk, and Coronet Peak; and the ATIS transmitter is also on Coronet Peak. Expect effective

communication when you have line of sight to the top of any of these features.

Because of the terrain, there are some RTF 'holes'. If you can't raise the tower on 118.1 MHz, try Queenstown Information on 128.9 MHz (the controller and FSO sit next to each other).

Terrain interference also means that you may not hear the radio calls of other aircraft in your vicinity. Do not assume there is no traffic near you, just because you have not heard any radio calls.

In the Te Anau basin, reception of Queenstown Information is variable, and should not be relied on below 8000 feet. If you need to amend your SARTIME, do so before descending too low, or you will lose reception. You will need to phone to terminate your flight plan after landing.

Arrival Procedures

See AIP NZQN AD 2 – 35.1 to 2.35.4 for the most up-to-date information. Note: landing lights should be used when below 6000 feet within 10 NM of Queenstown.

From the Northeast and East

Aircraft arriving from northern parts of the South Island have two likely inbound routes, the Cardrona Valley and the Kawarau Gorge. Standard zone entry points and maximum altitudes are **Soho River** (6000 feet) and **Victoria** (4500 feet).

Cardrona Valley

From **Cardrona Township**, you have two route options: Cardrona Saddle and **Soho River**; or **Crown Saddle**.

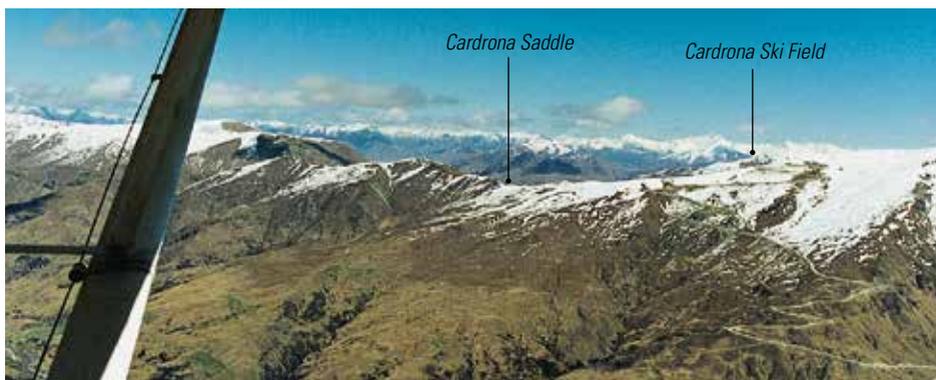
A potential cause of incidents at Queenstown is when pilots misidentify Cardrona Saddle and **Crown Saddle**. Saying you will join via

Cardrona Saddle and then turn up at **Crown Saddle** can cause major problems. Separation from IFR traffic may be compromised because these points are on opposite sides of the extended runway centreline.

Look carefully at VNC C10. When following the Cardrona Valley Road, you will see a zigzag road to your right (west) leading up to Cardrona ski field, and another to the left (east) leading up to another ski area on the Pisa Range. **Cardrona Township** is about a mile south of the junction of the ski field roads and Cardrona Valley Road.

The lower terrain of the Cardrona Saddle is to the south of the ski field, or to your left as you face the ski field. You must turn right out of the Cardrona Valley to cross the saddle. From the Cardrona Saddle you can't see Queenstown.

The **Crown Saddle** is further on up the Cardrona Valley where the valley narrows to its head – the road climbs and crosses through the Saddle. From the Crown Saddle, you can see the main runway.



Looking southwest from the Cardrona Valley towards the Cardrona Saddle.



Looking up the Cardrona Valley to the *Crown Saddle* at the end. Note ski field roads to right and left.



Cardrona Saddle, ski field road at right – not a good option this day, but the *Crown Saddle* may still be open.

Cardrona Saddle

On a good day, aircraft arriving from Lindis Pass or Wanaka are likely to approach over the Cardrona Saddle. When inbound, stay closer to the ski field.

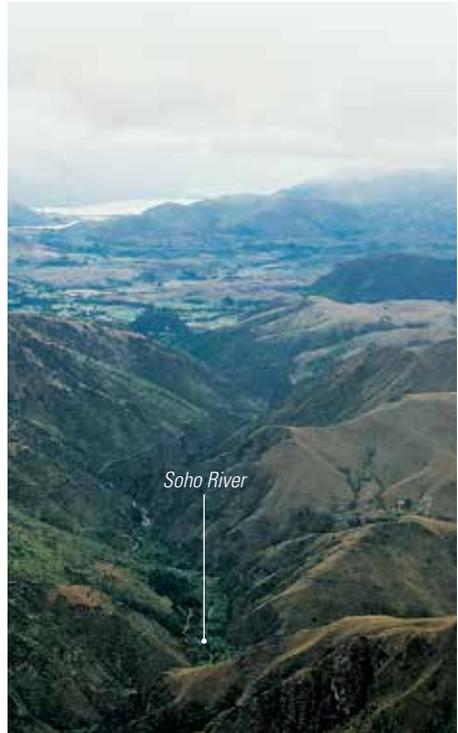
Although you will be clear of controlled airspace up to 6500 feet when north of Cardrona Saddle, it is wise to cross between 5500 and 6000 feet (giving you 500 to 1000 feet clearance from the Saddle). Otherwise, it can be difficult to lose the excess height before reaching Queenstown. Airline aircraft sometimes make a visual approach via Cardrona Saddle, so you may see this traffic not far above you.

