



*In, Out and  
Around*



# *Queenstown*





## Abbreviations and Terms

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

AC	Advisory Circular	GAA	General Aviation Area
AD	Aerodrome section of <i>AIP New Zealand</i>	GAP	Good Aviation Practice (booklet)
AFIS	Aerodrome Flight Information Service	GNSS	Global Navigation Satellite System
agl	above ground level	IFR	Instrument Flight Rules
AIP	Aeronautical Information Publication	MBZ	Mandatory Broadcast Zone
ALT	Altitude (setting on transponder)	MHz	Megahertz
amsl	above mean sea level	NM	Nautical Mile
ATC	Air Traffic Control	NORDO	Non-radio equipped
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.
FIO	Flight Information Officer	TM	Transponder Mandatory
FIS COM	Flight Information Service Communications	VFR	Visual Flight Rules
FL	Flight Level (hundreds of feet)	VHF	Very High Frequency
		VNC	Visual Navigation Chart
		VOR	VHF Omnidirectional Radio range
		VPC	Visual Planning Chart
		VRP	Visual Reporting Point (VRP names are <b>this colour</b> in this booklet)

### Radio Phraseology

Radio calls that are clear, concise, consistent, and correct are essential to good communication. We recommend that you study Advisory Circular (AC) 91-9 *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*.



# In, Out and Around Queenstown

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## 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](http://www.caa.govt.nz)

# In, Out and Around Queenstown

Queenstown and the surrounding area boasts some magnificent scenery, sporting activities for both summer and winter, exciting adventure activities, and a variety of accommodation and restaurant options. No wonder it is a popular destination for both overseas tourists and New Zealand holiday-makers.

For the aviator, the mountainous terrain, changeable weather, and the high density of traffic can make it a challenging destination. This booklet covers points pilots should consider before planning a flight to Queenstown. It should be read in conjunction with *AIP New Zealand*, and particularly VNC C10.

Queenstown airspace has a variety of flying activities, including: scheduled airline traffic,

light aircraft on scenic flights, aerobatic flights, flight training, and helicopters on scenic flights and ferrying tourists to other adventure activities. There are also balloons, hang gliders, paragliders, and parachutes. Gliders also operate frequently in Queenstown airspace.

Before flying in the area, pilots should have a good understanding of basic mountain flying techniques and density-altitude considerations. They should also have awareness and experience of the illusions caused by flying in mountainous terrain without a horizon. Pilots should be aware of wind-flow patterns in mountainous terrain and rapidly-changing weather conditions. (See the GAP booklets *Mountain Flying* and *VFR Met*)



Elfin Bay

Mount Nic Station

Rat Point

Looking north towards Glenorchy.

# Airspace Overview

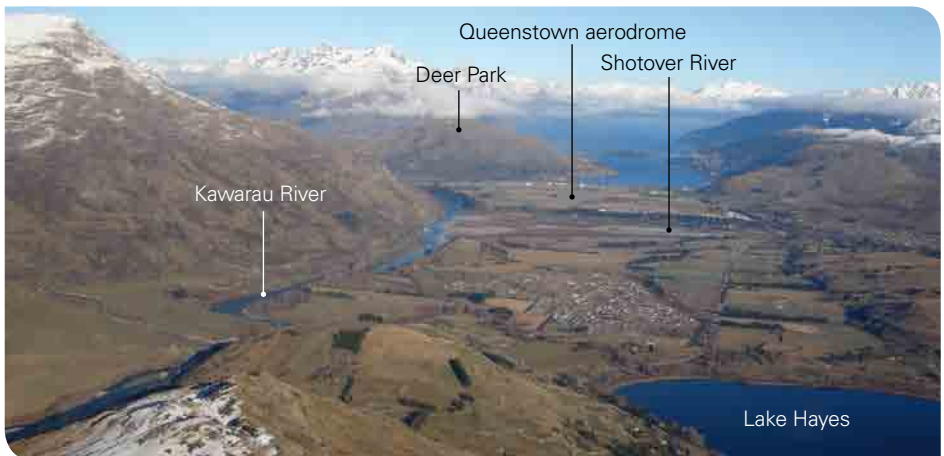
A look at the Queenstown Visual Navigation Chart (VNC) C10 shows that Queenstown is almost completely surrounded by high terrain. The most logical routes into Queenstown are via the lower terrain of river valleys, or along Lake Wakatipu. These natural low-level routes each have visual reporting points (VRPs) along them. Note the orientation of the main features. Use the cardinal grid lines on the charts to confirm direction, in order to avoid the possibility of becoming disorientated. 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 D airspace extending from the surface to 7500 feet. The upper limit is higher than most other control zones because the aerodrome elevation is close to 1200 feet, and it is surrounded by high terrain in the immediate area. The control zone is an irregular shape covering the entire Queenstown Basin. It extends to 11 NM south-west 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:

