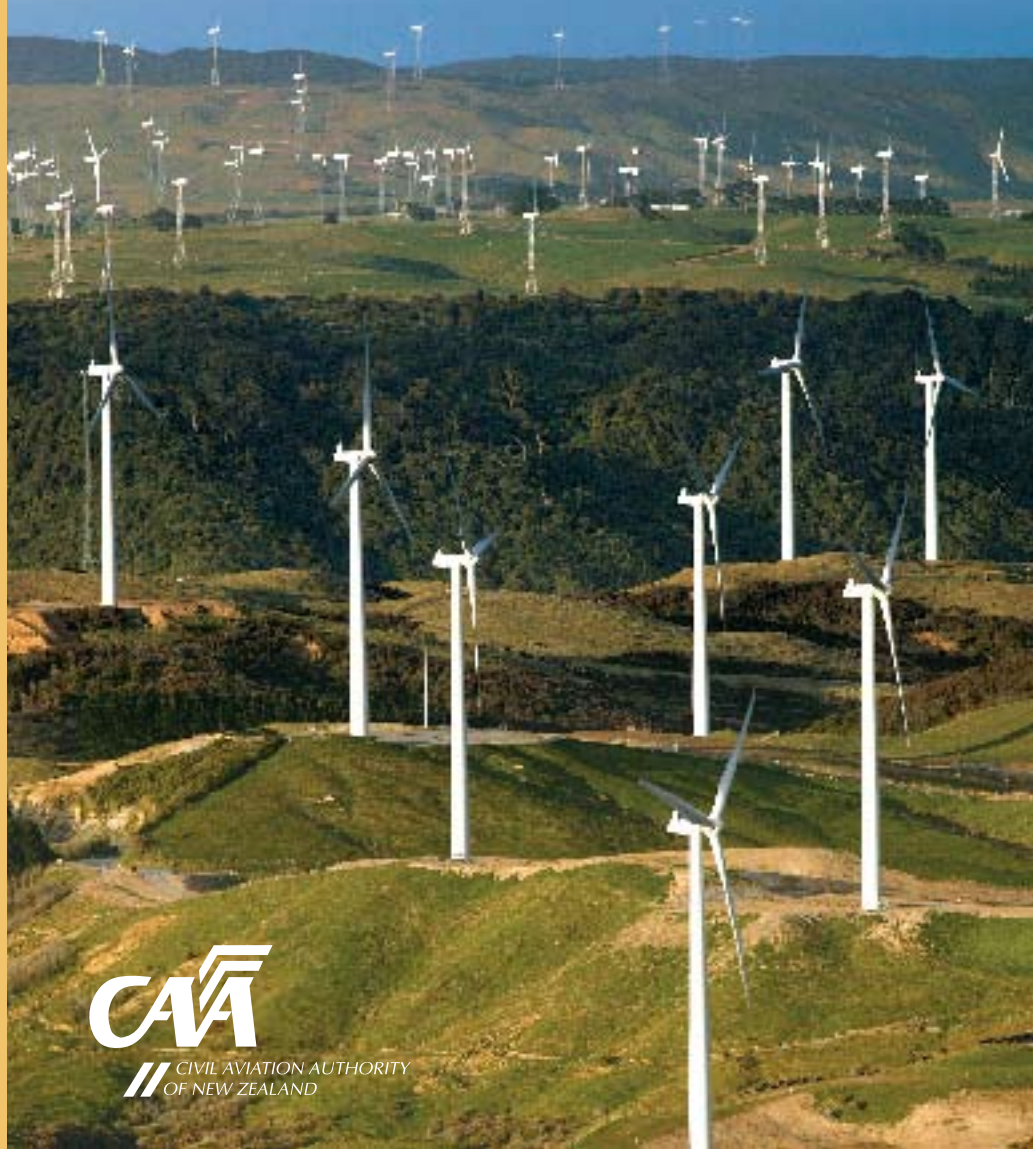


*In, Out and
Around*



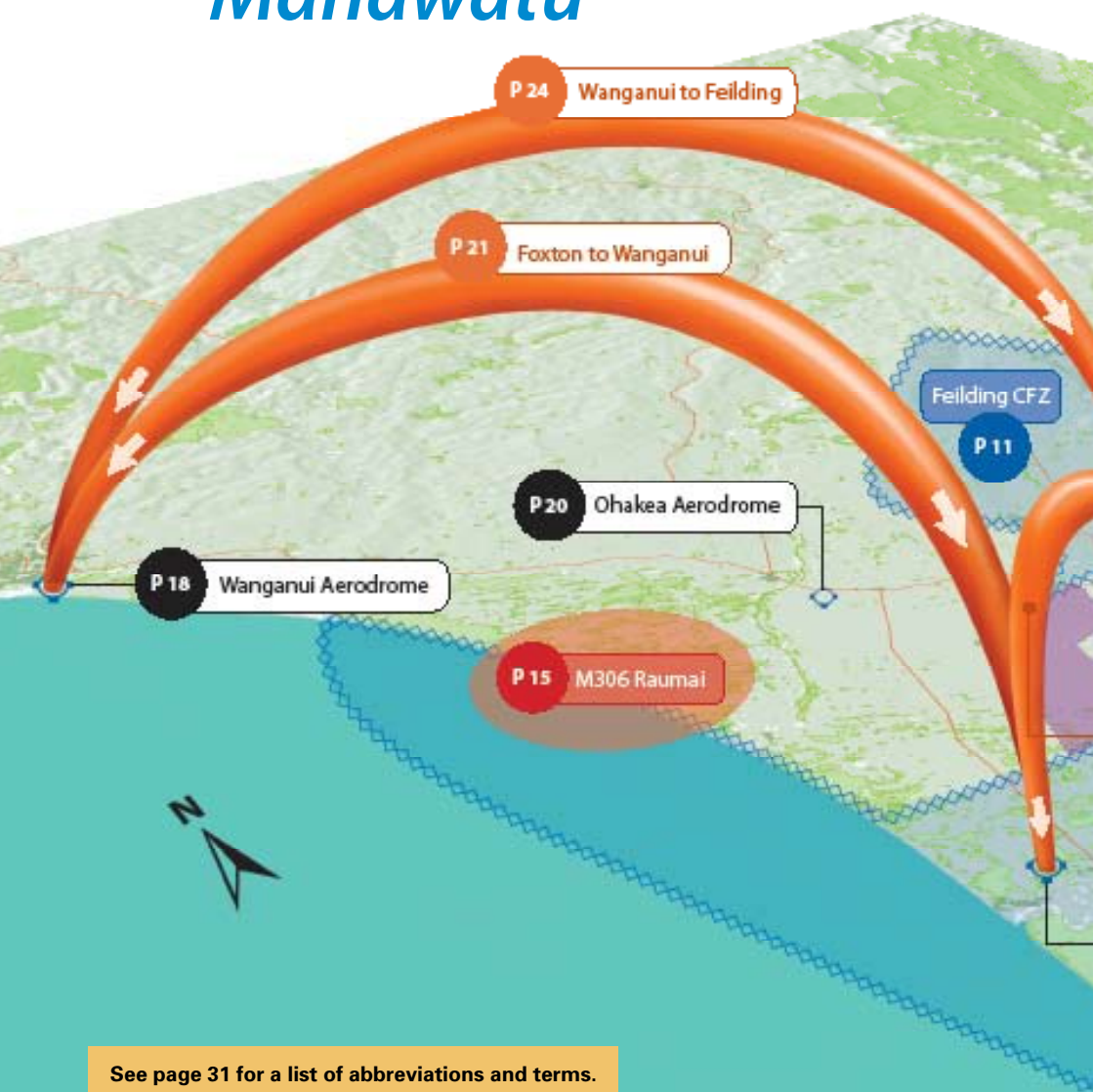
Manawatu



CAA CIVIL AVIATION AUTHORITY
OF NEW ZEALAND



Manawatu