Report at or approaching **Cardrona Township** before entering the CTR. Radio reception on the tower frequency can be poor below 6000 feet, so you may need to obtain your entry clearance from Queenstown Information (you should already have advised Queenstown Information of your intended point of entry).

Cardrona Saddle is just outside the CTR, so it is advisable to get an ATC clearance before you cross. Once inside the CTR, you should have good reception on the tower frequency.

Crown Saddle

In strong northwest or westerly conditions, there will be turbulence in the lee of Mount Cardrona. In these conditions it is better to join via **Crown Saddle** at the head of the Cardrona Valley.



*Soho River VRP looking southwest towards Queenstown. The VRP is the junction of the Arrow River and Soho Creek. The Arrow River leads off to the right towards **Macetown**.*



*From **Crown Saddle** looking towards Queenstown (and down Runway 23).*



Crown Saddle looking southeast into the Kawarau Gorge.

Note that **Crown Saddle** is well inside the CTR, so make sure you receive an ATC clearance in plenty of time. Part of the clearance will usually include a requirement to call at **Crown Saddle**. Crossing at 4000 to 4500 feet allows at least 500 feet terrain clearance, although it may appear less. If you are unfamiliar with the area, however, you may not feel comfortable with this margin above the terrain, and it may be better to approach at 5000 feet. Approaching on the left side will give a better view of anticipated features ahead. After crossing the saddle, start to descend immediately at an appropriate rate to ensure you lose excess height before reaching Queenstown, particularly if joining straight in on Runway 23.

Roaring Meg

If the Cardrona and **Crown Saddle** are closed, the best option is to return down the Cardrona Valley and re-route via the Kawarau Gorge.

Unless you are very familiar with the area, routing via the **Roaring Meg** power station from Cardrona Valley is not a good option, as you need to remain close to higher terrain for a longer period than the other saddles. The saddle out of Cardrona Valley down into **Roaring Meg** is less well-defined, as it is only a shallow dip in the surrounding terrain. Navigation is not as easy, and it is more difficult to pinpoint your position until you reach Kawarau Gorge. If you do route via **Roaring Meg** from the Cardrona Valley, the lower limit of controlled airspace is 6500 feet to the north of T750, and 4500 feet within T750.



*Approaching the **Roaring Meg** power station inbound along the Kawarau Gorge from Cromwell.*

Low-Level from Wanaka

The other likely inbound route from Wanaka and the northeast, the Kawarau Gorge, is used particularly when cloud ceilings are low.

Call Queenstown Information on 128.9 MHz at the southern end of Lake Dunstan (radio reception is better on the eastern side of the lake than at Cromwell Racecourse when at a low altitude).

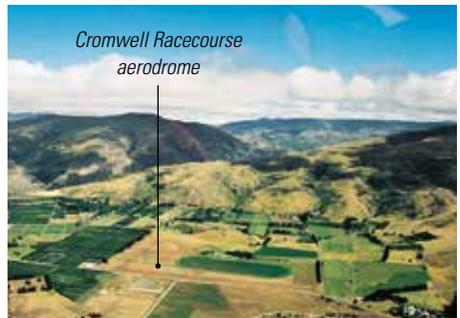
Queenstown Information may inform you to expect the Gibbston Arrival, which may result in an earlier descent due to the requirement to enter controlled airspace 2800 feet or below. This expectation of a Gibbston arrival is not a clearance into controlled airspace – this will be issued by Queenstown Tower on 118.1 MHz.

As reception on the information frequency may be patchy along this route at low level, it is advisable to communicate while still in the Wanaka area, as there is a 128.9 MHz transceiver on Mount Maude, next to Wanaka aerodrome, where reception is available at ground level.

Reporting points along the Kawarau Gorge are **Roaring Meg** and **Victoria**, (both within T750) and **Bungy Bridge**. It is important to keep to the right side of the valley. Remember, if a clearance is not available, you must remain outside the control zone. The Kawarau transit lane (T750, surface to 4500 feet) is a useful buffer that will allow you to proceed as far as **Victoria** with enough room to turn around or orbit if you have not received a clearance. There should be no communication problems



Victoria



Cromwell Racecourse aerodrome looking southwest towards the Kawarau Gorge.

with Queenstown Tower from **Victoria** onwards. Watch for occasional hang glider and paraglider traffic in T750.