- T752 Ridge Peak, (surface to 5000 feet); essentially that part of the CTR to the south-west 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. In Class D airspace, away from the runway, VFR traffic is not separated from IFR traffic, but air traffic control will provide traffic information (and traffic avoidance advice on request).

Maintain a good lookout, and build a mental picture of other traffic from their radio calls.

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

- G756 Skyline (surface to 4500 feet) has intensive paraglider activity, and some hang glider activity, from the peak above Queenstown (where the Skyline gondola operates) to the township below. There is also a busy helipad at the Skyline gondola terminal, with traffic to and from the airport.
- G755 Coronet Peak (surface to 5500 feet) 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 heavy 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.

- G753 Crown Terrace (surface to 3000 feet) has hang glider and paraglider operations.

These areas are active during daylight hours. G755 and G756 are best avoided. Maintain a careful lookout. Remember that there is unlikely to be any radio calls from this (mainly) paragliding traffic. Most of the activities in these areas are adventure-type 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, and which is within the Jardines Parachute Drop Sector (PDS) of the CTR. Flight training operations are often carried out in this general area, and in the southern arm of the lake.

## Control Areas

There are now seven separate control areas (CTA) surrounding Queenstown, all Class D, with an upper limit of FL 175. The lower limits vary from 6500 feet to 13,500 feet, the lowest being a sector to the north-east of the CTR boundary, in the Cardrona area. These are overlaid by three Class C CTAs extending from FL 175 to FL 600. 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 a Flight Service Station 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 3-D 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 FIS COM chart in *AIP New Zealand*, Vols 1, 2 and 4. Within this area below 9500 feet, communicate with Queenstown Information on 128.9 MHz.

Aerodrome information (runway in use, weather conditions and QNH) can be obtained on 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 (refer to the latest AIP Supplements for hours of service), the Queenstown Information sector on the FIS COM chart is covered by Christchurch Information on 122.2 MHz, and coverage extends to ground level at Queenstown. The unattended aerodrome frequency is 118.1 MHz.

Contact Queenstown Information on 128.9 MHz on entering their sector and







report your position, intentions (for example, if joining Queenstown, what entry point you intend to use), and receipt of the ATIS. They 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 or CTA, call Queenstown Tower on 118.1 MHz and give an abbreviated position report of aircraft callsign, position relative to a VRP, and altitude. Always have your transponder set to ALT, as not only will this assist ACAS-equipped aircraft, but also Queenstown Tower, who will be able to verify your position through the multilateration system (a non-radar surveillance system).

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 joining procedure 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 page 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 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 Coronet Peak, Mount Nicholas, and Mount Difficulty; 128.8 MHz repeaters on 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 FIO sit next to each other).

Terrain interference also means that you may not hear the radio calls of other aircraft in your vicinity if they are around a corner in a valley from you. 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 pages 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 **Cardrona Township** (6500 feet) and **Victoria** (4500 feet).