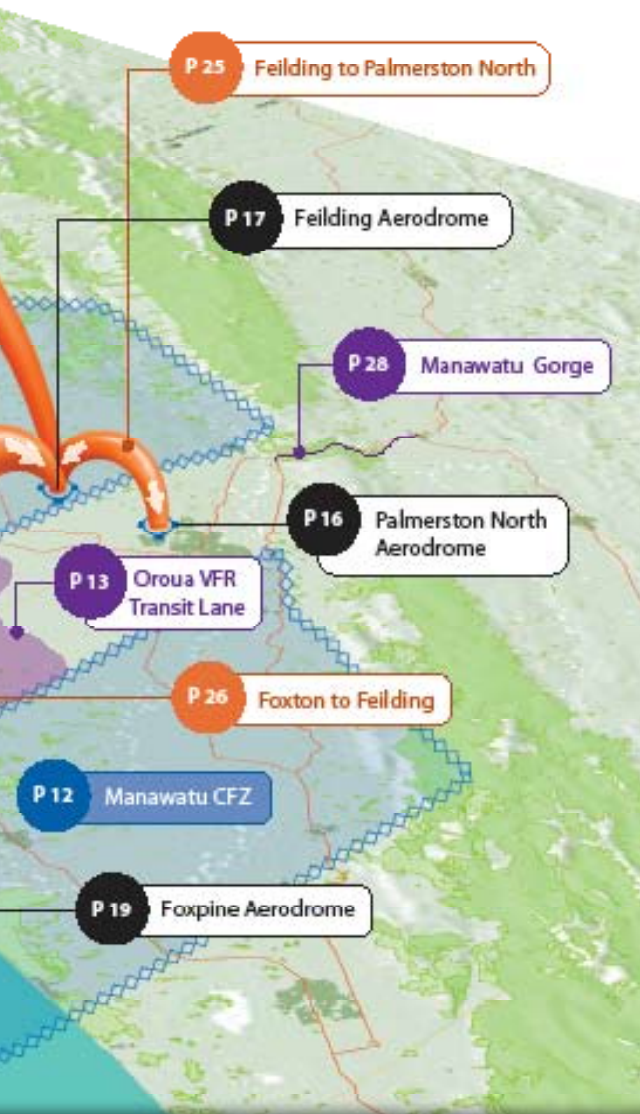


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Note: At the time of printing a proposal to change Wanganui to Whanganui was being considered, but not finalised.