The Kawarau Gorge route can be transited as low as 2500 feet, but by **Bungy Bridge** the valley becomes quite confined at that altitude. Most pilots will need at least 3000 feet to feel comfortable.

The higher you are, the more room there is to manoeuvre, and the easier it is to see ahead. Also, communication with the tower will be possible from further out at higher altitudes.

Bungy Bridge

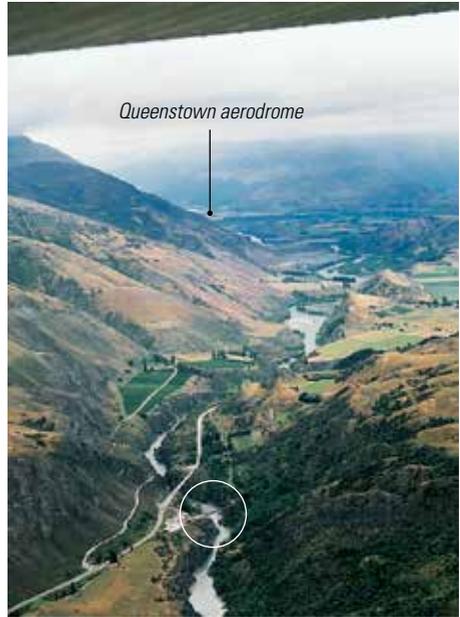
Bungy Bridge is at the eastern end of the Wakatipu Basin. You will actually see two bridges very close together; one is a road bridge and the other is **Bungy Bridge**. You may be asked to report at the bridge for joining instructions or sequencing.

Normally, you will be instructed to join direct from **Bungy Bridge** or via **Lake Hayes**, depending on traffic. If you have to make an orbit at **Bungy Bridge** (left would be normal having kept to the right-hand side of the valley), this should be quite comfortable unless you are lower than necessary – but you can return to a wider part of the valley to hold.

At extremely busy times, such as before a Warbirds Over Wanaka airshow, when there may be several aircraft holding in the area, common sense should prevail. Fly a left holding pattern wide enough to accommodate the number of aircraft holding.

Alternative Low-Level from Wanaka

A low-level route from Glendhu Bay leads up the Motatapu River and then down the Soho River. Flight at 3500 feet allows 500 feet terrain clearance at the highest point. There should be satisfactory communication with Queenstown Tower on 118.1 MHz at low level once you sight **Soho River** VRP ahead.



Bungy Bridge (circled) looking towards Queenstown (aerodrome visible in the distance). Lake Hayes is just out of picture to the middle right.

From the South

Aircraft arriving from the south (eg, the Invercargill, Mandeville, or Gore areas) are likely to approach via the southern arm of Lake Wakatipu. On this route, you will enter the Queenstown Flight Information area at Kingston. Give a position report to Queenstown Information at Kingston, or at the latest, **Devils Staircase** VRP.

On contact with Queenstown Tower, you will probably be cleared to Queenstown remaining to the east of State Highway

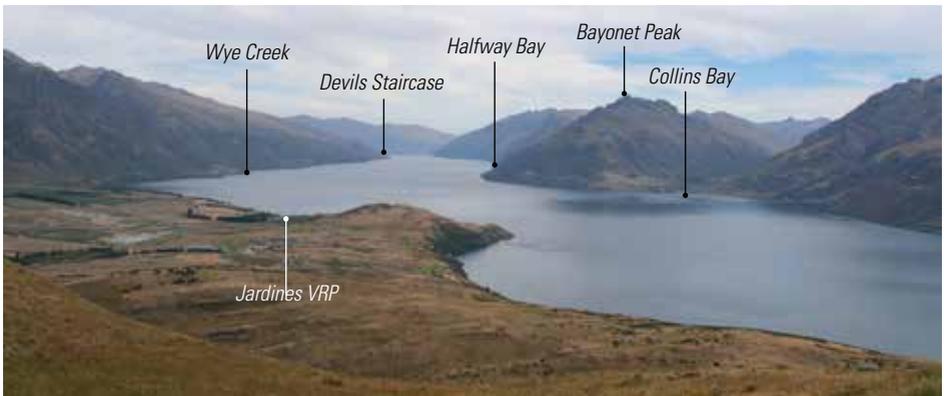


(SH) 6, or west of the lake shore. Both of these options will keep you clear of the **Jardines** parachute landing area (PLA) of the CTR. The PLA is delineated by SH 6 and the lake shore, between the northern boundary of Lakeside Estate (a gated residential area nestled in the acute angle formed by SH 6 diverging from

the lake shore) and a line due west from the Remarkables Mountain Lodge to the lake shore. You may be asked to make an intermediate report at **Wye Creek**, depending on traffic density. Be aware that there could be training aircraft operating south of **Deer Park** down to **Halfway Bay** and in the vicinity of Kingston.