### Cardrona Valley

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

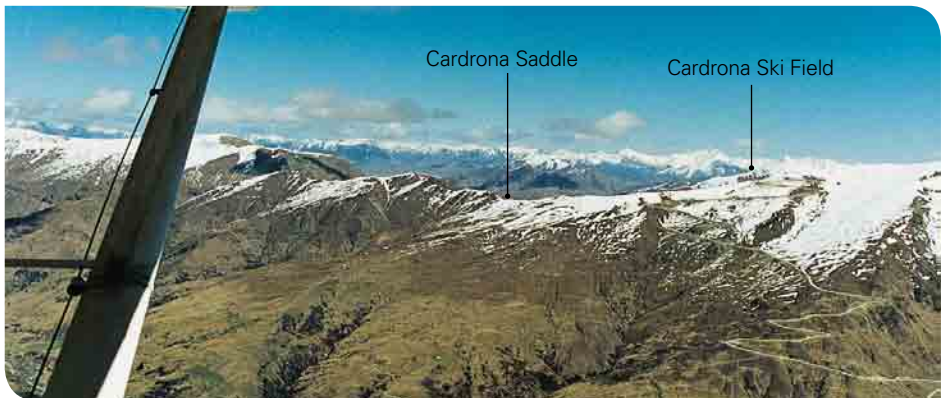
A potential cause of incidents at Queenstown is when pilots misidentify Cardrona Saddle and **Crown Saddle**. If you say you will join via Cardrona Saddle and then turn up at **Crown Saddle**, this can

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 your 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 it. 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.



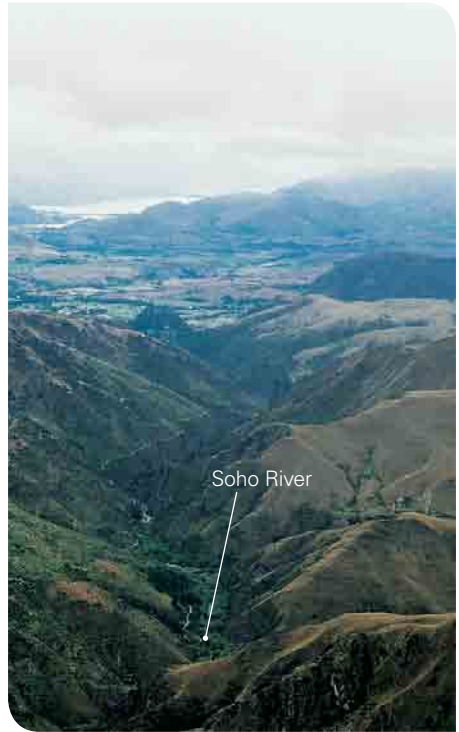
Cardrona Saddle, ski field road at right – not a good option this day, but the **Crown Saddle** may still be open.

### Cardrona Saddle

On a good day, aircraft arriving from the 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 may 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 Tower frequency.



*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.*

### 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.

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



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



*Crown Saddle looking southeast into the Kawarau Gorge.*

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 you will be landing straight in on Runway 23.

### **Roaring Meg**

If the Cardrona and Crown Saddles 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 is less well defined, as it is only a shallow dip in the surrounding terrain. Navigation is not as easy, and it is more



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

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.

### **Low-level from Wanaka**

A low-level route from Wanaka 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 before you reach **Soho River** VRP, but if not, you may need to request clearance

via Queenstown Information. As reception on the Information frequency may be patchy along this route at low level, it is advisable to request clearance while still in the Wanaka area.

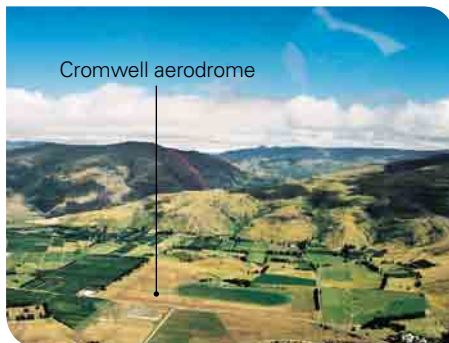
### *Kawarau Gorge*

The other likely inbound route from the north, 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).

Reporting points along the gorge are **Roaring Meg**, **Victoria**, (both within T750) and **Bungy Bridge**. It is important to keep to the right-hand 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 still enough room to turn around or orbit if you have not received a clearance. There should be no communication problems with Queenstown Tower from **Victoria**



*Victoria*



*Cromwell Racecourse aerodrome looking southwest towards the Kawarau Gorge.*

onwards. Watch for occasional hang glider and paraglider traffic in T750.