Cover photo: Te Apiti Wind Farm, Tararua Ranges, near Palmerston North. Photo New Zealand, Nick Servian.



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

In, Out and Around **Manawatu**

The Manawatu is one of the busiest and most complex pieces of airspace in New Zealand as it is home to the following aerodromes:

- » Ohakea, which has intensive military operations;
- » Palmerston North, which has significant scheduled air transport operations, as well as Massey University School of Aviation, Wings Flight Training (in association with the Manawatu Districts Aero Club), Helipro, and Feildair Engineering;
- » Feilding, an active GA aerodrome with over 100 locally based general aviation aircraft, including Flight Training Manawatu, microlight training, agricultural operations, and gliders;
- » Wanganui, with scheduled air transport, a major agricultural operator, helicopter flight training, and an aero club;
- » Foxpine, a busy airfield with a full-time microlight training school and general aviation activity.



*Palmerston North looking east.
The wind farms are just visible on the hills.*



There are also charted and non-charted private airstrips and helipads in the region.

In addition, the Manawatu is the major transit route from the top half of the North Island to Wellington, and to the South Island for general aviation traffic travelling in either direction. The geography of the terrain tends to funnel traffic going south. To the north, the controlled airspace of Ohakea and Palmerston North can have a channelling effect on traffic.

This GAP booklet is designed to give pilots information, tips and warnings about

operating in and around this airspace.

It must be supplemented with up-to-date charts, AIP and NOTAMs before flying along with sufficient ground-based study if unfamiliar with the airspace.

For the purposes of this publication, the 'Manawatu' is defined as the roughly triangular area on the west coast of the North Island, from Levin in the south, following the coast north to Wanganui, east to the main ranges, then south along the ranges past Palmerston North, including the Manawatu Gorge.



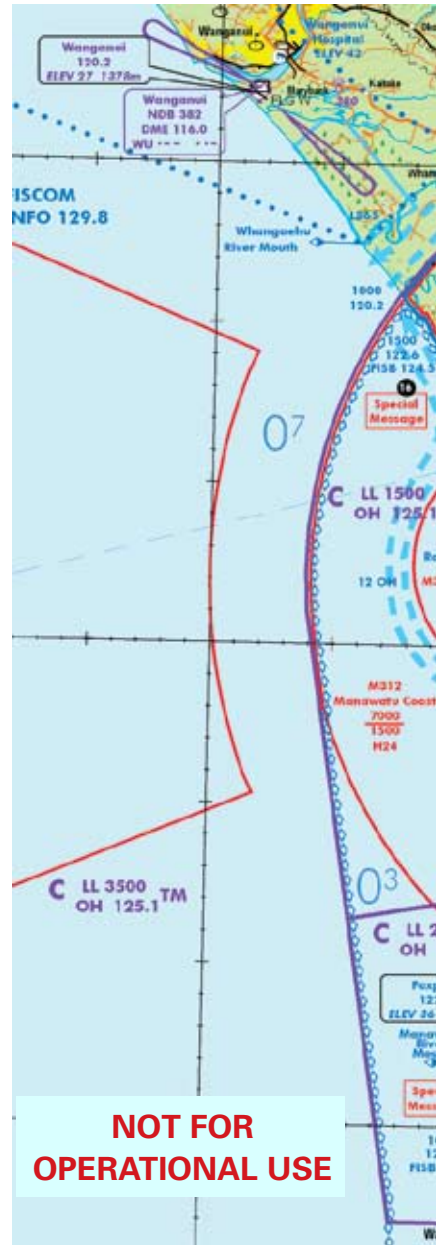
Overview

Geography

The Manawatu region is bounded on the eastern side by the Tararua and Ruahine Ranges. These are major features with elevations in excess of 5000 feet. The Manawatu Gorge is the low point separating the two mountain ranges, and acts as a natural transit lane between the east and west coasts. Wharite Peak, which has a large aerial, is a prominent mountain feature immediately to the north of the Gorge. A number of wind farms have been erected on the ranges from Wharite Peak to south of Palmerston North.

The majority of the Manawatu is a gently rolling plain of mostly farmland, with elevations of 300 to 400 feet. To the north, the terrain gradually becomes more rugged and rises towards the Central Plateau. On the western side, the Manawatu is bounded by the coast, which curves quite significantly. In the vicinity of Foxton, an aircraft flying 'north' along the coast has a magnetic track of about 340 degrees. By the time the aircraft reaches Wanganui, the track is 300 degrees – closer to west than north. This can be an occasional source of confusion to pilots who may expect that the coast still runs north-south.

The coast and mountains make big picture navigation along those routes reasonably easy. On a good visibility day, Mount Egmont (Taranaki) may be visible out to the west, and the mountains of the Central Plateau to the north. To the east lie the Ruahine and Tararua ranges with the low point at the Manawatu River Gorge. The lack of prominent features in the middle of the coastal plain does, however, make it critically important that pilots navigate accurately to avoid inadvertently entering Ohakea or Palmerston North controlled airspace.






Excerpt from Visual Navigation Chart C2,
showing the Manawatu area.