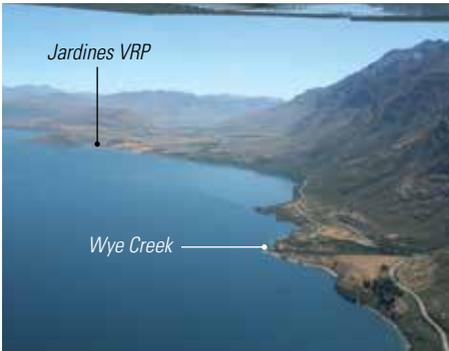
Devils Staircase VRP looking northeast.



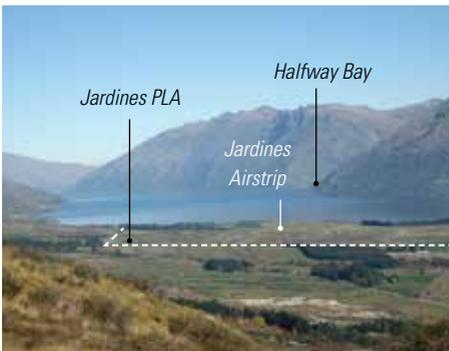
*Looking south from **Deer Park**.*



Looking southwest from *Deer Park*. Note that Kelvin Heights is a residential area.



Wye Creek looking north towards Queenstown aerodrome.



Looking south, showing the Jardines airstrip.

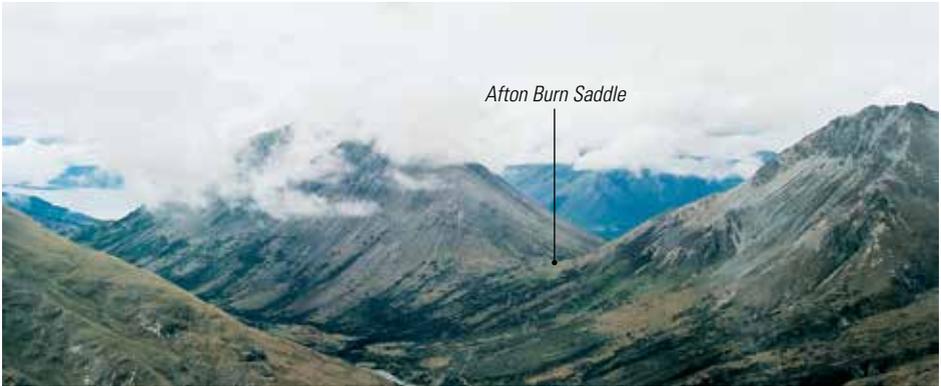
From the West and Southwest

Monitor 119.2 MHz, and make frequent position reports on that frequency when operating in the Fiordland CFZ.

Aircraft arriving from Te Anau or Milford will generally approach along the middle arm of Lake Wakatipu. Because of the large amount of traffic using this route to and from Milford Sound, the approach to Queenstown is along the right side of the lake (indicated by the “Main Traffic Flow” depiction on the VNC) with reporting points at **Mount Nic Station**, **Walter Peak**, and **Hidden Island**.

This is the Nic Arrival as listed in the AIP arrival procedures – note the specific runway instructions after passing **Hidden Island**.

To create a gap in a long line of aircraft and to facilitate IFR departures, the alternative is the Afton Arrival, via west of Mount Nicholas, **Afton Burn Saddle**, **Stream**, **Walter Peak** to **Gully**. Note there is a maximum speed to fly to assist with creating the gap, and the clearance limit is **Gully**.



Approaching *Afton Burn Saddle* from the Von valley. Von River exit is to the left.

Contacting the tower at *Black Gorge* will help ATC to issue a Nic or Afton arrival clearance in good time.

In some cases, Queenstown Tower may issue a detailed plain language clearance in lieu of the Nic or Afton Arrivals.

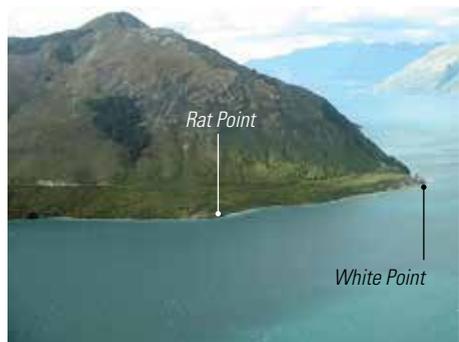
When in the *Rat Point – Mount Nic Station* area, keep your eyes peeled, also bearing in mind the T753 upper limit of 4000 feet. Outbound and inbound traffic may be on different frequencies as they make the change between 118.1 MHz and 119.2 MHz. If you have two radios, monitor both frequencies.