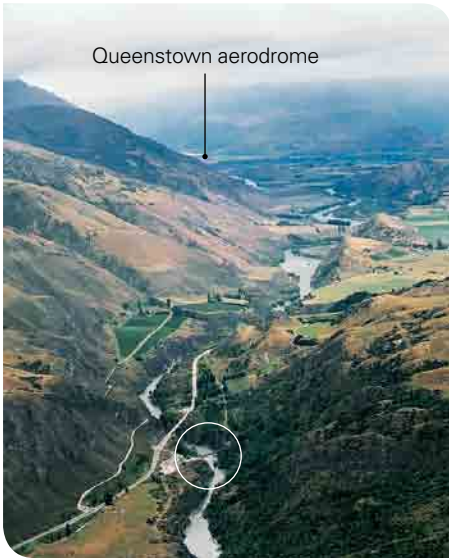
The Kawarau Gorge route can be transited as low as 2500 feet, but by **Bungy Bridge** the valley is becoming quite confined at that altitude. Most pilots will need at least 3000 feet to feel comfortable.

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 Queenstown 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-hand would be normal having kept to the right-hand side of the valley), this should be quite comfortable



Queenstown aerodrome

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

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-hand holding pattern wide enough to accommodate the number of aircraft holding.

## 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.

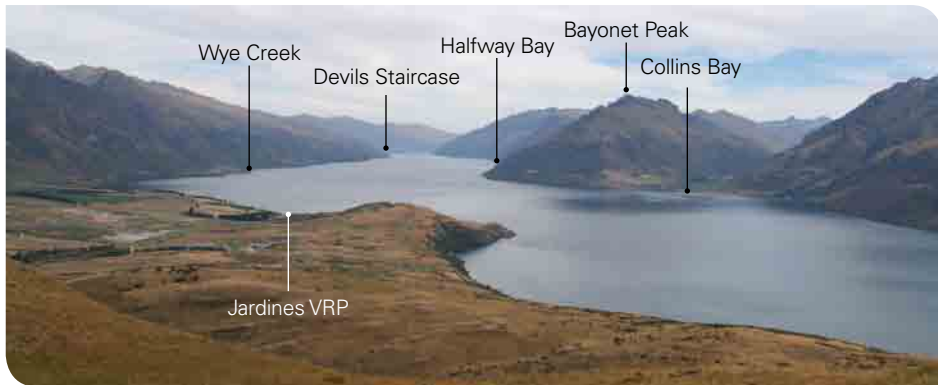
On contact with Queenstown Tower, you will probably be cleared to Queenstown remaining to the east of State Highway (SH) 6, or west of the lake shore. Both of these options will keep you clear of the **Jardines** Parachute Drop Sector (PDS) of the CTR. The PDS is delineated by SH 6 and the lake shore, 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 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**.



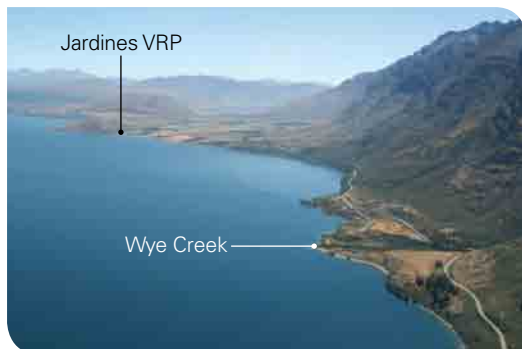
Photo: Alex Turnbull/NZone Skydive

Devils Staircase

*Devils Staircase VRP looking northeast*



Looking south from *Deer Park*.



*Wye Creek* looking north towards *Queenstown aerodrome*.



Looking south, showing the *Jardines PDS Sector* and *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-hand 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 “South Arrival” as listed in the AIP arrival procedures – note the specific runway instructions after passing **Hidden Island**.

The alternative is the “North Arrival”, via **Rat Point**, **Lake Dispute**, **Fernhill** and north of **Queenstown Hill**, after which there are also specific





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

instructions for each runway. To avoid possible confusion, note the position of **Rat Point** in relation to White Point, as depicted in the photograph below. In some cases, Queenstown Tower may issue a detailed plain language in lieu of the North or South Arrivals.

Contacting the tower at **Black Gorge** will enable timely issue of the North Arrival clearance.

When in the **Rat Point – Mount Nic Station** area, keep your eyes peeled, also bearing in mind the T752 upper limit of 5000 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.