Climatology

The climate in the Manawatu can be summed up in one word – windy. The wind farms on the eastern ranges weren't built there just to improve the view! The prevailing wind is westerly and strongly dominates the region. Mechanical turbulence can be a significant factor for low-level flight (below about 2500 ft amsl). Strong lee wave activity, with turbulence and downdraughts, are common east of the ranges, and are a particular factor

when transiting the Manawatu Gorge. Conversely, occasional strong easterly winds can funnel through the Gorge and cause significant turbulence west of the ranges. Strong wind shear can be experienced at Palmerston North and Foxpine in easterly conditions. The wind and turbulence can make accurate flying difficult at times, and can also lead to significant drift angles when navigating. Similarly, there are large variations in groundspeed between upwind and downwind flight.

A photograph of two white wind turbines situated on a grassy hill. The sky is overcast with grey clouds. The foreground shows rolling green hills with some dark evergreen trees.

Very low cloud and fog are relatively rare in the Manawatu and occur only a few times a year, mostly in winter. A stratus or stratocumulus overcast is, however, a common occurrence, with ceilings of around 2500 feet being the norm. While this is not a problem for flights in the Manawatu, it may indicate that flight into the Central Plateau could be limited by lowering cloud. Haze is often encountered below the cloud layer, with visibility reduced to below 10 km at times. This also complicates navigation when

away from the major landscape features. Keep this in mind if your planned or intended route is to or from the north.

Heading south either from the Desert Road VFR corridor or to the west of the mountains from Taumarunui, you can encounter low cloud over very inhospitable terrain with few, if any, clearly identifiable visual references. Here, maintaining 3000-4000 ft amsl is desirable. Coming from the south, the same holds true as a climb is required to maintain adequate ground clearance.

Airspace

General

As a general rule, you require a clearance to operate above 1500 ft amsl in the Manawatu area, as this is controlled airspace. The main exceptions to this rule are to the south of Foxpine in the Manawatu Common Frequency Zone (CFZ), and to the north-east of Feilding aerodrome in the Feilding General Aviation Area (GAA) when active.

All of the low-level controlled airspace in the Manawatu (the Ohakea and Palmerston North CTRs) is Class D airspace. Above this, the Ohakea CTA is Class C. All permanent controlled airspace is transponder mandatory.

Radar Coverage

There is good secondary radar coverage over the whole of the Manawatu to low level. Primary radar coverage is, however, quite limited at low level, and near non-existent below 1500 feet. It is, therefore, very important that pilots select transponders ON, with Mode C selected. Even if pilots do not require radar service themselves, having the transponder on will greatly assist ATC in providing information to other aircraft, and provide traffic awareness to ACAS-equipped aircraft that will be operating above you to join or depart RNZAF Ohakea, Palmerston North and Wanganui. Note that although Wanganui is unattended, the MBZ is transponder mandatory airspace above 1500 ft amsl.





Feilding Common Frequency Zone

The Feilding CFZ is designed to enhance traffic awareness for aircraft operating in the vicinity of Feilding airfield. The same frequency (124.1 MHz) is used for aircraft operating in the Oroua transit lane. Normal CFZ procedures apply. While not mandatory, pilots are urged to make regular position reports on the frequency. Pilots should be aware that some NORDO aircraft, in particular microlights, can be operating within the CFZ, so it is important to keep a good lookout.

Feilding General Aviation Area (G357)

The Feilding GAA is an area to the north-east of Feilding used primarily for training operations, and for gliding in the weekends. The GAA is only activated with the approval of ATC, so the status must be checked before entering the area. Any of the local ATC units (Ohakea Control, Ohakea Tower or Palmerston North Tower) can advise you of the status of the GAA. If not active, a clearance must be obtained to enter the portion of the GAA in the Ohakea airspace from Ohakea Control (125.1 MHz) if above 1500 feet.




Oroua Transit Lane looking north.

Manawatu Common Frequency Zone

The Manawatu CFZ (122.6 MHz) is established to enhance traffic awareness for aircraft operating south of Palmerston North. Activity in this area is intensive. It is used daily by training aircraft operating from Palmerston North and Foxpine. When weather dictates, Feilding-based training aircraft also come south to this area and there can also be training aircraft from Paraparaumu. Aircraft transiting between Paraparaumu and Palmerston North also use it regularly.

The CFZ extends up the coast past M306 on the same frequency. A Memorandum of Understanding between local training organisations has been established to reduce concerns about the intensity of training traffic in the area. It standardises the use of training sectors and better manages RT clutter in the area. Training aircraft symbols are on the Visual Navigation Chart (VNC).

This area also contains L366, the low flying zone just to the south-east of Foxpine which is frequently used.



Oroua River, looking south from about half way between Feilding and Foxton. The river is the eastern boundary of the Oroua Transit Lane.

Transiting traffic may conflict with aircraft in the training areas to the south, with aircraft changing altitude with manoeuvres (stalls, turns, engine failure exercises etc). As always, keep your radio calls brief and clear, stating position and intentions.