Also be aware that any inbound traffic from Te Anau will be coming out of *Afton Burn Saddle* and heading towards *Walter Peak*.

Watch out for aircraft entering and leaving the low flying zone (L769) in this area.



Looking east towards Queenstown aerodrome.



Rat Point VRP looking east.

From the Northwest and North

Expect entry via **Moonlight**, either via the Johnson Arrival (helicopter) or Moonlight Arrival (fixed wing). Watch for large volumes of traffic vacating the CTR through **Skippers Saddle** if inbound to **Moonlight** from the north.

Entry via **Skippers Saddle** is a less common option for aircraft due to it being the outbound route from Queenstown to the west. Entry via **Skippers Saddle** is only available for aircraft inbound to O’Connell’s Shopping Centre, or when the traffic situation permits.

The traffic arrows on VNC C10 indicate the clockwise flow used by helicopters operating from nearby helicopter landing areas. They are often ferrying rafters to and from Deep Creek, and would normally be at or below 1000 feet AGL.

Moonlight is generally an inbound-only route. The main traffic flow of scenic aircraft to Milford Sound now departs via **Skippers Saddle** and the **Lake Luna – Mount Larkins** area.



Looking north towards **Skippers Saddle**.



Looking southeast from the Glenorchy area. There is extensive parachuting activity from Glenorchy aerodrome (just out of shot to the left) up to 16,000 feet.

Queenstown Circuits

Circuit patterns at Queenstown are unique because of terrain constraints. This can be daunting for a pilot not used to seeing high terrain adjacent to an aerodrome. Be forewarned of the lack of a clear horizon around the circuit pattern, particularly when making turns. Carefully monitor attitude and airspeed.

If you find yourself close to terrain, extend the circuit outside the knolls (Ferry Hill, Slope Hill, Morven Hill), the runway will be out of sight, and your approach will be more difficult to judge.

Controllers expect minor variations to the circuit pattern, but if you wish to make a major diversion, you must obtain a clearance. Remember, if you are uncomfortable with any circuit or runway instruction, say so.

Airline traffic may fly a non-standard circuit. They normally make a large figure-eight approach.

After landing, stay on the tower frequency until clear of the manoeuvring area.

Runway 05/23

The circuit directions for the main runway are left for Runway 05 and right for Runway 23. The downwind leg is kept quite close-in because of terrain.



Looking northeast from Runway 05. Note the proximity of terrain to the extended centreline.

Be disciplined in maintaining correct circuit height on the downwind leg. Helicopter flight paths cross under and over the downwind leg and there may be simultaneous movements off Runway 14/32. If you allow your height to drift above circuit height (perhaps subconsciously trying to increase terrain clearance), this could result in a 'hot and high' approach. This is particularly evident on Runway 14/32.

Downdrafts are likely when crossing the Shotover River on approach to Runway 23.



Heading downwind Runway 32.

Runway 14/32

Runway 14/32 has particular terrain considerations. Circuit directions are right for 32 and left for 14.

After takeoff on Runway 32, you are heading for rising terrain, and will need to start veering right towards Shotover Bridge before reaching 1700 feet (500 feet AGL) as terrain dictates. The locals commence a gentle turn after crossing the main runway. Late downwind for Runway 32, you need to be close to the Remarkables. Even then, there will be a short base leg confined by terrain.

There can be a tendency to turn on to final too soon, resulting in a ‘hot and high’ approach. Terrain clearance is reduced when late downwind. When turning through base onto final, the land falls away – and it is not until then that you realise you are too high. It is important to turn final about 1700 feet (about 500 feet AGL). Caution the street light on centreline of Runway 32 approach. Due to buildings in northeast winds, mechanical turbulence may be experienced on late final for Runway 32.

The left circuit on Runway 14 means a climbing left turn towards the Remarkables after initial climbout. Although there is plenty of room, the sheer magnitude of these mountains creates an illusion of being very close to the terrain.

Additionally, the lack of a defined horizon in the turn means that careful monitoring of attitude and airspeed is essential.

Extending climbout further south will make the turn less intimidating.

If you do not wish to turn towards the high terrain, tell the tower that you require an alternative clearance, such as an extended climb to the south.

On approach to Runway 14, because of terrain constraints, you need to establish approach configuration early (for example, when crossing the main Runway 23 threshold on the downwind leg). Establish left base (remaining inside the hill) using Lake Johnson as a reference. It is important to be at 500 feet AGL (roughly 1700 feet AMSL) when turning final in order to land in the first half of the runway. Approach profiles will be close to the terrain. There are power lines (visually marked with silver discs) that cross under the final approach – note them, but don’t allow excessive clearance (maintain 1500 feet indicated until crossing the wires). You have the option to overshoot if you are not happy.



About to turn onto downwind for Runway 14 showing closeness to terrain below.