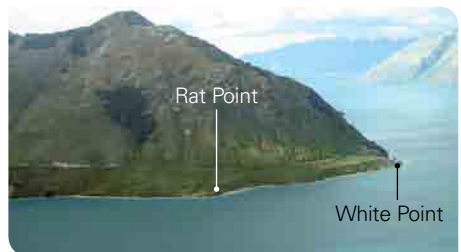
Also be aware that any inbound traffic from Te Anau will be coming out of **Afton Burn Saddle** and heading towards **Walter Peak**.

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

If a local aircraft bound for Te Anau is cleared direct to **Walter Peak**, it will normally follow the shoreline to be inside any inbound traffic tracking offshore.



Looking east towards Queenstown aerodrome.



Rat Point VRP looking east.



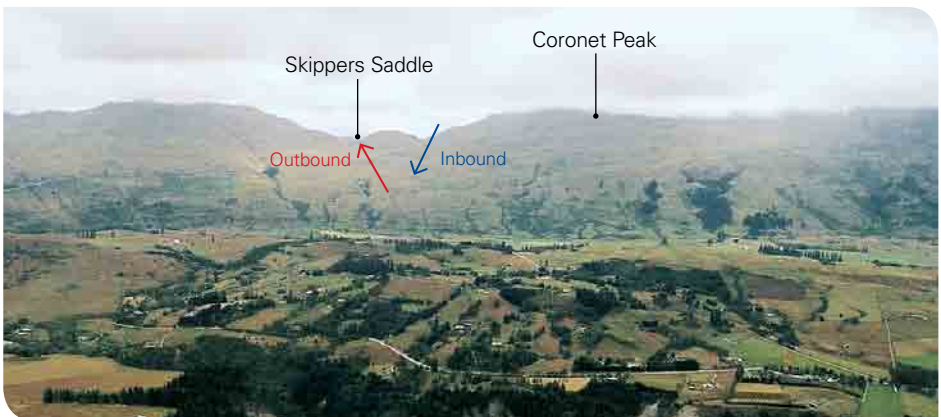
Approaching **Afton Burn Saddle** from the Von valley. Von River exit is to the left.

## From the Northwest and North

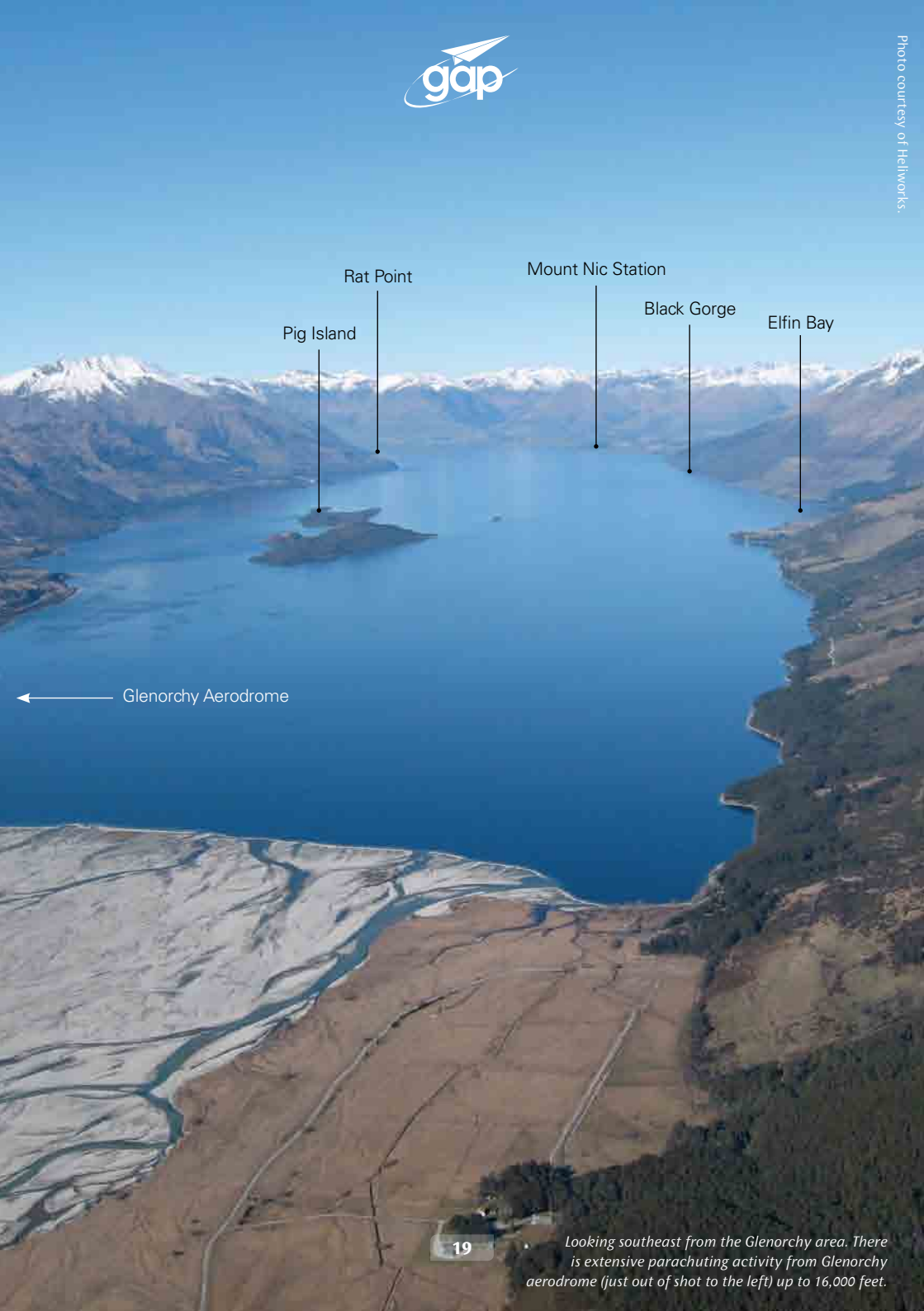
Entry via **Skippers Saddle** is a less common option for itinerant aircraft.