Oroua VFR Transit Lane

The Oroua VFR Transit Lane (T354) was established to enable aircraft to transit from Feilding to the south and vice versa without having to transit through controlled airspace. It is bounded on the west by the

Ohakea Control Zone, and on the east by the Palmerston North Control Zone. The transit lane is restricted to 1000 ft amsl. Aircraft approaching RNZAF Ohakea or Palmerston North can be above you. It is, therefore, critically important that aircraft stay within the lateral and vertical confines of the transit lane. Pilots should also operate to the right within the lane, in accordance with the guidance tracks on the visual navigation charts, to reduce the risk of reciprocal traffic conflicts. See also page 26.



Ohakea Military Operating Areas (M310, M311, M312 and M306)

A large proportion of central Manawatu is dominated by the Military Operating Areas (MOAs) extensively used by the RNZAF for military flying operations. These MOAs are all active 24 hours a day, and approval is required to enter the areas. The one exception is the seawards portion of M306. Civil aircraft will not normally be cleared to

enter any of the MOAs unless there is a good reason to do so.

Ohakea Tower is normally manned on weekdays from 0730 local until 2230 local. Outside those hours, the Tower may be manned for special events, or in the event that Ohakea is being used as an alternate by civil commercial aircraft. When Ohakea Tower is off watch, control of all the MOAs reverts to Ohakea Control on 125.1 MHz.



M306 Raumai

The M306 range is used extensively by the RNZAF for weapons firing, demolition and low-level aerobatic training, and must be avoided when active.

Inland of the coast is a military low flying area. Helicopters and fixed-wing aircraft operate almost continuously in the area from ground level up to 1500 feet and above. Military aircraft also operate above the sea out to 15 NM from Ohakea, 2000 feet and above. Make sure you remain seawards of the coast and 1500 feet or below at all times. The Raumai weapons range is easy to spot. It is a large triangular patch of sand

dunes surrounded by pine trees.

There are two 50-foot high towers on the range. If active, it must be avoided by a minimum of 4 NM. Pilots regularly underestimate what 4 NM looks like, particularly when at 1500 feet and out over the sea.

Information on the active, or otherwise, status of M306 is broadcast on the Ohakea FISB 124.5 MHz. It provides guidance information, and should be listened to prior to transitting north or south via the coast. If in doubt about your position in relation to M306 or its status, call Ohakea Control (125.1 MHz).



Aerodromes

Palmerston North

Palmerston North is the major civil aerodrome in the Manawatu, with regular scheduled air transport operations and considerable flight training. Night freight operations also take place at Palmerston North. Joining and circuit procedures are contained in *AIP New Zealand, Vol 4*. Ensure you have studied these procedures before operating at Palmerston North.

The aerodrome is quite close to the Tararua Ranges. Although instrument approaches are available for RWY 25, operators will typically request approaches for RWY 07 circling for 25 to avoid flight over the ranges in westerly winds. This may often lead to delays for IFR departures, which have to wait for aircraft on the 07 approach to go visual and clear the departure path before

being cleared for takeoff. This, in turn, can have an effect on VFR operations, so be prepared to have to hold, or fly arrival procedures, as specified by ATC.

The grass runway and taxiways are often unusable in winter.

The regional rescue helicopter is based at Palmerston North Hospital which is in the Palmerston North Control Zone. ATC clear the helicopter directly to and from the hospital.

Linton Army camp is just to the south of the Palmerston North Control Zone. On departure to the south, or on arrival from the south, it is common to overfly Linton. It has an active firing range, D329 – Surface (SFC) to 1200 ft amsl. Red flags are flown on the range when active. Direct overflight at lower levels is best avoided.



Palmerston North Aerodrome and windfarms, looking east.

Feilding

Feilding has training and private operations. The airfield has a sealed strip as well as a large grass area. The sealed strip is relatively narrow (14 metres). This gives the potential for visual illusions, which could result in a late flare or heavy landing for those pilots more used to a wider strip. The grass area is regularly used for sheep grazing. There is a fence between the two to stop the sheep getting onto the seal, with only two places to cross, over cattle stops. The local procedure is for aircraft landing on RWY 28 to roll to the end and use that cattle stop.

The grass area is used even while the sheep are grazing. The sheep will normally get out of the way of aircraft, but caution is always required. The grass can get very

wet in winter and may become unusable. Check NOTAMs and if in doubt, use the seal.

The Feilding circuit lies under the main instrument approach to Ohakea, and adjacent to the circling area for Palmerston North, so it is very important that aircraft stay close to the airfield, and below 1500 feet which is the lower limit of the Ohakea controlled airspace above you.

Feilding aerodrome is sometimes difficult to spot from a distance. It is alongside the main road and the main trunk railway, halfway between Feilding township and the Bunnythorpe Substation.

If passing by Feilding Aerodrome, remain clear of the circuit by transiting via Colyton. Caution the model flying area D320.

Looking south-east from above Feilding.



Feilding Aerodrome

Wanganui

Wanganui has the only NDB in the Manawatu, so is used a lot for NDB training by both military and civil aircraft. There is a reasonable amount of traffic, including scheduled air transport operations, agricultural operations, and flight training.

As well as the main sealed strip there are a number of grass vectors, and local agricultural and helicopter operators often use the short grass runway between the main runway and the aerodrome buildings for takeoff and landing.