If you accept a crosswind landing on Runway 14 or 32, be aware that there is likely to be a tailwind component on both approaches that will not be indicated on the windsock at ground level. This can happen because of wind funneling around the terrain.

Surface Movement and Parking

Study the aerodrome and ground movement charts in *AIP New Zealand, Vol 4*, so that you are familiar with the taxiways and general aerodrome layout before arrival – the best time to do this is during your pre-flight planning. If you have any queries on availability and location of parking areas, contact a local operator or the airport company via their web site, www.queenstownairport.co.nz.



Downwind for Runway 05.

Take care when taxiing, as the aerodrome can be very busy with a mix of light aircraft, airline aircraft, and helicopters. Particular care is required in the vicinity of the main apron, where jet blast could be encountered. Grass areas can be rough or undulating in places.

Aircraft below 5700 kg are prohibited on the main terminal apron itself.

Be aware that Queenstown is an international airport, and you will need to carry your pilot licence or airport identity card. You will most likely have to gain access to and from the apron via one of the commercial operators' hangars. Remember to identify yourself and advise them when you will be returning.

Additional parking is available on the grass area to the south of taxiway Y, but be aware that there are helicopter operations on the western side of this space. Parking is also available hard up along the fence line to the west of the Hertz building. Control locks should be installed at any time your aircraft is unattended, not only because of helicopter rotorwash, but also because the wind can change in your absence.

If parking overnight or longer, check the weather forecast before picketing your aircraft, ensuring that it is positioned appropriately if strong winds are anticipated. You will need to have your own pickets and tiedowns, as any already in the area will belong to local operators. For further information on picketing generally, see the GAP booklet *Secure Your Aircraft*.

Queenstown Traffic

Queenstown traffic comprises a mix of international and domestic flights (B737, ATR, and A320), scenic flights (both multi and single-engine), helicopters, aero club training, private aircraft, and a wide variety of visiting aircraft. There can be morning balloon flights over the Wakatipu Basin.

Be aware there are also special RNAV/RNP instrument approach and departure procedures for jet aircraft that may position them where you are not normally expecting them.

Peak Periods

Peak times for Milford traffic departures are around 09:00, 12:00 to 12:30 and 15:00 to

15:30, with arrivals peaking about 11:30, 13:30 and 16:00. The traffic mix comprises 5 to 15 aeroplanes and 15 or more helicopters each time.

IFR aircraft movements peak between 09:30 and 10:30, with a steady flow throughout the afternoon. In winter, there are over 50 IFR movements between 10:00 and 16:00.

Try to avoid the peak periods for a less stressful arrival, but don't be intimidated by the traffic. The tower is very good at accommodating the traffic mix, provided pilots have done the appropriate planning and preparation.



Looking southwest down the Frankton Arm.

Departure Procedures

VFR flights departing Queenstown should first listen to the ATIS on 126.4 MHz and then contact Queenstown Delivery on 121.9 MHz before entering the manoeuvring area. State your call sign and destination, and request the preferred departure (listed in *AIP New Zealand, Vol 4*). If the requested departure procedure is not available, an alternative will be issued, probably as plain language instructions.

The published procedures are to facilitate traffic management. They do not prevent pilots from requesting alternatives, which will be possible when meteorological and traffic conditions permit. For example, if you are departing to the Te Anau area, a clearance direct to **Afton Burn Saddle** (which crosses the traffic flow) may be available instead of the **Rat Point** departure – this may be preferable for a smoother ride during northwesterly conditions.



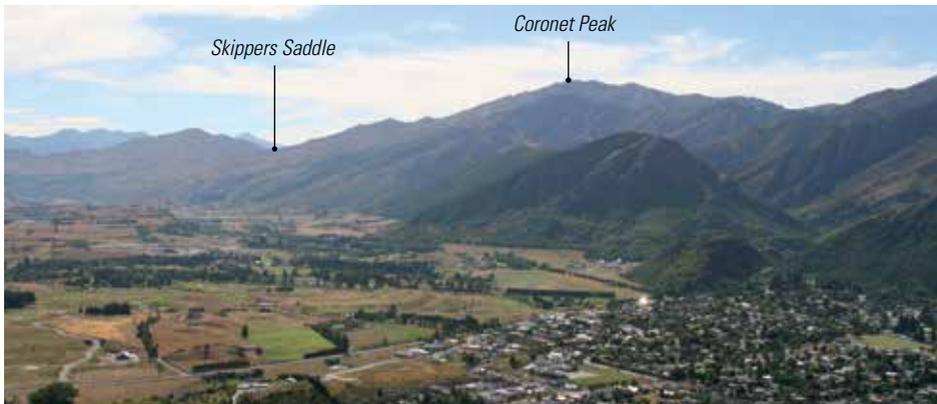
Looking east towards **Bungy Bridge** and the Kawarau Gorge.