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

If you are using **Skippers Saddle** at an altitude that could conflict with this traffic, adhere to the flow indicated by the arrows – travelling west is via the actual **Skippers Saddle** (with a road), travelling east is via an unnamed saddle (without a road) immediately to the east. **Moonlight** is generally an outbound-only route. The main traffic flow of scenic aircraft to Milford Sound now departs via **Moonlight** and the **Lake Luna – Mount Larkins** area.



Looking north towards **Skippers Saddle**. Outbound aircraft track via the red arrow; inbound traffic via the eastern, unnamed, saddle (blue arrow).



Pig Island

Rat Point

Mount Nic Station

Black Gorge

Elfin Bay

← Glenorchy Aerodrome

# Queenstown

## Circuits

The runway circuits 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.

The circuit patterns are fairly standard but must be fitted within the surrounding terrain. You will find yourself close to terrain at times. If you 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.

The 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-hand for Runway 05 and right-hand for Runway 23. The downwind leg is kept quite close-in because of terrain.

Be disciplined in maintaining correct circuit height on the downwind leg. Helicopter flight



*Looking northeast from Runway 05. Note the proximity of terrain to the extended centre line.*

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.

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

### Runway 14/32

Runway 14/32 has particular terrain considerations. Circuit directions are right-hand for 32 and left-hand for 14. Both runways demand precision-landing approaches to ensure you have the maximum runway distance to stop.



*Heading downwind Runway 32.*



*Queenstown Aerodrome viewed from the Remarkables ski field road.*

After takeoff on Runway 32, you are heading for rising terrain and will need to start turning right before reaching 1700 feet (500 feet agl). Veer right 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.



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

There can be a tendency to turn onto 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).

The left-hand 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.

Add the lack of a defined horizon in the turn, and it 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 23 main runway 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.

If you accept a crosswind landing on Runway 14 or 32 (possibly because of airline traffic on the main runway), be aware that, because of wind funnelling around terrain, there is likely to be a tailwind component on both approaches that will not be indicated on the windsock at ground level.

## Ground Movements and Parking

Study the aerodrome and ground movements 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](http://www.queenstownairport.co.nz).

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, but there is a general aviation area on the grass to the west of stand 1A. This area can be quite congested during the peak periods listed on page 25, and would be best avoided at



*Downwind for Runway 05.*



these times. If you do leave your aircraft there, be aware that Queenstown is an international airport, and for return access, you will need to carry your pilot licence or airport identity card. Entry is via the general aviation gate at the northwest corner of the terminal building.