Strong crosswinds are often a feature at Wanganui, with sea breezes being a regular afternoon event. However, the grass cross runways do give options for general aviation aircraft. Note that there can be turbulence and windshear crossing the coastal sand dunes when using the cross vectors.

Not surprisingly, birds can be a significant hazard at Wanganui, given its location between the coast and the Whanganui River estuary.

Be aware of the gently rising terrain on the approach to RWY 29, which can lead to a false perspective and ending up high on approach.



Wanganui Aerodrome

Looking south-east along the coast from Wanganui.

Foxpine

Foxpine is a small grass airfield between Foxton township and the coast. Pilots often have difficulty finding Foxpine – it is sometimes easier to find the Foxton Racecourse, which is immediately east of the Foxpine strip.

The Foxpine radio frequency is the same as that for the Manawatu CFZ (122.6 MHz).

There are tall pine trees on the approach for RWY 27, which means there is a

significantly displaced threshold for that runway. Although the runway is long, make sure your approach is well under control to avoid the potential for running off the end of the runway. The aerodrome plate (*AIP Vol 4*) for Foxpine gives advice on an offset approach for RWY 27 and for departure for RWY 09. Turbulence is common in strong winds, partly due to the surrounding trees.

The sandy ground at Foxpine is well-drained, and the surface conditions normally remain good all year round.



Manawatu River mouth

Foxpine Aerodrome

*Looking south-west with
Foxton township on the left.*

Ohakea

Civil operations at Ohakea require the prior permission of the RNZAF, and are granted only for a good reason. (M310 is co-incident with the Ohakea CTR so entry approval is required.) IFR training, particularly the use of the ILS, may be permitted, subject to RNZAF training requirements and ATC workload.

Training approvals will normally require that the aircraft does not land, but executes a missed approach at decision altitude. If Ohakea Tower is off watch, all flight below 1500 feet must be conducted in VMC.

For approved operations at Ohakea, use the procedures found in *AIP New Zealand, Vol 4*.



Ohakea, looking south-east.

Transit Routes

Coastal (Foxton to Wanganui and return)



The coast between Foxton and Wanganui is one of the busiest transit routes in the country.

On a fine day, particularly

during the weekend, it would be rare not to see an aircraft in transit somewhere along the coast. Seawards of the coast, below 1500 feet is uncontrolled airspace, with the single key exception of the weapons range at Raumai M306.

A Flight Information Service Broadcast (FISB) facility is available to advise the status of M306. The FISB frequency is 124.5 MHz. Pilots should listen to the FISB broadcast at or before Himitangi Beach (northbound), or the Whangaehu River mouth (southbound).

If the broadcast advises that the weapons range is **not** active, pilots may transit through M306, seawards of the coast below 1500 feet, without a clearance from Ohakea Control. The range can be activated with 10 minutes notice, so pilots must vacate M306 within 10 minutes of entering it.

If the FISB indicates that the range is active, pilots must remain clear. Assistance to do so can be obtained from Ohakea Control on 125.1 MHz.

The coastal area is part of the Manawatu CFZ. Pilots should be monitoring the CFZ

frequency (122.6 MHz) unless they are with Ohakea (125.1 MHz).

There is a VFR Advisory Route (VNC C2) showing different heights for northbound and southbound traffic.

Possible Sources of Confusion

When flying both north and south along the coast, it is possible to mistake your position due to the similarities of the river mouths in the area.

Northbound, it is easy to confuse the Manawatu River and the Rangitikei River, and vice versa. Both have a small seaside settlement a few miles to the south (Waiterere and Himitangi Beach respectively). Both have townships immediately north of the river mouth (Foxton Beach and Scotts Ferry, though Scotts Ferry is much smaller). The main visual difference is that the Rangitikei River mouth has the township of Tangimoana immediately to the south, while the Manawatu River has no such township.

Pilots must correctly identify their position to ensure they do not inadvertently enter M306 by being further north than they think they are.

Southbound, a similar situation exists with the Whangaehu and Turakina rivers. The Turakina River has a small settlement (Koitiata) on its southern bank. There is no settlement on the Whangaehu river mouth. Make sure you do not confuse the two.



Foxton Beach township

Manawatu River mouth, looking north along the coast.



Rangitikei River mouth, looking north.

Tangimoana



Whangaehu River mouth, looking south along the coast.



Turakina River, looking south.

Wanganui to Feilding (and return)



A direct flight between Wanganui and Feilding is not possible without transiting through Ohakea airspace. It is unlikely that

a request to do so would be granted during weekdays because of the extensive military operations in the area. The more practical route is via Fordell, north of Marton Township and Halcombe. The maximum transit altitude clear of controlled airspace varies, from 3500 feet around Fordell, to 2500 feet north of Marton, and 1500 feet from Marton south to Feilding.

The north-eastern boundary of M310 follows a set of high-tension power lines from the Turakina River to just north of Marton.