Queenstown Delivery will issue clearance for the departure procedure. This eases the workload on the tower controller and reduces communications on the tower frequency. Delivery does not issue taxi instructions. When ready to taxi, call Queenstown Tower on 118.1 MHz for taxi clearance. Engine run-up, etc, must be completed before requesting a taxi clearance.

After takeoff, follow the assigned departure procedure and report when clear of the control zone. Queenstown Information is available on 128.9 MHz within the Queenstown flight information sector. Monitor and make frequent position reports on 119.2 MHz when operating in the Fiordland CFZ (refer to the VNCs).

If departing off Runway 23 and vacating via the normal circuit, ATC will advise that a drift left is allowed before making the right turn into downwind. This is to allow more room for the right turn from the high terrain of **Queenstown Hill**. This does not imply that you can turn left around **Deer Park**. Throughout this manoeuvre, you must remain in the Frankton Arm and vacate via the normal Runway 23 circuit.

If you require a clearance into the Queenstown CTA, contact Queenstown Tower on 118.1 MHz.



Arrowtown

To the Northeast and East

The Victoria Departure is via **Bungy Bridge** VRP then direct to **Victoria** at or below 4500 feet.

The Soho River Departure is to track via Arrowtown and **Soho River** VRP at or below 6500 feet. Departing via **Soho River** and Cardrona Saddle (4955 feet) requires a disciplined climbout in order to arrive at Cardrona at a safe height. If an orbit is necessary to gain the required altitude, you must request clearance from the tower if still in the CTR, as this will be a deviation from your original clearance. Once north of **Soho River** VRP, report clearing the CTR.

If you have two radios, listen ahead on 120.1 MHz for traffic coming from Wanaka, and after crossing the saddle, make a call on 120.1 MHz (addressing "Wanaka Traffic"), with your position, altitude, and intentions.

To the South

The Devils Staircase Departure involves tracking east of Highway 6 direct to **Devils Staircase** at or below 4500 feet. The controller will specifically clear the aircraft via Kelvin Heights.

As good operating practice, all departures off Runway 23 that track via downwind initially, are approved to drift left of the centreline before making a right turn. This is approved without a clearance due to terrain.

If taking off on Runway 23 do not try to turn left inside the **Deer Park** knoll. A left turn should be made after passing the Kelvin Heights settlement. Alternatively, departure will be by the normal circuit, departing overhead. Proceed down Frankton Arm and then turn left at a safe height. Taking off on Runway 05 would be a normal circuit and departure overhead.

Remember to watch out for training aircraft as far south as Kingston, and parachuting operations at **Jardines**.



To the West

The Rat Point and Moke Lake Departures involve tracking via **Sunshine Bay** to **Rat Point** or **Moke Lake** as applicable.

There are hold downs on each departure to keep outbound traffic clear of inbound traffic, with both keeping close to their right-hand lake shore. If your destination is Te Anau/Manapouri, you will need to cross the main inbound Milford traffic flow at some stage. Depending on traffic, ATC may offer a more direct route.

Local Te Anau-bound aircraft, if cleared direct to **Walter Peak**, will normally follow the southern lakeshore to be inside any inbound traffic tracking offshore.

Keep your eyes peeled in the **Rat Point – Mount Nic Station – Afton Burn Saddle** area, as inbound and outbound traffic can be on different frequencies for a short time as they change between 118.1 MHz and 119.2 MHz. If you have two radios, monitor both frequencies.

To the Northwest

This is a busy area because the main traffic flow to Milford Sound departs via **Skippers Saddle** and the **Lake Luna – Mount Larkins** area.

The Skippers Saddle departure involves tracking via **Tucker Beach** to **Skippers Saddle**, at or below 5000 feet. **Skippers Saddle** is the main departure from Queenstown to the west.

Lake Luna, looking south towards Mount Nicholas and the Von River Valley.



Helicopter Arrival and Departure Procedures

Exercise caution when operating in strong wind conditions (especially in light, two-bladed helicopters such as the R22 and R44), in particular around the Kawarau Gorge, **Roaring Meg**, **Crown Saddle**, and Cardrona Saddle in strong westerly conditions.

Remarkables Arrival

This arrival is for local commercial operators returning from a landing on the Remarkables Spur.

Bravo Arrival

This arrival allows helicopters to approach and land while fixed-wing aircraft are using Runway 14/32. This arrival will generally only be given to local operators. After arriving, make sure you don't cross northeast of taxiway Bravo or taxiway Yankee as you will infringe on Runway 14/32.

Johnson Arrival

This arrival is the helicopter version of the Moonlight Arrival. However a key difference is, after crossing Arthurs Point, track direct to Lake Johnson below 3500 feet. Report approaching Lake Johnson and do not proceed past the northern end of the lake until you have an onwards clearance. If holding north of Lake Johnson, consider helicopter traffic that may be following you – do not simply come to an abrupt hover.