Additional parking is available on the grass area to the south of taxiway Y, but be aware that there is a helicopter operating area on the western side of this space. 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. Return access to this area is normally via the gate by the Wakatipu Aero Club, but you may wish to make alternative (prior) arrangements with another operator.

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*.



*The white building in the foreground is the Events Centre, which features in some helicopter arrival procedures*



# Queenstown Traffic

Queenstown traffic comprises a mix of international and domestic flights (B737, ATR, and A320), scenic flight-seeing aircraft (both multi and single-engine), helicopters, aero club training, private aircraft, and a wide variety of visiting aircraft. There can be balloon flights in the mornings in the 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 10 aeroplanes and 10 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 up to 48 IFR movements between 10:00 and 16:00, and these numbers are likely to increase with the introduction of new PBN approaches. These can facilitate up to 12 movements per hour, compared with 6 previously.

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.



*Photo courtesy of Queenstown Airport*

# Departure Procedures

VFR flights departing Queenstown should first listen to the ATIS (126.4 MHz) and then contact Queenstown Delivery on 121.9 MHz before entering the manoeuvring area. State callsign 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 **Walter Peak** (which crosses the traffic flow) may be available instead of the **Rat Point** departure – this may be preferable for a smoother ride in northwesterly conditions.

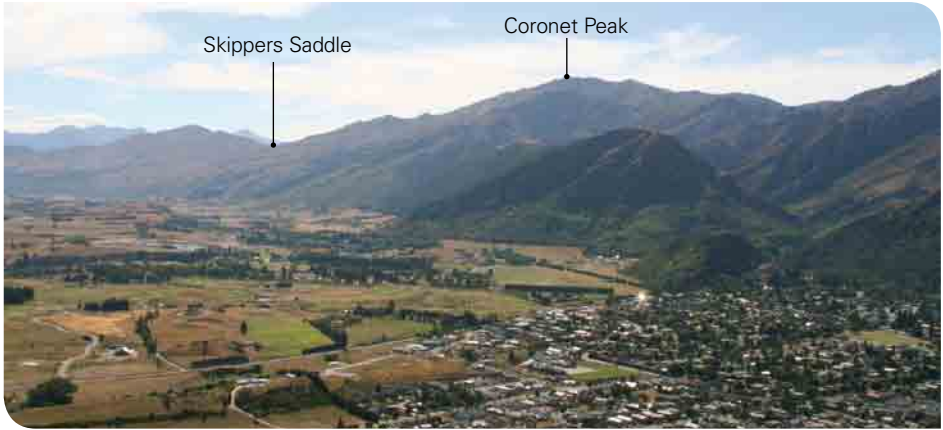
Queenstown Delivery will issue clearance for the departure procedure. (This eases the workload on the Tower controller and reduces communications on the Tower frequency.) Delivery does not issue taxi instructions. When ready to taxi, call Queenstown Tower on 118.1 MHz for taxi clearance. Engine run-up, 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 VNCs).

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



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



Arrowtown

## To the Northeast and East

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

The **Cardrona Township** 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 (addressed to “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 7500 feet.

If taking off on Runway 23 and cleared for a left turn, do not try to turn left inside the **Deer Park** knoll. The left turn should be made after passing the Kelvin Heights settlement. 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 Halfway Bay, 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, at or below 7500 feet. This keeps 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, Tower 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

The northwest area is busy, as the main traffic flow to Milford Sound departs via **Moonlight** and the **Lake Luna – Mount Larkins** area.

The **Skippers Saddle** and **Moonlight** departures involve tracking via **Tucker Beach** to **Skippers Saddle** or **Moonlight** respectively, at or below 5500 feet. **Skippers Saddle** is used mainly by helicopters.

## 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.

Photo courtesy of Helionworks.



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



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



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

parasailing takes place behind boats 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 view of Lake Wanaka from overhead Lake Hawea outlet*

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 NORDO.)





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*In, Out and Around Queenstown* was revised in November 2012.  
See our web site, [www.caa.govt.nz](http://www.caa.govt.nz), for details of more safety publications.