These provide a useful aid to remain clear of M310, and can be followed all the way

to Feilding Aerodrome, and then on to Bunnythorpe (if joining at Palmerston North). Note that the Marton Reservoir VRP is well to the north of Marton. It is in a well wooded valley and can be difficult to spot if low. It needs to be noted that there are two sets of power lines from Wanganui to Bunnythorpe. You must use the northern set as your navigational aid. The southern set will take you into Ohakea and an airspace incident.

There is a VFR Advisory Route (VNC C2) showing different heights for westbound and eastbound traffic.

Another navigation aid in good visibility is Wharite Peak on the ranges – a track from Marton towards Wharite 1500 feet or below will keep you clear of controlled airspace and track you neatly towards Feilding.

Feilding to Palmerston North



Flights between Feilding and Palmerston North usually track via Bunnythorpe.

Bunnythorpe is fairly easy to find as it has a major electricity substation (which is the VRP), as well as a main road junction and a railway line there.

The biggest trap for pilots is the short distance between the two aerodromes,

and thus potential to get behind with navigation and radio calls. Palmerston North ATIS can usually be heard on the ground at Feilding, so obtain this information before departure – remembering to go back to the Feilding frequency. Make sure you know the procedures, in particular the joining procedures and frequencies for Palmerston North. Do not enter the Palmerston North Control Zone without a clearance. Orbit north of Bunnythorpe Substation, which is outside the Palmerston North Control Zone, if required.



*Bunnythorpe, looking south,
with Palmerston North in the background*

Foxton to Feilding (Oroua Transit Lane)



The Oroua Transit Lane (T354) allows aircraft to transit between Foxton and Feilding without reference to ATC. It is active during daylight hours, from surface to 1000 ft amsl, and the flight rules are Class G.

Aircraft within the transit lane should broadcast their intentions and listen out on 124.1 MHz, the Feilding CFZ frequency.

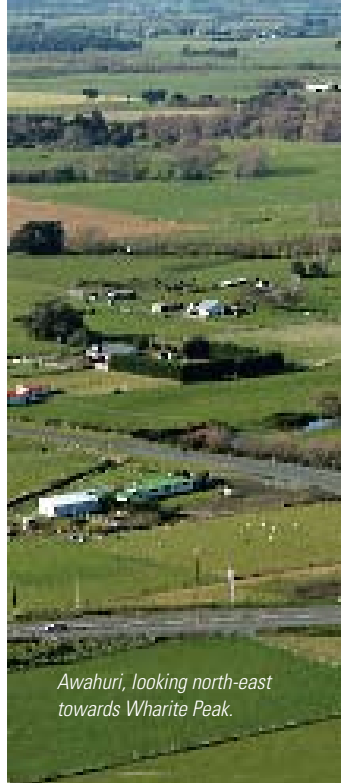
The transit lane eastern boundary is the Oroua River which is also the Palmerston North CTR/D boundary below 1000 ft amsl. The western boundary from the south runs along a road to a junction west of Glen Oroua and then a line to the east of Rongotea and just to the east of Awahuri. Good situational awareness and accurate flying is required to avoid inadvertent entry into either M310 (Ohakea MOA) on one side and the Palmerston North CTR/D on the other.

Flight along a straight line from Foxton township to Feilding township will keep aircraft within the transit lane. (The magnetic track is 025 degrees Foxton to Feilding, or 205 degrees Feilding to Foxton). Note that a straight-line flight from Foxpine Aerodrome to Feilding Aerodrome (eg, if using GPS) will **not** stay within the transit lane. Avoid overflying the township of Rongotea – this is well within the Ohakea MOA. The Kopane Aerodrome is on the eastern boundary of the Oroua VFR transit lane, close to the Oroua River.

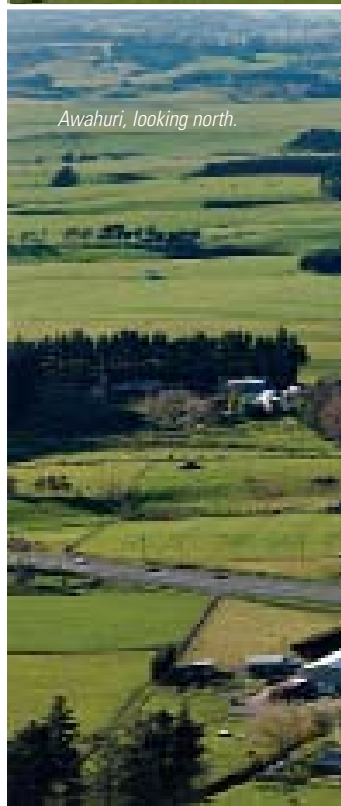
The township and major road intersection of Awahuri marks the north-eastern end of the transit lane, but can be difficult to spot until nearly overhead. Awahuri lies on low-lying ground immediately south-east of the hills leading to Mount Stewart (elevation 420 feet).

When travelling south from Awahuri, a heading towards Kapiti Island (if visible in the distance) will keep you within the transit lane.

There is a VFR Advisory Route (VNC C2) showing different heights for northbound and southbound traffic.



*Awahuri, looking north-east
towards Wharite Peak.*



Awahuri, looking north.