Standard West Departure

This departure allows helicopters to depart while fixed-wing aircraft are using Runway 14/32. This departure will generally only be given to local operators. Don't cross northeast of taxiway Bravo or taxiway Yankee as you will infringe on Runway 14/32. Track to your cleared destination via the western shoreline of Lake Johnson below 5000 feet. Be aware that you may cross the path of aircraft joining from **Moonlight** to either Lake Johnson or **Tucker Beach**.

Remarkables Departure

This departure is for local commercial operators departing Queenstown Airport and landing on the Remarkables Spur.



Helicopter landing areas along the Remarkables Mountain Range.



Aircraft Performance

Aircraft performance is always a consideration in mountainous terrain.

The elevation of Queenstown aerodrome is 1171 feet. Be aware of the effects of density altitude – on a warm sunny day in low-pressure conditions, the density altitude may be as high as 3500 feet. Besides affecting takeoff performance, such conditions will adversely affect climb performance.

If you are contemplating an IFR flight, be aware that the IFR procedures at Queenstown are suitable only for aircraft with appropriate performance. They were largely set up for airline traffic, and may not be suitable for lesser-performing IFR-equipped aircraft.

The grass strips either side of the sealed portion of Runway 14/32 can be soft in wet conditions, affecting takeoff performance.

For further information see the *Takeoff and Landing Performance* and *Mountain Flying* GAP booklets.

Noise Abatement

Be a good neighbour and apply noise abatement procedures.

Appreciate that noise can be accentuated in an area of mountains and valleys. Consideration when flying over, or near, residential areas will be appreciated by residents and by local operators who have specific noise abatement procedures in place.

Avoid directly overflying residential areas where possible. If it is necessary to do so, maintain as much altitude as you can, and reduce your power setting if practicable, in particular over Frankton Arm and the town. If you are joining from the west downwind for Runway 23, maintain 3000 feet until in Frankton Arm, and then descend to circuit height.

Adjacent Areas

There is considerable aviation activity in the adjacent areas outside Queenstown controlled airspace.

Wanaka

The En-route (ENR) section of *AIP New Zealand, Vol 4*, under “VFR Operations – General” warns about intense paragliding activity in the Wanaka area up to an altitude of 5000 feet. Intensive tow-launched parasailing takes place behind boats



Entrance to Frankton Arm with Queenstown behind. Kelvin Heights (residential area) lies along the southern shore of Frankton Arm.



A view of Lake Wanaka from overhead Lake Hawea outlet.



on the southern end of Lake Wanaka, and foot-launched hang gliding occurs in the ranges to the west of Glendhu Bay. There is also paragliding from Mount Iron just east of Wanaka township.

The unattended aerodrome frequency for Wanaka is the CFZ frequency, 120.1 MHz.

Parachuting operations take place from Wanaka throughout the year, with up to four flights an hour in busy periods. These flights may climb as high as 16,000 feet. Although the drop altitude will normally be in the CTA, the jump aircraft also operate on 120.1 MHz, so listen out and watch for parachute activity.

Be on the lookout for airline traffic flying into Wanaka.

These aircraft are equipped with airborne collision avoidance systems. Keep ALT selected on your transponder at all times when airborne. The GNSS-based instrument approaches to Wanaka start in the **Tarras** area at 6700 feet, and are aligned with Runway 29.

Wanaka has one of the busiest helicopter training schools in the South Island, and there is also microlight training available on the field.

All this, combined with the local scenic flight and airline operations, and the occasional high-performance warbird, make for a very diverse mix of aviation. Extreme vigilance is required when transiting the area.

Te Anau/Manapouri

If routing to Te Anau/Manapouri via the Von Valley, you will be in the Fiordland CFZ (119.2 MHz) until you reach **South Mavora Lake**.

The unattended aerodrome frequency for Te Anau/Manapouri is 119.1 MHz. There are a number of helicopters based in the Te Anau area, and a floatplane operates from Te Anau lakefront.

... and Beyond

It is likely that you will fly through the centre of the South Island on your way to Queenstown.

The Southern Alps MBZ has intensive tourist aircraft activity, both fixed wing and helicopter. Peak period is between October and April. If you intend to enter the area, make sure that you have studied the procedures and the appropriate VNCs.

Omarama is the base for intensive gliding activity. This can be seven days a week, mostly between October and April, with more intense activity in holiday periods and during competitions, usually held in mid-November and January. Expect gliders around Mount Benmore, Mount St Cuthbert, Omarama Saddle, and Lindis Pass.

They can also be between Lake Tekapo and the Ben Ohau Range, and around Wanaka and Cromwell. The glider chat frequency is 133.55 MHz. You can call to check whether there are any gliders in your vicinity, although some may be NORDDO.



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