Manawatu Gorge

The Manawatu Gorge is frequently used to transit the ranges between the west and east coasts. There are a number of potential hazards in the area. The most obvious are the wind farms along the ranges, some of which are hundreds of feet tall. Strong winds, turbulence, and significant up and downdraughts, are features of this area. Pilots must ensure sufficient height is available for escape routes. An instrument approach to Palmerston North tracks above the gorge, so pilots must be careful not to inadvertently climb into controlled airspace above without a clearance. Also, the Gorge tends to funnel aircraft along a narrow flight path at a similar height, so be aware

of the potential for other traffic, wires, etc, and also the risks of collision.

Approaching the ranges from the western side and clear of the Palmerston North Control Zone, the lower limit of controlled airspace is initially 1500 feet. There is then a sector with a lower limit of 1800 feet immediately over the Gorge itself. This is to allow aircraft to maintain a minimum of 500 feet of ground clearance before crossing the ranges, and is constrained by instrument procedures for Palmerston North. East of the Gorge, the CTA lower limit increases to 2500 feet.

There are good tracking features available to pilots who wish to remain clear to the east of the Palmerston North control zone.



The north-eastern boundary of the CTR commences at the midpoint of Ashhurst township (cutting the corner will infringe the Palmerston North CTR). It then tracks a line Ashhurst towards the radar transmitter at Ballance (this is the white dome-shaped building clearly visible on the ranges south of the Gorge and a dip in the ranges locally called the Pahiatua Gap). Just south of the Gorge the eastern boundary of the CTR follows the road that parallels the Manawatu River to Aokoutere.

Pilots who are unsure of their position while transiting the Gorge, are advised to contact Palmerston North Tower (120.6 MHz) if below 1500 feet, or Ohakea Control (125.1 MHz) if above 1500 feet.

Those pilots who wish to cross east to west or the other way but not using the Manawatu Gorge route can, if weather permits, cross south of the Ballance radar head on the Tararua ranges at or below 3500 feet and remain clear of controlled airspace. If tracking south-west, remain clear of the Ohakea airspace and note that the Manawatu CFZ starts to the west of the ranges.

If crossing the ranges or operating in this area, pilots should also note D522-Mangahao. This Danger Area is SFC to 2500 ft amsl, is activated by NOTAM and used for operating Unmanned Aerial Systems. When active, operators monitor 119.1 MHz.

Local Operations

The majority of local operators (training, helicopter, and agricultural) have agreed on a Memorandum of Understanding about how the local airspace will be used – in particular to provide separation within the various training areas. If pilots are considering local flights within the Manawatu, they are strongly advised to contact one of the principal operators for a briefing on the areas and procedures in use.

The organisations that are party to the Memorandum of Understanding are: Massey University School of Aviation, Wings Flight Training, Foxpine Airpark, Flight Training Manawatu, The Square Trust Rescue Helicopter, Helipro, Air Freight NZ, Airwork Flight Operations and Sunair Aviation.

There are a number of charted and uncharted airstrips and helipads within the region.

Frequent low-level agricultural operations take place from the charted strip at Kairanga and the currently uncharted strip at Opiki. The aircraft operate across the Manawatu plains region. Generally, they fly at or below 500 ft agl.

Mircolights occasionally operate from the charted strip at Kopotoroa just to the north of Levin. An agricultural helicopter operator is based near Marton. There are also private helicopters based in the Pohongina Valley, and a fixed-wing agricultural operator at Hiwinui (just west of Ashhurst).

To the south, there can also be training and recreational operations in the vicinity of Otaki and the Otaki strip – these areas are just inside the Otaki MBZ which is to the south of the Manawatu CFZ.





Summary

The Manawatu is a busy and complex piece of airspace. However, there is nothing inherently difficult about operating there as long as pilots take the time to become familiar with the airspace, frequencies, and procedures in use. Key points that need to be remembered are:

- » Airspace above 1500 feet is mostly controlled, and a clearance is required;
- » There are well-defined transit routes between all the airfields in the area;
- » Straight line point-to-point navigation using GPS from airfield to airfield is not usually possible, and will cause aircraft to infringe controlled or restricted airspace;
- » The transit routes that are available do tend to concentrate aircraft along particular corridors – keep a good lookout, turn on lights and transponders, make sure you are on the right frequency, and make traffic broadcasts as appropriate;
- » If at all in doubt of your position, the safe option is to ask for assistance from Ohakea Control on 125.1 MHz (noting that a transponder will be required for them to see you).

Abbreviations and Terms

ACAS	Airborne Collision Avoidance System
agl	Above ground level
AIP	Aeronautical Information Publication
amsl	Above mean sea level
ATC	Air Traffic Control
CFZ	Common Frequency Zone
CTR	Control Zone
FISB	Flight Information Service Broadcast
GA	General Aviation
GAA	General Aviation Area
GAP	Good Aviation Practice (booklet)
GPS	Global Positioning System
IFR	Instrument Flight Rules
MOA	Military Operating Area
NDB	Non-Directional Radio Beacon
NM	Nautical Mile
NORDO	Non-radio equipped
NOTAM	Notice to Airmen
RNZAF	Royal New Zealand Air Force
RT	Radio Telephone
RWY	Runway
SFC	Surface
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
VNC	Visual Navigation Chart
VRP	Visual Reporting Point



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